

**Roundtable Conference on Public Private Partnerships (PPPs) in  
Urban Sanitation/ Sewerage &  
Waste to Energy**

**Organized by:**

Department of Economics Affairs (DEA), Ministry of Finance, GOI  
In Partnership with Asian Development Bank (ADB) and  
Administrative Staff College of India (ASCI)

**Summary of Proceedings**

**20-21 August, 2009  
Hyderabad**

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PPP EXPERT  
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## **Roundtable Context, Design and objectives**

### **PPP in Urban Sanitation/ Sewerage (20<sup>th</sup> August, 2009)**

**Context-** In India, it is estimated that only 33% have access to toilets within premises and only 28% have connections to sewerage. About Fifty million people in urban India resort to open defecation. As high as 82% of urban households maybe disposing of human wastes in an unsafe manner and 70% wastewater from sewerage systems are not treated and let out unsafely . 26% do not have any household sanitation arrangements. Except for Alandur, no urban area in India has a decent sewerage system. The cities are bearing the brunt of rapid urbanization and urban sanitation and sewerage sector has not kept pace with this growth. It is now widely accepted that government alone will be unable to meet the infrastructure requirements, both in terms of financing the infrastructure and also in terms of meeting the delivery standards.

Public Private Partnerships (PPPs) represent an option to augment the government's infrastructure delivery standards. At the national level, Government of India has laid out a well-defined framework for undertaking PPP projects. The Viability Gap Funding (VGF) mechanism, formation of IIFCL, and the India Infrastructure Project Development Fund have been designed to meet specific requirements of PPP Projects, and provide the framework and incentives for urban local governments to promote PPP. In addition, the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), led by the Ministry of Urban Development, Government of India is also intended to promote PPPs in urban India. Yet structuring and implementation of PPP projects in many states especially in critical sectors such as urban sewerage and sanitation continue to be a challenge. This is mainly due to lack of enabling legal and regulatory environment at the state/city level, apprehensions about managing PPP related contracts, capacity and knowledge gaps among institutions and key stakeholders.

In order to respond to the emerging capacity building and knowledge support requirements of states and urban local governments in India, Department of Economic Affairs (DEA), Ministry of Finance, GOI in

partnership with Administrative Staff College of India (ASCI) and Asian Development bank (ADB) organized the Roundtable on “Public Partnerships (PPPs) in Urban Sewerage and Sanitation” on 20, August 2009 at Ista Hotel, Hyderabad.

**Design:** The ADB, the Administrative staff college of India, Hyderabad, and Deptt. of Economics Affairs, Government of India designed the Roundtable titled PPP in Urban Sanitation/Sewerage to build awareness of the PPP processes, domestic and international experience and foster sharing of perspectives and concerns between the Public and Private sectors in urban sanitation and sewerage. Representatives from state Governments and from the Local Governments of various cities took part in the Roundtable, which provided international and domestic perspectives from government, transaction advisors, as well as feedback from city representatives through a discussion forum.

### **Objectives and Themes:**

The objective of the roundtable was to hold discussions with the state level policy makers on the status, problems and requirements to enhance the urban sewerage and sanitation sector through Public Private Partnership. Transaction advisory support required by the cities for implementing successful PPP projects was also to be discussed at the proposed roundtable conference.

The roundtable was organised around the following themes:

- Status of Urban Sanitation: Gaps, Challenges and opportunities for PPP
- PPPs in Urban Sanitation: range of options, status assessment and lessons so far
- National and international best practices
- Potential for Public Private Participation in Urban Sanitation: JNNURM and Urban Sanitation
- Innovative PPP Financing Options for Urban Sanitation
- Carbon Financing Options for Urban Sanitation
- Transaction advisory support for promoting PPPs

## **PPP in Waste to Energy (21<sup>st</sup> August, 2009)**

### **Context:**

Waste Management poses a major challenge to the environment in the 21<sup>st</sup> century. In a climate of public concern, conflicting rhetoric from suppliers and interest groups, rapidly changing regulation and guidance, and continuing economic pressures, waste management requires a strategic framework. Waste to Energy must be a major element of this strategic framework.

It is estimated that India currently generates about 1.60 lakh MT of Municipal Solid Waste (MSW) every day. Large majority of this waste goes to urban landfill sites. Municipal corporations across the country have already acknowledged the acute shortage of landfill sites and are in search for desperate measures.

Conversion of waste into various energy forms offers great potential but also a significant revenue source. The process not only addresses the environmental issues related with waste but also generates much needed energy.

The process of extracting energy from waste is not new to India. There have been numerous attempts in the past. However, for a number of reasons, those attempts have not provided the desired results. But therein also lies an opportunity to tap into a huge reservoir of potential energy source. The energy from waste industry is thriving world-over with more and more Governments paying a close attention to its continuous development.

**Design:** The ADB, the Administrative Staff college of India, Hyderabad and Deptt of Economic Affairs designed the Roundtable titled "PPP in waste to Energy" to build awareness of the PPP processes, domestic and international experience and foster sharing of perspectives and concerns between the Public and Private Sectors in waste to energy. Representatives from Government of India, State Governments and from Local Governments of

various cities took part in the roundtable, which provided domestic and international perspectives from Governments, transaction advisors, international Companies i.e. ETI, Dynamics (UK) and ETI, Cavendish, (UK) as well as feedback from city representatives through a discussion forum.

**The Roundtable addressed the following Key topics:**

- Successfully generating energy from waste requires an integrated waste management approach. What are the critical success factors?
- Energy from waste must also be seen through the context of climate change and energy security.
- What attempts have been made so far in India to generate energy from waste? Have these projects delivered?
- The solutions that will work on both the environmental front and the energy fronts. What are the major building blocks for successful implementations of waste to energy projects? What solutions exist for different types of wastes? Solutions for municipal solid waste (MSW), solutions for bio-degradable waste and solutions for industrial waste.
- What roles can a Government play by way of introducing incentive and subsidies to develop successful projects?
- Strategies to attract private sector capital into projects. Identifying major risks and developing mitigating strategies.
- Developing robust multi-party legal and regulatory frameworks.
- What are the principal revenue streams for a waste to energy project?
- What strategies can be developed in absence of adequate revenue streams? (e.g. lack of gate/tipping fees)
- Will global liquidity crunch have an impact on successful financial closure?
- Will India's waste management policies be able to withstand the rapidly increasing urbanization and change in consumption (and disposal) patterns? What best practices from other nations in the world can be applied to the Indian contest? Are separate policies for rural India?

**Resource persons for the Roundtable**

Leading international and domestic experts and practitioners as well as senior officials from Government of India and ULBs presented and shared their insights. National and international PPP initiatives related to the sector were presented.

## **Proceedings of the Roundtable**

### **Day 1(20th August, 2009)**

Mr. Anouj Mehta, Sr. Infrastructure Finance Specialist, ADB gave an overview of the Roundtable. He mentioned that the Government of India has been following a very large programme to mainstream PPPs in States and Central Line Ministries. However, water and sanitation and waste to Energy are the most challenging sectors and, therefore, this roundtable has been organized to respond to the challenges and emerging capacity building and knowledge support requirements of States and ULBs.

A video film was shown which set the context for the day's deliberations i.e. dealing with disposal of waste water.

Joint Secretary, DEA, Mr. Govind Mohan set the tone for the Roundtable highlighting the immense importance of waste water management and processing of waste to Energy. He emphasized the need to bring in effective private sector for this. He mentioned that DEA is devising PPP policies for areas/sectors which are not easily amenable to PPP. He further mentioned about a well defined framework for undertaking PPP projects. The viability Gap funding mechanism, formation of IIFCL, and IIPDF have been designed to meet specific requirements of PPP projects.

At the end, he emphasized the need to identify few cities/ULBs with which GOI and ADB could collaborate to structure PPP Projects in Water, Sanitation and SWM sector.

Prof Srivinas Chary, Director, CEEUG & LD, ASCI made the first presentation on "Urban Sanitation in India-Status, Challenges and opportunities for PPP". He mentioned that 70-80% waste water is handled unscientifically in the Country except Alandur, Navi Mumbai and Chandigarh where substantial portion of waste water is scientifically treated. He further emphasized the mismatch between growth and sub-optimal service delivery in sanitation sector in the country as India's sanitation

Programme is lower than some of the countries with similar or lower per capita GDP. He expressed the need for PPP in sanitation for fiscal and efficiency gains and laid emphasis on rationale traffic to recover not only O&M but also Capex.

The Second session centred on the theme: "PPP experiences in Sewerage /Sanitation Sector in India". It was initiated by Mr. Ramanujam, Head Urban Infrastructure, CRISIL. He mentioned that only 35 towns have used JNNURM funds for sewerage and out of which 18 towns are purely for network upgradation and remaining 17 have mix of integrated projects and Treatment Plants and roughly Rs 12,000 crores of projects have been sanctioned. He mentioned that JNNURM has offered an opportunity to promote PPP due to strong grant component but only sporadic efforts have been made for waste treatment so far. He suggested New Treatment Plants, Network Management, plant operation contracts and network rehabilitation works should be undertaken on Annuity basis. He further mentioned that grant funding should be made available for PPPs in waste water management and laid emphasis on performance monitoring and energy efficiency. He made a suggestion that connecting to the system should be mandatory and funding of household connection should be part of project cost. He proposed the need to glorify and encourage simple operator community.

The next speaker Mr. Sai Bharati, Ex-chairman, Alandur Municipality described the transformation brought about by the ambitious proposal to construct an underground sewerage system and waste water treatment facility, with the participation of private sector and payment to be provided by the city. The proposal was transformational as it involved a service never before made available by the city, with financing and Management responsibilities being shared by the Municipality, residents, the private sector, and State Government bodies. The key features of the transformation process were effective outreach/public participation programme, effective sewer fee system, transparency in bidding and contracting procedures, payment assurance to private sector participants etc.

Mr. S.M. Basavaraju, Chief Engineer, Bangalore Water Supply and Sewerage Board (BWSSB) made a presentation on waste water Management, recycle and reuse. BWSSB has set up 14 Treatment plants of secondary and tertiary level of various capacities all around the city with a total capacity of 721 MLD. Four Tertiary treatment plants of total capacity



73 MLD have been established and treated water is reused for non-potable purposes. Treated Water is supplied to landscape irrigation of Cubbon Park and Lal Bagh. Revenue being earned from each supply is Rs 6,75,000 per month. All the 14 treatment plants are under breakdown maintenance and operated and maintained by Private firms on monthly payment basis supplying manpower, spares, lubricants etc. BWSSB is also contemplating decentralized waste treatment plants under PPP mode.

Mr. V. Shenbagaraman, IL&FS Urban Infrastructure Managers LTD narrated PPPs in Sanitation in Tamil Nadu--Integrated Sanitation Units (ISUs). ULBs involve NGOs through information, education and communication (IEC) activities for social mobilization and community organization. The capex is met by grant to a maximum of Rs. 10 lakhs per unit. SHGs and other forms of community based organizations (CBOs) in the urban areas look after the O&M. A study sponsored by World Bank has shown that the user charges collected are sufficient enough to meet O&M cost in around 83% of the ISUs.

He further mentioned a case of PPP in O&M of waste water treatment by Madurai Municipal Corporation at a cost of Rs 269.85 crores implemented under JNNURM. The O&M for STP is privatized for an initial period of six years from the date of Completion of the project.

Mr. Uday kelkar, Director India Operations, NSS Consultant narrated the case study of upcoming Surat project--reuse of waste water for non-potable applications. It will entail supply of Tertiary treated water from Bomroli Sewage Treatment Plant to Pandesara Industrial Area. The capital cost of the project is estimated at Rs 65.63 crores. The project is envisaged to be done using a contribution of equity and local currency debt. The Debt to Equity ratio of 70:30 has been presumed. The concession period envisaged is 30 years. The following will be handled by the Private Operator:

- O &M of Bomroli STP
- Investment & O& M – Tertiary Treatment
- Investment & O&M – Transmission (Input & Output to Treatment plant)
- O&M –Industrial Water Network
- Setting up & O &M of Potable water Network

However, Tariff setting, billing and collection from end-users will be handled by Surat Municipal Corporation. Bid variable will be price of Industrial grade water per KL payable by SMC to Private Operator. No

investment will be done by Surat Municipal Corporation. All investments and service outcome responsibility shall rest with private operator.

Mr. Bhaskar Subramaniam, PWC Pvt Ltd discussed the Pay and use Toilets under PPP mode being developed in Andhra Pradesh. The sustainability will be on the basis of pay per use and revenue from advertising on facade and inside walls. The Types of PSP in toilet being envisaged are BOT, O&M, supervision and O&M. The Common terms and conditions envisaged are-free land by Government, right to collect tariff from users, right to lease space for advertising, minimum cleanliness and operating standards, usage tariff regulated by executive government agency, concession period vary from 3 to 35years, generally bid out in packages of 5 to 20 toilet blocks.

Mr. Vipin Goyal, of Degremont narrated the Delhi and Karnataka experience in waste water treatment and reuse on PPP basis. In Delhi, waste water is reused in 330 MW Pragati Power Station as raw water. The entire cost of plant operation and Maintenance, including Power supply is borne by Pragati Power Corporation. In Bangalore (V-Valley) treated Water is used as raw Water for Industrial use. Treatment cost is Rs 3 per KL approximately. The Bangalore Cubbon Park Treatment plant is in operation since 2006 with a treatment cost of Rs. 10 per KL. The Treated effluent is used for gardening, horticulture in park, Vidhan Sabha, Governor's residence and in stadium.

The Third Session centred on "PPP International Experiences". It was initiated by Ms.Gabriela Prunier, Country Head Suez Environment focusing on PPP in sanitation in Algeria. A management contract was signed in 2006 for 5 ½ years. The specific technical targets to be achieved were enhancing the management of sanitation system, achieve 24x7, decreasing position of waste along the Algerian coastline, upgrading water and sanitation networks and adopting modern and efficient customer management. The private operator was also supposed to transfer the operational and management know-how. The investment Programme was financed by Algerian authority and entrusted to Suez Environment. The major improvements were as under:-

- Control over “black spots” and major risks relating to the sanitation network.
- Creation of GIS and hydraulic modelling of the network

- Improvement in bathing quality – 7 additional beaches re-opened to the public
- Domestic improvement of customer services-average time for intervention was substantially reduced
- Dramatic decrease of outflow of sewers
- Reorganization of the department-creation of a sanitation department

The key success factors were prioritization of best and most adapted technologies, enormous efforts put on training of staff, proactive and coordinated mobilization of the various stakeholders, and control of strategic investments by the private service provider with guaranteed financing.

Ms. Gabriela also discussed 25 years BOT contract for As Samra Waste Water Treatment Plant (Jordan) financed by US Aid, Jordanian Bank and Private Equity. It involved partial Financing, design, construction, operation of a WWTP (267.00 m<sup>3</sup>/d) for 2.2 million inhabitants. She also discussed long-term PPP needs i.e. sufficient and predictable revenue streams, user charges that are adequate, equitable and affordable, budget subsidies secured over long term. In Indian context, she suggested that refurbishment and repair of the network is essential along with connecting household to the network.

Next, Mr. Josh Carmody, Senior Project Specialist, ADB discussed Carbon Financing options in sanitation and mentioned the following three carbon Financing deals in waste sector in India:

- Timarpur, Okhla RDF Production and waste to energy (APCF will make upfront payment of 50 % of CERs)
- Land fill closure and Methane Capture project in Mumbai ( 70-80 % of Project Cost of Power plant will be covered by APCF upfront payment)
- Bundles of Nine Composting Projects-- 6 in Tamil Nadu and 3 projects covering Jhalandhar, Mysore and Kozhikode. Upfront payment of approximately USD 1.5 million will be made by APCF.

Mr. Rishabh Sethi, Executive Director, SPML and Director, Insituform Pipeline Rehabilitation Pvt Ltd discussed the advantages of Annual Maintenance of sewerage networks on PPP basis. Annual Maintenance Programme (AMP) extends the life of an asset and price escalation for emergency repair is avoided which averages 3 to 4 times the direct cost of planned repair.

The Fourth session centered on developing pilot projects. Ms. Aparna Bhatia, Director DEA discussed at length the IIPDF scheme of GOI and Pilot Project Initiatives of ADB which can provide assistance from initial conceptualization to thorough handholding for development of DPRs(Detailed Project Reports). She requested the representatives of ULBs/parastatals to come forward with innovative proposals for development of Pilots. Mr. Anouj Mehta, ADB mentioned about the Pilot project initiatives and also discussed about the non-sovereign window of ADB. Non-sovereign window of ADB can offer rupee based direct loan to projects /ULBs without GOI guarantee. However, due diligence process of ADB shall be followed.

The next speaker, Mr. Brijagopal Ladda, Head Crisil Advisory Services made an exhaustive presentation covering PPP structures in Municipal sector, concerns of various stakeholders with regard to PPP Projects, instruments available to develop PPP projects and PPP templates for SWM & sewerage Projects. Among the possible instruments for developing PPP projects mentioned by Mr. Ladda were Construction Grant, Operation Grant, Minimum Revenue Grant, and Annuity Payments.

He suggested PPP options for SWM in collection, transportation, treatment and Disposal. He also mentioned about the emerging PPP Model in SWM wherein a cluster of ULBs will have a common treatment and Disposal facility. This model is being implemented by Alandur, Pallavaram and Tambaram and is also being explored by Gujarat. He suggested O&M with or without revenue Collection Contract for PPPs in waste water Management.

A Panel discussion was also held for creating enabling environment to encourage PPPs and identifying Pilot projects for Pilot demonstration. The panelists were requested to address institutional, tariff /revenue challenges and capacity building gaps in making sewerage/ sanitation projects compatible for PPPs. The following panelists took part in the discussion:

#### Government Perspective

- a) Mr. Krishna Babu, MD, Hyderabad Water Supply & Sewerage Board
- b) Anjum Parvez, Commissioner, Directorate of Municipal Administration, Government of Karnataka.
- c) Roshan Sunkaria, Commissioner, Chandigarh

## Private Sector Perspective

- d) Mr. Ravikant, MD Ramky Enviro Engineers Ltd
- e) Mr. Sandeep Asolkar, CTECH
- f) Mr. P.U. Asnani, Doshion Veolia Water Solutions

Initiating the discussion, Mr. Krishna Babu mentioned about 3600 MT per day of SWM project being executed under PPP mode in Hyderabad. He also mentioned about public perception and therefore stressed the importance of communication in PPPs. He also voiced the feeling that employees position is threatened in PPPs which needs to be looked into.

Mr. Anjum Parvez advocated for Pro-Poor PPPs and increasing employment opportunities for poor through PPPs. He voiced his concerns regarding inability of slum dwellers to pay user charges. He also mentioned regarding exploitation of labour in PPPs and described it as a negative aspect. According to him, PPP should result in win-win for government, private operator and the people. He also advocated slum Development through PPP.

Mr. Roshan Sunkaria mentioned that the role of Private Operator is not clearly defined and at times the entire process is not open and transparent. He also raised the issue of cost of land which is not accounted for and is given on nominal lease rent in all SWM and sewerage projects under PPP Mode. He mentioned about performance parameters and benchmarks which need to be predetermined.

Mr. Ravi Kant mentioned that in all SWM projects land is made available on nominal lease rent basis generally for 25 years. As per him, if the land cost is added, it will substantially increase the Tipping fee. He voiced his concerns regarding lack of Model Concession Agreement in SWM and emphasized the need for waste segregation at source.

Mr. P.U. Asnani was of the view that there is a tremendous potential for private sector participation in waste water management. However, Poor regulatory framework, poor financial health of ULBs etc were the stumbling blocks. He advocated for perfect drafting of Concession Agreements so that no one cheats. He also advocated for rationale Tariff for sustainability and

mortgaging of Municipal assets for enabling private developer to borrow from banks & Financial Institutions.

Mr. Sandeep Asolkar mentioned that the society stands to benefit from a PPP Project as pollution gets reduced. He advocated for keeping land cost low – on nominal lease rent basis. He strongly advocated for selling recycled water which helps in reducing the loss incurred by the utilities.

At the end, the moderator, Prof Chary concluded that PPPs in the sector is eminently doable and what is required is appropriate project structuring.

**On day 2 (21<sup>st</sup> August, 2009)**, under the Caption **PPP in Waste to Energy**, the First session "Overview of waste to Energy –Environmental Perspective" was taken by Dr. Shyamla Mani, CEE. She mentioned that about 42 million tonnes of MSW is generated per annum in the country; of this about 2 % is bio-medical waste. She discussed about the contents of Indian Waste and raised her concerns regarding Environmental and Health effects of improper waste Disposal. She also discussed about Energy products and non-energy products from Waste processing. She advocated Bio-Methanation as an appropriate technology for waste to energy in the Indian Context.

Mr. Shantanu Banerjee, Sr. Partner, Environment and Waste to Energy Expert, ETI Cavendish LLP (UK) discussed the methods of recovering energy from waste. As per him, landfill gas is currently the largest component of waste related energy (24%) of total renewable energy and 1.2 % of total UK electricity. Further, there are huge environmental benefit of converting methane (21 times as harmful as CO<sub>2</sub>) into energy as it reduces impact on climate change by eliminating emission of methane & CO<sub>2</sub> from degradation of dumped waste. He also mentioned that combustion is a proven technology very widely used in EU. He also discussed key building blocks of waste to energy as under:

Clear understanding of the characteristics of the waste arising and variations in the waste stream; based on the limitation imposed by the waste characteristics to devise a technically and economically sound process which is in compliance with the regulatory framework; testing the process in terms of technology, implementation issues, financial issues, risk analysis, stakeholder analysis etc to produce a bankable report; secure funds and agree for drawdown of funds; obtain necessary clearances; during EPC produce operational procedures and working plan etc

The Third speaker, Mr. Sanmit Ahuja, Chief Executive, ETI, Dynamics (UK) defined PPPs as a cooperative venture between the public and private sector, built on the expertise of each partner that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards. PPPs in their truest form are Service Level Agreements (SLAs), they are definitely not pure financing or revenue structures. He laid lot of emphasis on waste management strategy to be formulated by ULBs through independent consultants. Waste Management should be solution based and not Technology based. We need to ask questions as to the thresholds we intend to meet. As per him, only when we have defined the thresholds, we

can begin to look for solutions. And the schemes so formulated must demonstrate how they will achieve the threshold objectives as defined by the ULB strategy. He also discussed various risks involved in PPP projects in SWM and their allocation. Among the benefits of PPPs discussed were reduced whole life costs, more effective allocations of risks, stronger incentives to perform, improved quality of service and generation of additional revenue.

Mr. Siddharth Amin, Managing Partner, ETI Cavendish (UK) discussed Project Economics of waste to Energy project. As per him, the social return must be factored in by the Govt. and other providers of grants and lower cost funds as part of overall financing mix for waste to energy projects. He proposed a combination of tariff and tipping fee for sustainability of Private Financing of waste to energy project. He also proposed for higher levy of tariff on rich people and corporate sector.

The next speaker, Mr. Vyas of Rajkot Municipal Corporation discussed about the 300 MT mixed MSW plant on BOOT basis which has been set up in Rajkot at a capital cost of Rs 27 crores. The end products are compost, eco-brick or sand and green coal. Break even is expected in 8-1/2 years. It is the first integrated plant in operation for the last 5 years which has not only survived but has given birth to many similar and even improved plants.

He also mentioned about the upcoming 45 MLD Sewerage Treatment Plant on BOOT basis in Rajkot. The public partner is to give land on nominal lease basis and to ensure the agreed quantity at STP. The total investment and O& M for 25 years will be done by the Private Partner. Marketing of the recovered waste (treated water of 38 MLD) shall be sole responsibility of the private partner. Approval is soon to be granted by Gujarat Infrastructure Development Board (GIDB)-High powered Approval Committee for PPP Projects in the State.

Mr. Vyas was of the view that ULBs should not insist for royalty. Royalty and tipping fees etc are the questions which are best decided by the Market forces.

The Last session was on "Waste to energy: Indian Perspective-Lessons learnt, pitfalls to avoid, current and future developments". It was initiated by Mr. Anil Dhussa, Dir, Ministry of New and Renewable Energy. He mentioned that about 1.5 lakh MT /day of MSW is generated in the country



and mentioned about environmental ill-effects of dumping. He also mentioned about waste Management Hierarchy i.e. waste minimization, collection and transportation, resource recovery through sorting and recycling, resource recovery through processing/ treatment and lastly, waste transformation and final disposal. He also mentioned about waste to energy projects installed in the county at Delhi, Hyderabad, Vijayawada, Lucknow, Ludhiana, Chennai and Surat. He mentioned that the project viability of waste Processing projects depends upon sale of power, sale of manure / compost, CER trading under CDM, direct subsidy , higher price for power or manure or Tipping fee or Treatment fee. He also mentioned about the Financial / fiscal incentives provided by the Govt. and also the guidelines for development of MSW based projects.

Mr. Raghu of iDeCK discussed the Techno-commercial and governance issues for success of MSW projects. Among the Techno-Commercial issues mentioned, the predominant were quality and quantity of waste, poorly developed compost market, Revenue Models, Capital intensive nature of Bio-methanation plants, sale of power etc. Among the governance issues highlighted were Project structure, Risks, selection process and contracts, land-availability and clearances and capacity / willingness of contracting agency.

At the end both Ms. Aparna Bhatia, Director, DEA and Mr Anjou Mehta, Sr. Infrastructure Finance Specialist, ADB conveyed their thanks to the participants and expressed the desire that the participants will come forward with projects in waste water and MSW management sectors on PPP basis and avail the Schemes of GOI i.e. VGF, IIPDF and Pilot project Initiatives of ADB.

The Workshop generated lot of interest and a number of state governments approached ADB and DEA for possible inclusion in the ADB-DEA pilot project initiatives including cities in Maharashtra & Gujarat.

## **Appendix**

### **Round Table 20-21 August, 2009**

#### **AGENDA**

<b>Day 1: 20 August 2009</b>	
09:30-10:00	Registration
Session 1: Overview of the Sector	
10:00-10:05	Introduction Address- Objectives of the workshop Mr. Anouj Mehta, ADB
10:05-10:15	Video-Urban sanitation in India
10:15-10:30	Keynote Address Mr. Govind Mohan, Joint Secretary, DEA
10:30-10:45	Urban sanitation/ Sewerage in India-Status, challenges, and opportunities for PPP Prof Srinivas Chary, Director, CEEUG&ID, ASCI
Session 2: PPP Experiences in Sewerage/Sanitation Sector in India	
11:15-11:30	Defining PPPs-Overview and specific challenges in sanitation sector (tariffs and annuity models) Mr. Ramanujam, Head Urban Infrastructure, CRISIL Q&A
11:30- 11:50	Alandur Experience Mr. Sai Bharati, Ex-Chairman, Alandur Municipality

11:50-12:10	Bangalore Experiences Mr. Basuvaraju, Chief Engineer, Bangalore water supply & sewerage board
12:10-12:30	Tamil Nadu Experiences Mr.V.Shenbagaraman Manager, IL&FS Urban Infrastructure Managers Limited
12:30-12:45	Q&A
Session 2 Continues	
13:45-14:05	Surat experiences Mr. Uday Kelkar, Director-India Operations, NSS Consultant
14:05-14:25	Andhra Pradesh experiences Mr. Bhaskar, Price Waterhouse Coopers
14:25-14:45	Karnataka Experience Mr.Vipul.Goyal, General Manager(Process and Technology), Degremont
Session 3: PPPs International Experiences	
15:00-15:30	Suez experience Ms. Gabriela Prunier, Business Development manager, Suez
15:45-15:55	Annual maintenance of Sewerage Networks-Urban areas across the globe Mr. Rishabh Sethi, Executive Director ,SPML
15:55-16:10	Innovations in Financing: Carbon financing options for sanitation- Mr. Josh Carmody, Senior Project Specialist, ADB
16:10-16:20	Q&A
Session 4: Developing Pilot Projects	
16:20-16:40	PPP Templates: Presentation of PPP models that might apply in the Indian context Mr. Brijgopal Ladda, Head, CRISIL Advisory Services
16:40-16:50	Overview of DEA/ADB PPP Joint Initiative-Identifying pilot projects-- Mr. Anouj Mehta, ADB and Ms Aparna Bhatia, Director ,PPP Cell, DEA
16:50-17:20	Panel Discussion : Enabling environment to encourage

	<p>PPPs and potential pilots</p> <p>Government Perspective:</p> <ul style="list-style-type: none"> <li>a) Mr. Krishna Babu, MD , Hyderabad Water Supply &amp; Sewerage Board</li> <li>b) Mr. Anjum Parvez, Commissioner, Directorate of Municipal Administration, Government of Karnataka,</li> <li>c) Mr. Roshan Sunkaria, Commissioner, Chandigarh</li> </ul> <p>Private Sector Perspective:</p> <ul style="list-style-type: none"> <li>d) Mr. Ravikant, managing Director, Ramky Enviro Engineers Limited</li> <li>e) Mr. Sandeep Asolkar, CTECH</li> <li>f) Mr. P.U.Asnani, Director ,Doshion Veolia Water Solutions</li> </ul> <p>Moderated by Prof. Srinivas Chary</p>
17:20-17:30	Closing Remarks by Ms. Aparna Bhatia, Director DEA, Mr. Anouj Mehta,ADB
<b>Day 2:21 August 2009</b>	
09:30-10:00	Registration
10:00-10:15	Welcome Address Ms. Aparna Bhatia, DEA and Mr. Anouj Mehta,ADB
10:15-10:25	Setting the Scene Mr. Sanmit Ahuja, Chief Executive, ETI Dynamics (UK)
10:25-10:45	Session 6: Overview of Waste to Energy-Environmental Perspective Dr. Shyamala Mani, Programme Director, Waste & Resource management, Centre for Environment Education
10:45-11:30	Section 7:Getting it Right-Solutions that will deliver on both environment and energy front Mr. Santanu Banerjee, Sr. Partner, Environment and waste to energy expert ETI Cavendish LLP(UK)
12:00-12:45	Session 8:PPP Frameworks, Industry & Project Economics Mr. Sanmit Ahuja, Chief Executive, ETI

	<p>Dynamics (UK)  Mr. Sid Amin Managing Partner ,ETI Cavendish LLP  (UK)</p> <p>Rajkot Experience: Mr.Vyas, Additional Commissioner  Rajkot Municipal corporation</p>
12:50-13:30	<p>Session 9: Waste to energy: Indian Perspectives-lessons  learnt, pitfalls to avoid, current and future developments  Mr. Anil Dhussa, Diector, Ministry of New &amp;  Renewable Energy  Mr. Raghu Ramaswamy,iDeCK</p>
13:30-13:40	<p>Closing Remarks by Aparna Bhatia,Director DEA and  Mr.Anouj Mehta,ADB</p>