



INFRASTRUCTURE FINANCE SECRETARIAT
DEPARTMENT OF ECONOMIC AFFAIRS
MINISTRY OF FINANCE
GOVERNMENT OF INDIA

सत्यमेव जयते



British
High
Commission
New Delhi

Workshop

on

Interventions Required to Strengthen the PPP Ecosystem

Organised by
Department of Economic Affairs,
Ministry of Finance,
Government of India

14th September 2022 | Jacaranda Hall,
India Habitat Centre,
New Delhi

Final Report

*Partners in
Progress...*



Foreword

India, one of the fastest growing economies in the world, is at the cusp of a radical transformation. The Honorable Prime Minister of India has set an ambitious target of making India a developed nation by 2047. In line with that vision, the Government of India and the private sector as **partners in progress** would work collaboratively to strengthen the Public Private Partnership (PPP) ecosystem and ensure accelerated infrastructure development. This philosophy focusses on the collective efforts of the public and private sector to optimally utilize available resources and build resilient and progressive infrastructure. A stakeholder workshop titled – “Interventions Required to Strengthen the PPP Ecosystem” was organized by the Infrastructure Finance Secretariat (IFS), Department of Economic Affairs (DEA), Ministry of Finance (MoF), which focused on strengthening private sector participation in infrastructure. The objective of the workshop was to collaborate with the stakeholders within the PPP ecosystem over a one-day conference and to understand their views, suggestions and challenges in implementing PPP projects. The event was attended by **166 participants from 83 public and private sector institutions**, with **115 participants** representing the **private sector**.

The workshop focused on providing a platform to key stakeholders to share their PPP experience as well as, their perspective on current issues/ challenges in the PPP landscape and the way forward. This exercise was undertaken to develop insights for enabling private sector participation in the upcoming infrastructure development in the country and inspire participants to suggest interventions/ initiatives required for further strengthening the PPP ecosystem to boost overall infrastructure development.

The workshop was organised at the **India Habitat Centre in New Delhi**, on **14 September 2022**. The workshop started with an inaugural session, followed by sector-specific sessions for selected infrastructure sectors. Each session comprised of a sectoral overview provided by the Session Moderator, remarks from private sector speakers on the sectoral PPP ecosystem, presentations by the public sector authorities on their PPP experiences and concluding remarks from eminent representatives of the relevant ministries.

This report is a **reflection of the workshop proceedings** and captures the learnings and outcomes based on the inputs provided by the participants. Further, it documents and lists the issues raised and suggestions proposed by the representatives from **24 private organizations, 8 authorities and 6 central ministries** (including Ministry of Health and Family Welfare, Ministry of Education, Ministry of Housing and Urban Affairs, Ministry of Roads Transport and Highways and Ministry of Finance), based on their experiences and learnings from PPP projects undertaken in **Health, Education & Sports; Water Supply; Municipal Solid Waste Management; Urban Transport; and Roads & Airports**.

Disclaimer

This reflection report is a compilation of the views expressed by the private sector participants in the workshop, as well as to draw lessons from it. It has been captured across four broad sectors i.e., 1) Health, Education and Sports Infrastructure; 2) Water, Wastewater and Solid Waste Management; 3) Urban Transport; and 4) Roads and Airports. The views expressed by the private sector participants and compiled below do not necessarily represent the views of the Department of Economic Affairs, Ministry of Finance, the Government of India. The views listed in this report are made available only for information purposes. The Department of Economic Affairs, Ministry of Finance does not make any representations or warranties with respect to the accuracy, applicability, fitness, or completeness of this report.

Abbreviations

Abbreviation	Definition
PPP	Public Private Partnership
DEA	Department of Economic Affairs
IFS	Infrastructure Finance Secretariat
PACM	Post-award Contract Management
IIPDF	India Infrastructure Project Development Fund
NIP	National Infrastructure Pipeline
NMP	National Monetization Pipeline
PPPAC	Public Private Partnership Appraisal Committee
VGf	Viability Gap Funding
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
INR	Indian Rupee
AJML	Arun Jaitley Memorial Lecture
FCDO	Foreign, Commonwealth and Development Office
IFC	International Finance Corporation
I-IPF	Infrastructure Policy Fund
ITCF	Infrastructure Technical Co-operation Facility
CEO	Chief Executive Officer
CFO	Chief Finance Officer
ISD	Infrastructure Support & Development
IDA	Infrastructure Development Authority
JITF	Jindal ITF
BOT	Build, Operate, Transfer
CEA	Chief Economic Advisor
OSD	Officer on Special Duty
PMRDA	Pune Metropolitan Region Development Authority

Abbreviation	Definition
SVP	Senior Vice President
ITUAPT	International Telecommunication Union - Asia Pacific Telecommunity
MOUD	Ministry of Urban Development
UPEIDA	Uttar Pradesh Expressways Industrial Development Authority
COD	Commercial Operations Date
FDI	Foreign Direct Investment
USD	United States Dollar
SWM	Solid Waste Management
EPC	Engineering, Procurement and Construction
CAGR	Compound Annual Growth Rate
CGHS	Central Government Health Scheme
GST	Goods and Services Tax
MCA	Model Concession Agreement
PMJAY	Pradhan Mantri Jan Arogya Yojana
RSBY	Rashtriya Swasthya Bima Yojana
CSR	Corporate Social Responsibility
NGO	Non-governmental Organization
HEFA	Higher Education Financing Agency
NABH	National Accreditation Board for Hospitals & Healthcare Providers
GDP	Gross Domestic Product
NMCG	National Mission for Clean Ganga
PSU	Public Sector Undertaking
WTE	Waste to Energy
GWMC	Goa Waste Management Corporation
SPV	Special Purpose Vehicle
DBFOT	Design, Build, Finance, Operate, and Transfer
MLD	Million Liters per Day
NABARD	National Bank for Agriculture and Rural Development

Abbreviation	Definition
SDG	Sustainable Development Goals
VAT	Value Added Tax
BRTS	Bus Rapid Transit System
HAM	Hybrid Annuity Model
NPA	Non-performing Asset
AERA	Airports Economic Regulatory Authority
NHAI	National Highways Authority of India

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Details of Workshop and Learnings from the Workshop



1. Background

India is currently celebrating ‘**Azadi Ka Amrit Mahotsav**’ to commemorate 75 years of independence and the glorious history of its people, culture and achievements. The Government of India has set an ambitious target to become a ‘Developed Nation by 2047’, which will require considerable effort and investment from the public and private sector. It is believed that the upgradation of existing infrastructure and building modern infrastructure will serve as a strong foundation for a new Atmanirbhar Bharat. To realize this vision and create a conducive environment for public and private sector investments in the infrastructure sector, the Government of India has taken several initiatives to support the development of quality infrastructure in an efficient manner. This includes the launch of the **National Infrastructure Pipeline (NIP)**, **National Monetization Pipeline (NMP)**, **PM GatiShakti National Master Plan**, and the promotion of innovative infrastructure financing, i.e., **Infrastructure Investment Trust (InvIT)** and **Real Estate Investment Trust (REIT)**. Achieving these ambitious vision will require huge infrastructure investment and considering the limited public financial resources available with the government, there is an imperative need to revive and strengthen private sector participation in infrastructure development. Further, to ensure that the PPP ecosystem is dynamic, the Government of India is determined to identify interventions which are critical to meet the needs of the next generation of PPP projects and carve-out a roadmap to undertake systematic improvements to accelerate private sector participation in infrastructure development.

1.1. The PPP landscape in India

Public Private Partnerships (PPPs) are an important mode of development, up-gradation and maintenance of the public infrastructure in India and have played a crucial role in delivering some of the most successful infrastructure projects, resulting in improvement of public service delivery across sectors.

The structural reforms undertaken by the Government of India in 1991 paved the way for private sector investments in the infrastructure sector thus speeding up infrastructure development along with boosting economic growth. Since then, the Government of India has also been working on creating a conducive ecosystem for tapping private sector investments in the infrastructure sector through Public Private Partnerships (PPPs). From 2005 onwards, PPPs have gained substantial traction through several policies and institutional measures taken by the government. This includes setting up of a **PPP cell** under DEA, streamlining appraisal and approval mechanisms (setting up of **PPPAC** to appraise and approve central level PPPs) and launching a scheme for financial support to PPPs (vide notification for **Viability Gap Funding (VGF)** Scheme in 2006). This was followed by the initiation of the **India Infrastructure Project Development Fund (IIPDF)** in 2008, to help finance the costs incurred towards development of PPP projects. This scheme has been revamped recently, in November 2022. An **online PPP repository** (www.pppinindia.gov.in) was developed by DEA in 2011, along with a range of **PPP related guiding documents**.

In 2015, the **Kelkar Committee provided recommendations on revitalizing infrastructure PPPs**. In 2016, DEA was instrumental in issuing the **PPP guide for practitioners**, which was followed by MoHUA’s announcement in 2017, of a new PPP Policy to promote private sector participation to develop affordable housing. The Government of India has recently setup - **The National Bank for Financing Infrastructure and Development (NaBFID) under the NaBFID Act of 2021**, which aims to serve as the principal development financial institution (DFIs) for infrastructure financing in the country.

Today, PPPs in infrastructure represent a valuable instrument to speed up infrastructure development in India and bridge the investment gap envisaged under NIP as well as generate revenue through asset monetisation as envisaged under NMP. The NIP incorporates over 9,000 projects with an estimated value of INR 146,000 billion, out of which, ~ 20% of infrastructure investment projects are proposed to be implemented on PPP basis. The present state of the legal and regulatory framework for PPP in India is heterogeneous, in the absence of any dedicated and statutory central legislation, or unified law or policy for PPP. In the early 1990s, PPPs were implemented based on a non-standardised regulatory framework. Most of the PPPs in the last three decades have focused on the development of national trunk infrastructure in the country, such as roads and highways, power plants, telecommunication infrastructure, etc. However, PPPs in urban sectors have gained importance in the last one and a half decade, where PPP projects have become the enablers to accelerate infrastructure development and have been promoted as the preferred mode for project implementation under sectoral missions. According to the World Bank, close to 2000 PPP projects are currently under various stages of implementation in India, making it one of the leading countries in PPP readiness.

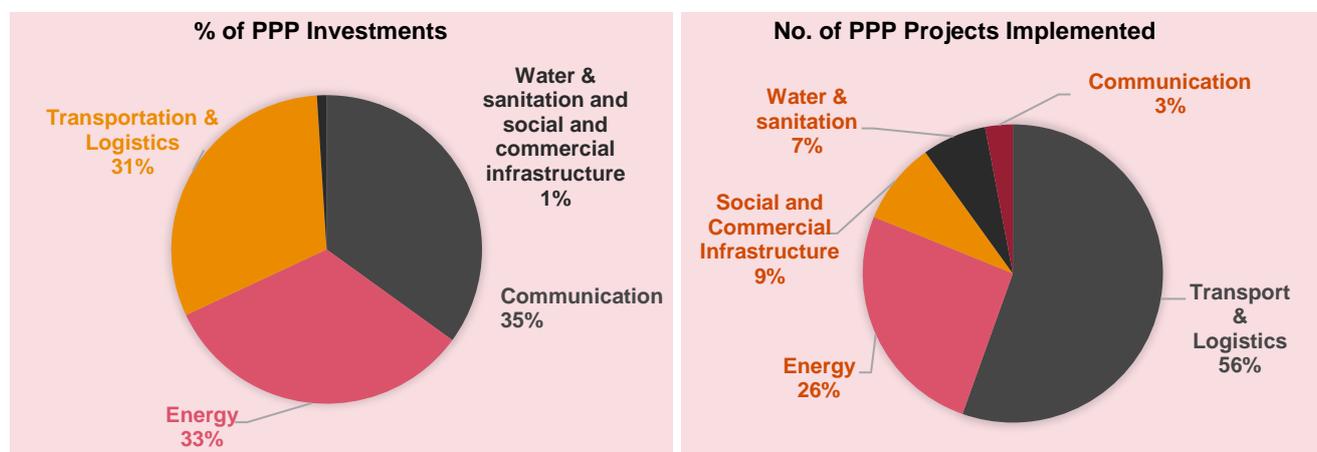
India is considered as one of the top five Emerging Market and Developing Economies (EMDEs) that have influenced the growth cycles of PPP investments. India remains the top PPP ready economy in the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) region. As per the World Bank PPP (2021) Half Year (H1 Report), India is ranked 4th in the world in terms of total investment commitments made by private sector across infrastructure sectors.

35% of the total investment in PPPs in the country have been observed in the communications sector, followed by energy (33%), transportation & logistics (31%) and around 1% in water & sanitation and social and commercial infrastructure combined. In terms of number of PPP projects implemented, transport & logistics and energy sectors together accounted for ~81% (56%, and 26%

Figure 2: Sector share of investment in PPP projects

Figure 1: Sector-Specific PPP Projects

respectively) of total PPPs implemented in India, followed by social & commercial infrastructure (9%), water & sanitation (7%), and communication (3%).¹



Source: List of PPPs project, part of Infrastructure Database maintained by DEA, Ministry of Finance

In terms of project ticket size, transportation & logistics had the highest share across all project cost slabs, followed by energy in projects costing above INR 0.5 billion (INR 50 crore). Social &

¹ [List of PPPs implemented in India, updated till FY 2018-19, Infrastructure Database](#), maintained by Department of Economic Affairs, Ministry of Finance, Government of India.

commercial and water & sanitation projects had significant share in projects costing less than INR 0.5 billion (INR 50 crore). **Table 1** presents a sector wise share of PPP projects in different cost categories.

Table 1: Share of PPP projects across sectors in different cost slabs

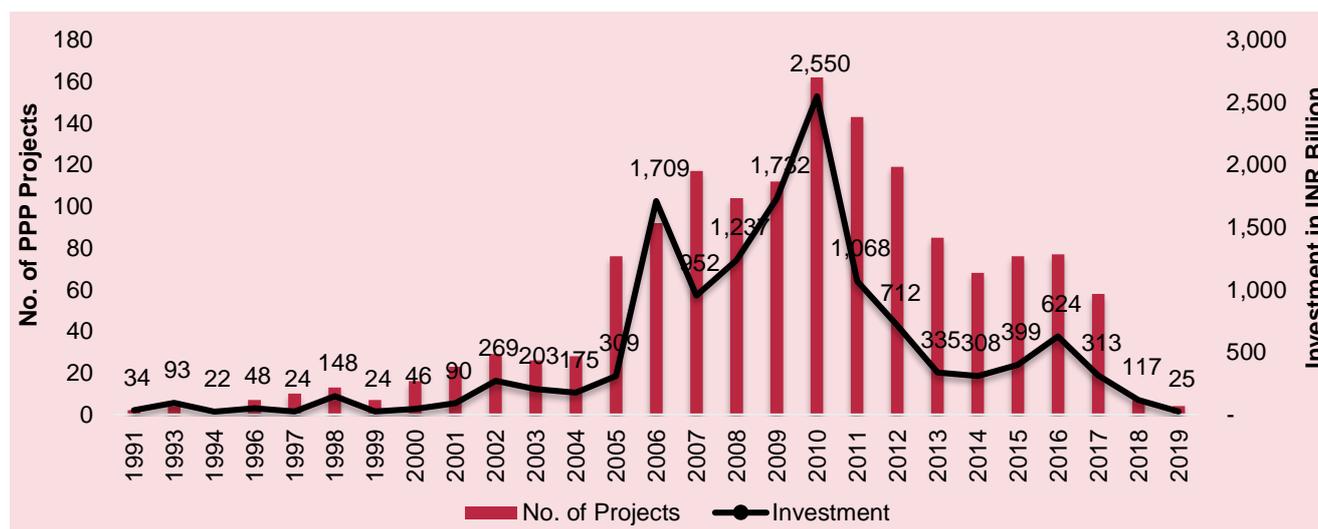
Cost Category (INR million)	Communication	Energy	Social & Commercial	Transport & Logistics	Water & Sanitation	Total number of projects
0-500	1%	18%	25%	40%	16%	408
501- 1,000	-	28%	10%	52%	11%	208
1,001-5,000	8%	27%	2%	62%	1%	676
>5,000	1%	29%	5%	61%	4%	532

Source: List of PPPs project, part of Infrastructure Database maintained by DEA, Ministry of Finance

1.2. Need of the workshop

Despite being one of the front runners in terms of the PPP projects implemented across the globe, India is yet to reach its full potential. Between 1991 and 2019, India undertook several PPP projects, of which 1,824 PPPs projects worth INR 25,000 billion (INR 25 lakh crore) have been recorded in a central database. Investment trend in PPPs during the last three decades is presented in **Figure 3**. A year-on-year review shows that PPPs gained substantial traction during 2005-2010, with the help of several policy and institutional measures taken by the government; however, since then, the growth has been slowing.

Figure 3: Investment trend in PPP during the period 1991-2019



Source: List of PPPs project, part of Infrastructure Database maintained by DEA, Ministry of Finance

The trend of the number of PPP projects is consistent for all the five key sectors (transportation and logistics, energy, telecommunication, water, and sanitation and social and commercial). Some of the **key reasons for this downward trend** are deceleration in economic growth due to structural imbalances and stagnation of the global economy², over-leveraged debt and shortage of equity, coupled with increasing stress on non-PPP projects (especially power), low lending appetite to private sector, capacity constraints for fresh infusion of funds, lower than expected returns due to aggressive

² <https://www.eastasiaforum.org/2012/01/27/india-s-economic-slowdown-a-stain-on-2011/>

bidding by the private partner, delay in obtaining clearances, inadequate diligence and appraisal by lenders, lack of capacity at state and local body levels to build project pipelines and implement through PPP mode, contractual issues particularly those relating to risk allocation and dispute resolution and lack of flexibility in contractual arrangements.

Based on the government’s vision of India as a Developed Nation by 2047, it has identified infrastructure development as a key enabler of sectoral and economic growth. Also, there is an imperative need for the government to focus on making a conducive and enabling environment for the private sector to sustain and accelerate private sector participation in infrastructure development. In this regard, the **Department of Economic Affairs, Ministry of Finance had undertaken a diagnostic study to carry out assessment of the current PPP landscape of India to identify key gaps and interventions required for improvement.** This study is being conducted under the Infrastructure Technical Co-operation Facility (ITCF) programme of Foreign, Commonwealth and Development Office (FCDO), Government of United Kingdom, which is part of the Infrastructure Policy Fund (I-IPF) and development partnership with the Government of India.

A stakeholder workshop as a part of the diagnostic study was undertaken by the Department of Economic Affairs, Ministry of Finance, to connect with relevant stakeholders and understand their perspective on the current PPP landscape of India to seek their feedback on possible interventions to improve the PPP landscape.

"Today India is one of the most reliable and state-of-the-art space service providers in the world. Our private sector ecosystem is doing a great job in this area too and the government is standing behind them as a partner in progress. Now the extreme models dominated by the private sector or government have become obsolete. Now is the time that the government should encourage the private sector as a partner in progress and we are moving forward in this direction."

- Prime Minister Narendra Modi at 'Arun Jaitley Memorial Lecture' (AJML)

1.3. Objectives of the workshop

This workshop titled “**Interventions Required to Strengthen the PPP Ecosystem**” was organized with the following objectives:

- a. To disseminate information related to recent government initiatives and to make the PPP landscape in the country more conducive for private sector;
- b. To provide a platform to the key stakeholders to share their PPP experience, and to seek their views on gaps and challenges in the current PPP landscape; and
- c. To seek feedback from stakeholder on potential interventions required to further strengthen the PPP landscape and make it more conducive for private sector.

1.4. Workshop schedule

The broad schedule of the workshop is presented below, with a detailed schedule provided in the next section of this report:

1. **Inaugural Session** – Welcome address by special dignitaries from DEA, MoF, British High Commission, IFC (The World Bank Group), and presentation by PwC to disseminate findings of the recent PPP diagnostic study carried out by DEA funded by FCDO;

2. **Sector Session 1: Health, Education and Sports Infrastructure** – The session commenced with presentations by the private sector participants followed by presentations by public authorities on their PPP experience in respective sectors with closing remarks by dignitaries from the relevant central ministries;
3. **Sector Session 2: Water, Wastewater and Solid Waste Management** – The session started with opening remarks by dignitaries from the relevant central ministries followed by presentations by private sector participants and lastly, with presentations from the public authorities on their PPP experience in respective sectors with closing remarks;
4. **Sector Session 3: Urban Transport** – The session commenced with presentations by private sector participants, followed by presentations by the public authorities on their PPP experience in respective sectors with closing remarks by dignitaries from the relevant central ministries;
5. **Sector Session 4: Roads and Airports** – The session commenced with the presentations by private sector participants followed by presentations by public authorities on their PPP experience in respective sector with closing remarks by dignitaries from the relevant central ministries; and
6. **Closing Remarks** by DEA thanking the participants for their participation as well as for actively sharing their PPP experience and feedback on the current PPP landscape along with potential interventions for improvement.

The detailed agenda of the workshop is presented in the table below.

Session	Timing	Session details
	10:00 AM - 10.30 AM	Registration and Tea
	10.30 AM - 10.35 AM	Welcome Address by <i>Shri B Purushartha, Joint Secretary, (ISD), Infrastructure Finance Secretariat, DEA, MoF</i>
	10.35 AM - 10.50 AM	Inaugural Address by <i>Shri Ajay Seth, Secretary, DEA, Ministry of Finance (MoF)</i>
	10.50 AM - 10.55 AM	UK-India Cooperation on Infrastructure Sector by <i>Ms. Sally Taylor, "Minister Counsellor (Director Development, Climate, Science and Technology), British High Commission</i>
	10.55 AM - 11.00 AM	Remarks by <i>Ms. Wendy Werner, Country Head India, International Finance Corporation, The World Bank Group</i>
	11.00 AM - 11.05 AM	Context Setting by DEA - <i>Dr. Kartik Agrawal, Deputy Director, Infrastructure Finance Secretariat, DEA, MoF</i> VGF and other interventions undertaken by DEA to boost PPPs
	11.05 AM - 11.15 AM	Presentation on Framework Review Report by <i>Shivanshu Chauhan, Partner, PwC</i>
Session 01	11:15 AM - 12.20 PM	<p>Healthcare, Sports, and Education Sectors</p> <p>05 Mins – <i>Mr. Ashok Varma, Partner, PwC India (Moderator)</i> -highlight the focus areas of proposed discussion and driving entire discussion</p> <p>40 Mins – Remarks by the private sector on the PPP ecosystem in Health, Education and Sports (5mins each).</p> <ul style="list-style-type: none"> • <i>Mr. Yogesh Sareen, CFO, Max Healthcare Institute Ltd. (Health)</i> • <i>Mr. Pankaj Sahni, CEO, Medanta (Health)</i> • <i>Dr. Sachin Sharma, Director, Apex Hospitals (Health)</i> • <i>Mr. Yash Mutha, Executive Director, Krsnaa Diagnostics Pvt. Ltd. (Health)</i>

Session	Timing	Session details
		<ul style="list-style-type: none"> • Balaji Raghupathy, Co-founder, and Senior Director, GenWorks (Health) • Dr. Karan Thakkur, VP, Projects and Public Affairs, Apollo Hospitals Enterprise Ltd. (Health) • Vinod Haridas, MD and CEO, Olympiados Holding Pvt. Ltd. (Sports) <p>10 Mins - Presentation on Jayaprabha Hospital on PPP mode by Mr. Pankaj Sinha, Senior Investment Officer, International Finance Corporation on behalf of IDA Bihar</p> <p>05 Mins - Remarks and session conclusion by Shri Vishwajeet Kumar, Director, Dept. of Higher Education, Ministry of Education</p> <p>05 Mins – Remarks and session conclusion by Shri Vishal Chauhan, Joint secretary, Ministry of Health and Family Welfare</p>
	12.20 PM - 12.30 PM	Tea Break
Session 02	12.30 PM - 01.45 PM	<p>Water Supply and Municipal Solid Waste Management Sectors</p> <p>5 Mins – Mr. Sumouleendra Ghosh, Associate Partner, KPMG (Moderator) - highlight the focus areas of proposed discussion and driving entire discussion</p> <p>45 Mins – Remarks by the private sector on the PPP ecosystem in Water Supply and Solid Waste Management Sectors</p> <ul style="list-style-type: none"> • Himanshu Chaturvedi, Chief Strategy Officer, Tata Projects Ltd. (Water) • Arindam Talukdar, Assistant General Manager, Vishwaraj Environment Private Limited (Water) • Rajneesh Chopra, Global Head of Business Development, VA Tech Wabag Ltd. (Water) • Payal Saha, Manager-Business Development, and Ayan Roy, Manager-Legal and Contracts, SUEZ India (Waste and Water) • Aditya Handa, MD and CEO, and Priyank Shah, Assistant Vice President, Abellon Clean Energy Ltd. (Waste) • Pranay Kumar, General Manager, JITF Urban Infrastructure Ltd. (Waste) • Masood Mallick, CEO, Re Sustainability Limited (Waste) <p>10 Mins: Presentation on Solid Waste management facility in Panaji by Dr. Levinson J. Martins, Senior Scale Officer, Goa Waste Management Corporation</p> <p>10 Mins: Presentation on Bhubaneswar Water Supply by Dr. Bhakta Kabi Das, Chief Engineer-cum-Addl. Secretary, Department of H&UD, Odisha</p> <p>5 Mins - Remarks and session conclusion by Shri Kunal Kumar, Joint Secretary, Ministry of Housing and Urban Affairs (MoHUA)</p>
	01:45 PM – 02:45 PM	Lunch
Session 03	02:45 PM - 3.50 PM	<p>Urban Transport Sector</p> <p>05 Mins – Mr. Devayan Dey, Managing Director, Transportation and Logistics, PwC (Moderator) - highlight the focus areas of proposed discussion and driving entire discussion</p> <p>25 Mins – Remarks by private sector on sectoral PPP ecosystem.</p> <ul style="list-style-type: none"> • Mr. Prasanna Patwardhan, Managing Director, VP – BD and Corporate

Session	Timing	Session details
		<p><i>Affairs, Prasanna Purple Mobility Solutions Pvt. Ltd.</i></p> <ul style="list-style-type: none"> • Mr. Rajendra Kondepati, Vice President, Megha Engineering & Infrastructures Ltd. • Mr. Sumit Mittal, VP – BD and Corporate Affairs, GreenCell Mobility Pvt. Ltd. <p>10 Mins - Presentation on Indore Public Transport on PPP mode by Dr. Deval Mishra, Senior Program Associate, Indore Municipal Corporation</p> <p>10 mins - Presentation on Rewa Project - by Shri Manu Srivastav, Principal Secretary, Govt. of Madhya Pradesh</p> <p>10 Mins - Presentation on Pune Metro Rail project by Ms. Riraj Patnaum, Superintending Engineer, PMRDA</p> <p>05 Mins - Remarks and session conclusion by Shri Jaideep, OSD, Ministry of Housing and Urban Affairs (MoHUA)</p>
	03:50 PM - 04.00 PM	Tea Break
	04.00 PM - 04.10 PM	Special Address by Dr. V. Anantha Nageswaran, CEA, MoF
Session 04	04.10 PM – 05.25 PM	<p>Roads and Airports Sectors</p> <p>5 Mins – Mr. Karun Raj Singh Sareen, Partner, KPMG (Moderator) - highlight the focus areas of proposed discussion and driving entire discussion</p> <p>40 Mins– Remarks by private sector on sectoral PPP ecosystem.</p> <ul style="list-style-type: none"> • Parth Sharma, President – Corporate Development, Reliance Infrastructure Ltd. (Roads) • Atul Kumar, Chief operating Officer, Hindustan Construction Company Ltd (Roads) • Anuj Maitry, SVP, Cube Highways and Transport Assets Advisors Pvt. Ltd. (Roads) • Vinod Kumar Menon, Head-BOT Projects, IRB Infrastructure Developers Ltd. (Roads) • Asish Gupta, Advisor, Gammon India (Roads) • K Narayan Rao, Deputy Managing Director, GMR Infrastructure Ltd. (Airports) • Nitu Samra, Chief Financial Officer, Noida International Airport Ltd. (Airports) <p>10 Mins: Presentation by Mr. K K Gupta, Senior Financial Advisor, Uttar Pradesh Expressways Industrial Development Authority</p> <p>10 Mins: Presentation by Mr. Vinayak Rai, Member – Finance, Airport Authority of India</p> <p>5 Mins - Remarks and session conclusion by Shri Amit Ghosh, Additional Secretary, Ministry of Road Transport and Highways</p> <p>5 Mins - Remarks and session conclusion by Smt. Rubina Ali, JointSecretary, Ministry of Civil Aviation</p>
	05.25 PM - 05.30 PM	Vote of thanks by Shri Rohan Nair, OSD, Infrastructure Finance Secretariat, DEA, MoF

1.5. Coverage of the workshop

The workshop witnessed diverse participation from the public sector – Central Line Ministries, state and local authorities; private sector – key infrastructure players across various infrastructure sectors and donor agencies – FCDO, the World Bank Group and International Finance Corporation (IFC). There were **166 participants representing 83 institutions**. The workshop was also attended by **39 officials** from **16 public authorities**, which includes – the Government of Madhya Pradesh, Ministry of Housing and Urban Affairs, Ministry of Finance, Airports Authority of India, Ministry of Road Transport and Highways, Ministry of Civil Aviation, MOUD Odisha, ITUAPT Foundation of India, UPEIDA, IDA Bihar, Department of Higher Education, Ministry of Education, Ministry of Health and Family Welfare, H&UD Department, Odisha, PMRDA, Indore Municipal Corporation, etc. **12 participants** represented 3 donor agencies in the workshop.

The workshop was attended by **115 participants representing 64 private institutions** having PPP experience and partnering with government for infrastructure development and service delivery. Some of the private sector institutions whose representatives attended the workshop include – Max Healthcare, Apollo Hospitals, Jindal Urban Infrastructure, Tata Projects, Megha Engineering, Reliance Infrastructure Limited, Hindustan Construction Company, GMR Infrastructure, Gammon India, Fortis Memorial Research Institute, Shapoorji Pallonji, L&T Infrastructure, AFCONS, Boehringer Ingelheim, etc.

Detailed list of participants who attended the workshop is provided in **Annexure 1** of this Report.

1.6. Workshop proceedings

The workshop was held on **14th September 2022** at **India Habitat Centre in New Delhi**. A brief on the proceeding of the workshop is as presented below.

i. The Inaugural Session

- The session started with the **welcome address by Shri B. Purushartha, Joint Secretary, (ISD), DEA**, formally welcoming the eminent dignitaries and all the participants to the workshop. He highlighted the importance of the theme of the workshop, which is ‘**Partner in Progress**’ and intent of IFS to leverage this workshop to interact with key stakeholders to seek their perspective on current PPP landscape, which will help the government to develop robust roadmap to achieve infrastructure related targets. He highlighted the critical role of infrastructure development in determining a

Figure 4: Welcome Address by Shri B Purushartha, Joint Secretary, (ISD), Infrastructure Finance Secretariat, DEA, MoF

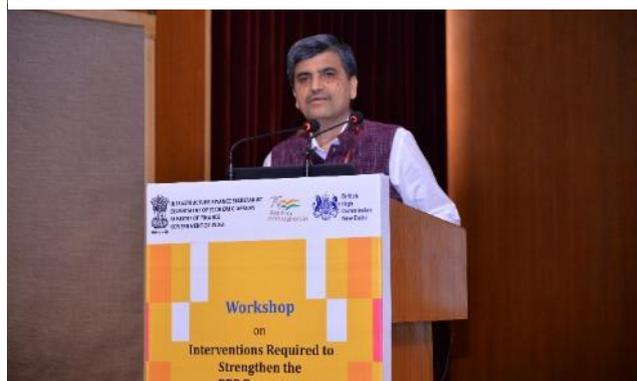


country’s capability to enable cost effectiveness. He further recalled the need for extensive infrastructure investments in India by 2025 and stressed upon the considerable role that the private sector will have to play in the infrastructure development and investment as identified under NIP and NMP. He stressed upon the imperative need to partner with the private sector to achieve the infrastructure vision and targets, since public sector investment alone will not be sufficient to achieve the desired goal. He further highlighted that India’s PPP framework and preparedness is considered amongst the best as per assessment carried out by various

organisations; but still there is a need for the government to undertake interventions to strengthen the PPP landscape. He briefed the participants about the existing PPP ecosystem and raised concerns regarding the limited presence of social sector PPPs (approx. 1%) to support infrastructure development in India. Further, he highlighted the critical role that IFS will need to play to create an enabling and conducive environment for private sector participation in infrastructure development. For revival of PPPs, IFS has already prepared an outline of roadmap, which includes series of reforms identified across policy and regulatory framework, to strengthen the current support mechanism through development of guidelines, advisories, and ensure adequate infrastructure financing avenues. He closed the speech with special mention about DEA’s inclusive vision to onboard private sector as an active partner in progress to create an enabling infrastructure ecosystem.

- This was followed by the inaugural address by **Shri Ajay Seth, Secretary, DEA**, who highlighted the journey of PPPs in India and the particulars of the current PPP landscape. He mentioned that the first 50 years of infrastructure development in the country were largely government led; the next 25 years saw a fundamental change in policy and a substantial increase in private sector participation in infrastructure; and in the next 25 years, the country needs to fulfill its potential by maximizing co-operative growth and highlighting the importance of the private sector as **partners in progress**. Summarising the current financial year’s budget speech³, he stressed on the significant role that the private sector needs to play in infrastructure development along with bringing in the private investment; he emphasized that while central and state governments have substantially increased public expenditure on infrastructure, such expenditure is to be complimented by the private sector at a significant scale, and the private sector is an **equal partner** for infrastructure development. He also highlighted that the central government has increased its capital spending on infrastructure by 35% during the last two financial years. He elaborated on the need for a structured and robust feasibility framework to enhance financial viability of future PPP projects and to ensure technical support and knowledge assistance from multilateral agencies. Envisioning the country 25 years from today, he highlighted the importance of stakeholders achieving the said objective. He further highlighted the role of the multilateral agencies in enhancing infrastructure development in the country and stated that their experiences in infrastructure development should be leveraged, so that learnings from them can be utilized effectively in future projects. He asserted the importance of terming infrastructure as a domain, comprising of various sectors in which infrastructure development can take place. He reiterated that IFS’ would continue to work and support for infrastructure development in the country and both the Infrastructure Development and Support Division and Infrastructure Policy and Planning Division will play a critical and interchangeable role. He highlighted that 75-80% of the infrastructure required in the next 25 years is yet to be developed, underscoring the need for clear

Figure 5: Inaugural Address by Shri Ajay Seth, Secretary, DEA, Ministry of Finance (MoF)



³ Paraphrase 110 on page no. 23 of the Budget Speech document – “For financing the infrastructure needs, the stepping-up of public investment will need to be complemented by private capital at a significant scale. Measures will be taken to enhance financial viability of projects including PPP, with technical and knowledge assistance from multi-lateral agencies. Enhancing financial viability shall also be obtained by adopting global best practices, innovative ways of financing, and balanced risk allocation.” (Weblink - https://www.indiabudget.gov.in/doc/budget_speech.pdf)

and continued engagement of the public and the private sector together in creating robust and resilient infrastructure in the country.

- **Ms. Sally Taylor, Minister Counsellor (Director Development, Climate, Science and Technology), British High Commission** presented her views on **UK-India Cooperation in Infrastructure Sector**.

She re-iterated the importance of having a continued and strong engagement between the private sector and the government to achieve the growth aspirations of the country. She also highlighted the UK’s continued engagement with India and how it is planned to be materialized. She mentioned that partnering with India for infrastructure and investment is the key priority for the UK. She highlighted the work undertaken by the UK through multilateral development banks and through direct investments, as well as initiatives like the Green Growth Equity Fund. The UK has also been supporting the Indian government in capacity building. She spoke about how on-ground implementation should be the primary consideration and emphasized on the continued engagement of the British High Commission in supporting the Ministry of Finance in positively impacting the PPP ecosystem in the country.

Figure 6: UK-India Cooperation on Infrastructure Sector by Ms. Sally Taylor,” Minister Counsellor (Director Development, Climate, Science and



- This was followed by the remarks from **Ms. Wendy Werner, Country Head India, International Finance Corporation (IFC), World Bank Group**.

Ms. Werner’s remarks focused on the implementation of the ideas floated by the Secretary, DEA. With India being the leading investment destination for IFC, Ms. Werner stressed upon the role of International Finance Cooperation (IFC) in India, with the country receiving more than 11% of IFC’s global investment. Ms. Werner highlighted the need to restructure the parameters to assess risk, and environmental and social considerations for PPP engagements. She stated that bankable contracts, project preparation, structuring and financing are essential to achieve success. She also brought up the concerted efforts on the part of the IFC and ministries to facilitate key projects in certain states and ULBs, focusing on the critical sectors. Within the same context, the collaboration between IFC and MoHUA in solid waste management was cited as an example. She concluded her remarks with country-level and regional examples that will provide insights and inspiration for PPPs in India. For instance, in Colombia, the IFC leveraged other advisors. Similarly, for the Scaling Solar initiative in Africa, standardized contracts, transaction advisory and “stapling the finance” (where the finances are brought in at the beginning of the bidding process) rendered successful outcomes.

Figure 7: Remarks by Ms. Wendy Werner, Country Head India, International Finance Corporation, The World Bank Group



- Dr. Kartik Agrawal, Deputy Director (ISD), Infrastructure Finance Secretariat, DEA, MoF**, presented “**Interventions of DEA for Holistic Development of India’s PPP Ecosystem**”. Dr. Kartik remarked on the dearth of innovative PPP models and stated that private funding models / private debt is limited in India’s economy. He highlighted the need for leveraging domestic savings and creating a vibrant private debt market. When speaking on the recent interventions undertaken by the IFS, he shared about the empanelment of twelve transaction advisors and the restructuring scheme of the India Infrastructure Project Development Fund (IIPDF), to ensure wider government authorities can take benefit of it. The broad objectives of the IIPDF is to provide support in covering a sizeable portion of the PPP project costs, enable the development of the ‘bankable projects’ and to enhance the quality and quantity of PPP projects. The presentation also outlined the contours of the Viability Gap Funding (VGF) scheme provided by the DEA. He shared that DEA has revamped the VGF schemes to extend financial assistance up to 80% of the total project cost to pilot PPP projects, along with up to 50% financial assistance of O&M cost for the first five years after COD, to ensure adequacy and stability in PPP project cash flows.

Figure 8: Context Setting by DEA - Dr. Kartik Agrawal, Deputy Director, Infrastructure Finance Secretariat, DEA, MoF



- The inaugural session concluded with a presentation on **Framework Review Report by Mr. Shivanshu Chauhan, Partner, PwC**. The presentation disseminated broad level findings from the diagnostic study of the current PPP landscape of India, which was supported by FCDO under the ITCF programme. Through the presentation, he shared the findings based on assessments carried out at two levels - national level and focused sector level. He further added, there was an effort to review the PPP landscape in the social and urban sector and identify possible interventions to improve private sector participation in these sectors, as these sectors have not witnessed good participation from the private sector through PPPs. While sharing the contours of the study, he highlighted the focus provided to mainstream climate resilience across various stages of the PPP lifecycle. He shared key interventions identified under the study that will help to create an enabling environment for private sector participation across traditional and non-traditional sectors, to strengthen the policy and regulatory framework, rigorous monitoring and evaluation framework for PPPs, strengthening of PPP databases, the need for knowledge sharing and dissemination, revising existing MCAs and developing new MCAs for non-traditional sectors, setting-up of dedicated PPP units, etc.

Figure 9: Presentation on Framework Review Report by Shivanshu Chauhan, Partner, PwC



ii. Special Address by Chief Economic Advisor, Government of India

- A **special address** was made by **Dr. V. Anantha Nageswaran, Chief Economic Advisor, Government of India**. Dr. Nageswaran acknowledged the important role played by the IFS in organizing this workshop and bringing key stakeholders (public & private sector) on a single

platform to share their relative experiences in PPP projects, so that the issues can be aired and hopefully addressed. He talked about the various dimensions of PPPs and how they should be managed collectively by public and private sector. He further highlighted the need for intellectual and operational flexibility to ensure the viability of infrastructure projects.

- He talked about the key takeaways from the global experiences in PPPs and stated examples from developed and developing countries that illustrated the contribution of private players in infrastructure development and financing. The suggestions gathered from the experiences is that the public finance (direct & indirect) will have to remain a major source of infrastructure financing and governments will have to bear a large share of the project risk for many categories⁴ of infrastructure assets, especially categories that serve a larger public purpose and have high amount of risks, and where user charges are not easily recovered and are not easily funded. He suggested that the Infrastructure Financing Institutions should take up such projects that have higher risk of economic unviability, provided they have access to subsidized cost of funding to bear the risk. Revenue elastic sectors (like power generation, roads, and telecom, etc.) form over 90% of USD 265.8 billion worth investment of PPP projects in India, between 1990-2018. Projects like road stretches, metro rails on high density routes, airports, ports, etc. have been rarely taken up due to lower capital subsidy and viability gap funding. He further suggested a clear distinction between public and private goods, keeping in mind the risk profile of specific projects for necessary infrastructure development. He expressed that India has emerged as the preferred destination for private investment globally. Concluding his address, he highlighted that the sustainable acceleration of PPPs in infrastructure for growth is equally important for strengthening the ecosystem, as pointed out by the speakers from private sector organizations. This can be done easily through honoring the contracts in PPPs, automatic and structured fare revisions and government bearing the cost of provisioning of public goods to ensure viability for the concessionaire, etc., to name a few.

Figure 10: Special Address by Dr. V. Anantha Nageswaran, Chief Economic Advisor, Government of India



iii. Sector-Specific Sessions

In line with the objectives of the workshop, the sector-specific sessions were the critical and important aspect of the workshop. These sessions provided the opportunity to the key private sector infrastructure players to voice their perspective around the current PPP landscape, as well as provide platform to public authorities to share successful PPP experience.

Each of the participants was provided a presentation template to share their PPP experience, perspective on gaps and challenges in the current PPP landscape, to ensure that the inputs and feedback sought from the workshop helps the IFS to structure and identify interventions required to

⁴ Reference to international categories of infrastructure assets, which consists of four economic infrastructure asset categories such as (1) Transportation assets include mainly roads, tunnels, bridges, railways, other public transport, airports, and seaports; (2) The utilities category generally comprises electricity and gas networks, water treatment and distribution, and waste management, among others; (3) Energy assets typically include extraction, power generation, oil and gas pipelines, and renewable energy; (4) Communication infrastructure ranges from cable networks to transmission towers to satellites.

(Source: <https://www.cfainstitute.org/-/media/documents/article/cfa-magazine/2013/cfm-v24-n6-6.pdf>)

improve and make the current PPP landscape more conducive. Further, each session was moderated by the sector specific expert from the industry.

Figure 11: Sector-specific session Moderators from industry

Session moderator for Health, Education and Sports Infrastructure - **Mr. Ashok Varma, Partner, PwC**



Session moderator for Water, Wastewater and SWM - **Mr. Sumouleendra Ghosh, Associate Partner, KPMG**



Session moderator for Urban Transport - **Mr. Devayan Dey, Managing Director, Transportation and Logistics, PwC**



Session moderator for Roads and Airports - **Mr. Karun Raj Singh Sareen, Partner, KPMG**



2. Learnings from the workshop

The learnings documented in this section are bifurcated into two sub-sections based on the presentations made by the private and public sector participants as well as the perspectives that participants provided regarding the PPP landscape in India. Based on the nature of the learnings from the workshop, it is divided into - 1) lessons that are general and relevant to the PPP landscape in India, which are not sector-specific; and 2) lessons that are sector-specific and useful for concentrating on enhancing sectoral PPP environment.

2.1. Overarching learnings related to PPP landscape in India

Challenges in PPP landscape in India

The overarching challenges related to PPP landscape in general are as follows:

- **Lack of public accountability and public authority not honoring their responsibilities as per agreed PPP contracts:** The private sector partner is generally more responsible for driving and ensuring the successful implementation of PPP projects in the sector. The public sector's lack of project ownership frequently causes delays in decision-making, approvals and dispute resolution. Furthermore, the public sector's approach and actions in project implementation lack the spirit of an equitable partnership, which is the main cause of the fading interest of the private sector in PPPs.
- **Absence of a single-window clearance mechanism and limited public authority support:** Obtaining licenses and approvals (such as administrative approvals, building plan approvals, fire approvals, environmental approvals, and so on) is a sequential process. The process is time-consuming, often intensive and requires approval from multiple authorities (including various state government departments), resulting in severe delays and affecting project implementation timelines. Furthermore, due to lack of support from the public authorities, often such delays are attributed to the Concessionaire, which may attract penalties. As a result, the private sector partner eventually loses interest in the project. Public authorities must understand the situation and provide full support or handholding to private sector partners while seeking PPP project-related approvals and permissions.
- **Lack of balanced risk sharing and flexibility in PPP projects:** With inappropriate project structuring, majority of the risks are skewed towards the concessionaire (for example: design risk, construction risk, operations & management risk, invoice verification, revenue collection & statutory dues payment risks, environment and social risks, handover risks, etc.). Also, there is no flexibility built-in the concession agreements and does not provide provisions to deal with change of scope, change of law, and contract renegotiation etc. Further, PPP projects does not have provision and mechanism to deal with cash flow challenges during initial years of concession period, making the PPP transactions riskier for the private partner.
 - There is a lack of a standardized project development framework, which results in skewed risk sharing. Most of the risk is transferred to the concessionaire and there exists a lack of adequate risk mitigation mechanism typically in PPP transactions. Also, with respect to the submission of the financial models and feasibility report, due to non-standardised templates and acceptable assumptions, there are higher changes of alignment issues leading to disagreements later during the operational phase of the PPP transactions.

- **Lack of long-term financing mechanism:** The infrastructure development cost is only a small portion of the overall lifecycle cost, while the operational expenses form the major share of the overall project expenses. During the initial operational years of the PPP project, its structuring does not incorporate provision for a moratorium period in case of negative cashflows. Furthermore, concessional financing (at subsidized rates) is not considered as a viable alternative to extending financial support to the private sector partner.
- **Lack of appropriate dispute resolution mechanism:** Legal disputes and arbitration takes a lot of time and usually cause delays; this is because of an absence of a dedicated Committee, which can be the first point of contact in case of disputes.
- **Timely right of way access and land availability is a concern:** For timely project implementation, availability of most of the land as well as access to right of way is critical; otherwise even if a small parcel of land is not made available on a timely basis, there could be time and cost over runs.
- **EPC mindset, while implementing PPPs** is prevalent within the government instrumentalities. Public authorities find it easier to implement a project on EPC mode rather than PPP due to lack of knowledge and understanding of complex PPP transactions. Also, the concerned officials of the public authorities have limited experience in handling PPP transactions and lack robust post-contract award management frameworks to deal with PPP transactions.

Suggestions and way-forward to strengthen the PPP landscape in general

- **Need for single-window clearance system for time-bound approval process** which will benefit the private sector's planning and operations and will attract private partnerships. It will further help in sustainable resource and time management for PPP projects.
- **Clearly structured concession agreement:** The PPP projects should be guided through a clearly structured agreement and the partners should honor the contract throughout the project life span.
- **Assistance from a single point of contact:** The government acts as the single point of contact from launch till the completion of the project, so it is very crucial to appoint a "nodal agency" on its behalf. This agency can support the private partner of the project and can aid the private sector to meet their contractual commitments.

2.2. Learnings specific to sectoral PPP Landscape

The sector-specific learnings are documented in this section that were shared by the participants during the workshop's sectoral session. Furthermore, the learnings have been presented into two parts - 1) The private sector's perspective on the key challenges in the sectoral PPP environment, as well as potential suggestions to improve it; and 2) key learnings based on presentations by public sector participants on successful PPP case studies.

2.2.1. Session 1: Health, Education and Sports Infrastructure

India has a three-tier healthcare system: primary, secondary, and tertiary, that is designed to provide preventive, promotive and curative healthcare in rural and urban areas. Further, it has been categorized into the public and private healthcare system. The private healthcare infrastructure - secondary, tertiary, and quaternary facilities are mainly concentrated in urban areas, to ensure commercial viability. This puts pressure on the public sector to create a healthcare infrastructure at affordable rates and render services not only in rural but urban areas.

The Indian healthcare sector is growing at a compound annual growth rate (CAGR) of around 22% since 2016. Over the past few years, the government has undertaken many key initiatives, including the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, Ayushman Bharat Health Infrastructure Mission, Pradhan Mantri Swasthya Suraksha Yojana, Centrally Sponsored Schemes under Medical Education, etc. However, despite significant initiatives to improve access to healthcare facilities, the challenge of adequate healthcare system of the country is a critical concern along with the existing system. The total financial outlay has been minimal in the social sector projects, when compared to other economic sectors; however, they still form a vital part of the ecosystem. In small ticket sized social sector PPP projects, the component of service element is larger and the ability of rate payers (or the end users pay) is compromised when compared to other infrastructure sector projects affecting the commercial viability. Limited technical capacity and resource availability affects acceleration of implementation of PPPs in the Healthcare sector. The public and private sector have struggled to implement social sector PPPs in India due to the complex nature of projects and opportunities.

2.2.1.1. Challenges and suggestions shared by private sector participants Healthcare Sector

Figure 12: Presentation by representative of private sector infrastructure players in healthcare



Challenges in Healthcare PPPs

A diverse set of challenges were shared by the private sector participants based on their healthcare PPP experience. Some of the critical issues shared by the private sector participants are as follows:

- **Delay in payments linked to services offered under sectoral schemes:** Often, healthcare PPPs need to consider social schemes for providing healthcare services at affordable rates to certain sections of the society; and typically, the government pays the concessionaire to compensate for the costs which may not be recovered from the patients. There is delay in receiving such payments which impacts the ability of the concessionaire to fulfill their obligations such as payment of salaries to their employees, clear statutory dues, vendor payments, etc., thus resulting cash flow constraints for the concessionaire.
- **Lack of healthcare specific (Industrial) policies for all states:** The industrial policies vary across different states in terms of the incentives offered for PPP projects such as capital subsidies, tax subsidies, stamp duty rebates, etc. These are parts of the industrial policies and are not extended to PPPs within social sector, which otherwise would have provided additional financial support.

- **No Model Concession Agreement MCAs for healthcare sector:** At present, there is no approved MCA for PPP projects in the healthcare sector. However, there are several guidance documents, such as the green books prepared by DEA and guiding document of NITI Aayog for healthcare projects.
- **Lack of clarity on applicability of Goods and Services Tax (GST) on the revenue sharing:** Social sector PPPs or service-based PPPs are exempt from GST; however, there is limited clarity among the relevant stakeholders regarding whether to exempt revenue sharing from the ambit of the GST. The revenue margins in the case of social sector PPPs are comparatively thin and considering the impact of GST on the revenue sharing will result in reduction in achieving optimal thresholds of revenue generation for public authorities.
- **Project expansion often not considered for healthcare PPPs:** Availability of continuous, serviceable and accessible land is critical for healthcare projects. Also, it is important to consider the aspect of expandability while PPP project is structured. Negligence of the same may result in considerable time and efforts in further acquiring additional land for future expansion. In case of some PPPs, it is even compounded to three years of time investment to acquire additional land.
- **Lack of availability of skilled human resource in rural/ remote areas:** The notion of bringing healthcare to people by setting up projects in rural and remote areas, brings the challenge of human resource mobilization, which results in poor functioning of the healthcare centers, leading to compromised revenue streams. There is a shortage of well-qualified health workers, and the workforce is concentrated in urban areas which make it furthermore difficult to implement healthcare PPP projects in the rural/ and remote areas of the country.
- **Low financial viability of projects in rural/remote areas:** Since the introduction of the Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), the demand for healthcare services in rural and remote areas has increased significantly, but there is lack of healthcare infrastructure to cater to the demand in these areas. In order to meet the demand-supply gap, there is a need for private sector participation. However, the viability of the projects in rural and remote areas is a huge barrier in the implementation of healthcare PPPs.
- **Lack of standard pricing and benchmarking of user charges:** One of the major challenges in a healthcare PPP is lack of standardization of pricing and user charges. The user charges are currently benchmarked with various insurance schemes (such as Pradhan Mantri Jan Arogya Yojana (PMJAY), Central Government Health Scheme (CGHS), Rashtriya Swasthya Bima Yojana (RSBY), etc. The public authorities face challenge in determining the proxy for affordable rates to extend healthcare services to the targeted patients. This results in proposed user charges are not close to the market rates due to which private sector interest diminishes.

Suggestions and Way-forward proposed by private sector participants for Healthcare PPPs

- **Evaluation criteria to take 'quality of care' into account:** Prequalification bid should be linked to "ability to deliver" the highest quality of services and not only look at commercial viability of the project. This will ensure increased participation from well-known healthcare providers in PPP projects.
- **Ensuring Commercial Viability:** Commercial viability is critical to attract the private sector. The healthcare service providers are obligated through various mandates to provide care to different sections of society. This includes the Supreme Court mandated fee, which is implemented by most states in their PPP framework or schemes like Ayushman Bharat, where free treatment can be availed at all public and empaneled private hospitals, which affects the operational cash flows

as well as the commercial viability of PPP projects. The Government needs to explore long-term financing instruments to help address the challenge of revenue gap during the operational phase. Furthermore, while structuring the PPPs, public and private partners may ensure that the tariff and pricing is such that the concessionaire is able to recover for the cost of operation, while providing quality care.

- **Renovating the existing facility, rather than building new one:** Existing infrastructure can be renovated using PPP models to save the cost that may be incurred to build a whole new facility. Such capacity augmentation helps further the objective of advanced and affordable healthcare.
- **Bridging the urban-rural divide through technology advancements and NGO collaborations:** The urban-rural divide in India is also reflected through the vast difference in the average revenues earned by the hospitals in the urban and rural areas. The inclusion of technological innovation and advancements in the Healthcare PPP projects (such as the remote critical care units, as in case of Apex Hospitals in Rajasthan and GenWorks in Andhra Pradesh, Kerala, Maharashtra & Tamil Nadu) can be explored country-wide with PPP mode. Furthermore, involving NGOs at local levels along with CSR as an option can help the service providers in reaching the targeted beneficiaries and improve project implementation and operations.
- **Model Concession Agreements for different project types:** Customized model concession agreements will help concessionaire structure the project appropriately. The National Health Systems Resource Centre, which is the Technical Support Institute with National Health Mission, can support in the development of these customized MCAs for Health sector with variety of PPP modes, including the projects for development of Medical Colleges, Nurseries, Pharmacies, Diagnostic Centers, small Cancer Hospitals, etc. Also, adequate stakeholder involvement during preparation of the MCA will ensure that stakeholder concerns are addressed.
- **Technology driven partnerships:** This may involve establishment of Digital Primary Health Centres (ePHCs) through PPP mode to improve accessibility of primary care by leveraging technology. The ePHCs will provide access to specialist doctors through tele-consultation and screening of diseases through point of care devices.
- **Periodic revision of the user charges (rate list):** The Central Government Health Scheme (CGHS) rate list do not take use of state of art equipments, and machineries for diagnosis and treatments into consideration, which otherwise is used by the private sector. Furthermore, the CGHS rate list is not revised frequently, which fails to account for the yearly change in costs. Thus, periodic revision of the rate list should be considered to ensure cost recovery of service operations. This will limit the current gap between market rates and the CGHS rates thereby ensuring quality services. Also, there is a need for central benchmarking of user charges, based on which model payment mechanism can be developed.

Sports Sector

The country’s focus on sports infrastructure development and overall sporting development is reflected in its medal tally at international games such as Olympics. India stands at 55th position in the Olympics tally despite having a population of 1.4 billion people. Given India’s performance in the Olympics over the past several years, there is a need to develop world class sports infrastructure in India.

The Central Government has taken various initiatives for development of sports infrastructure. The sports budget in the

Figure 13: Presentation by representative of private Sector infrastructure player in sports sector



current year has been increased to INR 30.6 billion (INR 3,062.6 crore), an increase of INR 3.05 billion (INR 305.58 crore) over the last financial year. The financial allocation towards Khelo India program, which got INR 6.57 billion (INR 657.71 crore) in the last budget, has been increased to INR 9.7 billion (INR 974 crore). Khelo India has 12 verticals, which include, utilization, creation and upgradation of sports infrastructure, playfields, Khelo India Centers, etc. Despite this, there is low private sector participation in the sector.

Challenges and suggestions to accelerate private sector participation

Although the afore-mentioned initiatives are taken by the Government of India, the most pressing issues in the sports sector are, land availability, lack of support to non-mainstream sports (football, volleyball etc.), demand supply gap for the facilities and the ability to attract desired level of private investment. The representatives from the private sector gave the following recommendations to strengthen the PPP landscape in sports sector:

- **Sports should be recognized as a standalone industry:** The sector should be recognized as an independent body to acquire timely approvals and attract private investments
- **Building an ecosystem:** Focus may be on building small to medium sports facilities, where investments range from INR 50 lakh to INR 30 crore, with minimum lease period of 7-15 years and a provision to extension of the concession period by another period of 7-15 years.
- **Focus on grassroot development by building community sports infrastructure:** Presently, the aspiring athletes from rural areas need to either move to urban areas or drop sports due to lack of adequate sports infrastructure in rural areas. To promote and encourage sports enthusiasts in different regions and to pursue sports across country, it is critical to create enabling infrastructure in urban areas with special focus on grassroot sports infrastructure development in the rural areas. The benefits of grassroot development will be that government can scout and nurture potential talents from rural areas and create enabling sports ecosystem to support aspiring athletes by providing them space for regular practice to improve skills.
- **Appropriate Project Structuring:** Sports sector PPPs are still at an evolutionary stage in India, thus the willingness to pay for better facilities by emerging athletes/training groups is low. Given that the large sports infrastructure is generally located outside the city limits, the potential of commercial exploitation is limited. This results in revenue uncertainty for the private sector as well as investors and limits the interest of both stakeholders in participating for sports infrastructure development on PPP basis. Thus, appropriate project structuring, including the identification of suitable land parcels with multiple options within one area is critical during the project design stage. Furthermore, a streamlined, time- bound and single-window approval process is critical to ensure timely development of sports infrastructure through PPPs.
- **Campaigns to create public awareness:** An extensive marketing campaign to create public awareness related to the sports industry, employment within the sector, health benefits, etc. may be undertaken. This could be a collective effort by the public and private sector partners.

2.2.1.2. Key learnings from successful PPPs in Health Sector

The next session was a presentation on a successful Healthcare PPP. The presentation on ‘**Development of Jayaprabha Super Specialty Hospital on PPP Mode**’ was made by **Mr. Pankaj Sinha**, Senior Investment Officer, International Finance Corporation (IFC) on behalf of **Infrastructure Development Authority (IDA), Bihar**. He shared the experience of the State Government of Bihar in successfully structuring and implementing the PPP project for a healthcare facility in Patna.

In May 2013, IDA Bihar mandated IFC as the lead transaction advisor to structure and implement the PPP project. The project is a greenfield development of Super Specialty Hospital at Kankarbhagh, Patna, with approximately 7 acres of land and had to mobilize INR 500 crore. The project is a full-service PPP, which was awarded to Medanta in 2015, based on an international competitive bidding process. The project was shortlisted for ‘**Best healthcare projects**’ for **Partnership Awards** in 2016 and was awarded as the ‘**Best Asia Pacific Social Infrastructure PPP Project**’ by **IJGlobal Awards** in 2016.

Figure 14: Presentation by representative of public Sector on PPP experience in healthcare



Learnings shared by the public authority:

- **Critical factors to be identified while project structuring:** In health sector projects, affordability is the critical factor. Services have to be made affordable with no discrimination against patients having limited capacity to pay, however such consideration should be in tandem with the financial viability of projects in the sector. Mechanisms such as, capping of 25% of beds at CGHS rates and remaining 75% on the market rates during project structuring, can ensure affordability and financial viability for private sector and minimal fiscal impact on the state government. Further, project parameters such as project capacity, pricing and scope should be critically evaluated while project structuring is undertaken.
- **Stakeholder and market consultation during project design stage:** With a limited number of bidders for healthcare PPPs in India (particularly for projects in non-metro cities), the implementation structure of a PPP project should be decided through consultation with private sector players and stakeholders from the state governments. Also, pre-implementation market consultation is important to develop a robust understanding of investor expectations.
- **Mimic commercial operation to the extent possible:** To ensure PPP is an attractive deal and a commercially viable option for the private sector the pricing other project parameters should be stipulated as per commercial operations by the private sector.
- Public sector **Key Performance Indicators (KPI's) should be specific and measurable**, and the public sector partner may continuously monitor these KPIs pre- defined in the agreement.
- **Private sector's role in construction, operation, and maintenance of the facility:** The contract should clearly define the role of the private sector in construction, operation and maintenance of the healthcare facility, while ensuring the quality of both clinical and non-clinical services as per National Accreditation Board for Hospitals & Healthcare Providers (NABH) or other relevant international standards. The same should be defined in the contract and clearly reflected in the project KPIs.

2.2.1.3. Closing remarks

- The session concluded with closing remarks by **Shri Vishwajeet Kumar, Director, Department of Higher Education, Ministry of Education and Shri Vishal Chauhan, Joint secretary, Ministry of Health and Family Welfare**. He started with an overview of the currently assessed sectoral demand for the Higher Education sub-sector in India. He shared that an investment of INR 850 billion (INR 85,000 crore) is required for the next five years for improvement in Health infrastructure, including high-end research labs, hostels, etc. in the central higher education institutes. He shared his views on three potential sources of funding to meet the investment demand, that includes – (i) Higher Education Financial Agency (HEFA) to provide interest free loans to the higher education institutes, (ii) Public Philanthropic Partnership to enable funding

from alumni networks, etc., and (iii) PPP model where the demands can be addressed through joint partnerships and the VGF, if required.

- He further elaborated on infrastructure projects that have the potential to be taken up on PPP basis, such as the development of hostel facilities in central universities. He further mentioned issues faced by the institutes, which include high capital investment for the establishment of new hostels, limited or no capacity of the institute to structure PPP projects and implementation of concession agreements, etc. He concluded with sharing insights about the initiatives undertaken by the department to address current issues, which includes setting up of a Project Management Unit within institutes to enable their capacity building, equipping the central institutes with the knowledge-benefits and challenges of hostel development projects through PPPs. He said that at present, the department is in the process of making a model concession agreement for developing hostel facility on PPP basis.

Figure 15: Remarks by Shri Vishwajeet Kumar, Director, Dept. of Higher Education, Ministry of



- The Second closing remarks for the session was from **Shri Vishal Chauhan, Joint secretary, Ministry of Health and Family Welfare**. He highlighted the opportunities for PPPs in the health sector, specifically considering the national health missions. He mentioned that as per the National Health Policy, India will be spending 2.5% of its GDP on the health sector. Approximately, INR 1,300 billion (INR 130,000 crore) funding is sanctioned for the healthcare sector over and above funding support provided under the National Health Mission. Under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), a financial outlay of around INR 641 billion (INR 64,180 crore) is planned to be spent till financial year 2025-26, and as per the 15th Finance Commission, INR 700 billion (INR 70,000 crore) will be disbursed to the urban local bodies as grant based financial assistance. Further, he spoke about other potential areas in the healthcare sector, where PPPs can be a viable mode, and highlighted limitation for the public sector with respect to construction, operation and maintenance of healthcare infrastructure. He further added that there is a huge demand for the development of nursing colleges, dialysis centers, cancer hospitals, operating ambulances and mobile medical units. Also, the AB-PMJAY scheme presents a huge opportunity for the private sector, where there is a huge demand of service provisioning at affordable rates.
- He further resonated with the challenges highlighted by the private sector participants for the healthcare PPPs and stressed on the aspect of technological advancements to enable sustainable and viable partnerships. He concluded his remarks by highlighting the need for treating social sector differently while ensuring sharing and tracking of sector specific information for informed and effective decision making for addressing sector specific challenges.

Figure 16: Remarks by Shri Vishal Chauhan, Joint secretary, Ministry of Health and Family Welfare



- Both the senior officials noted the views of the private sector and ensured full support of Gol in addressing the challenges and strengthening the sector.

2.2.2. Session 2: Water, Wastewater and Solid Waste Management

Equitable access to affordable basic services is an imperative function of the government. It ensures that citizens have the benefit of clean and hygienic surroundings. With rapid urbanization, a considerable increase in demand of basic service delivery is observed. This leads to the demand for respective infrastructure development to increase as well.

In India, it is the responsibility of urban local bodies (the third tier of the government) and the respective state governments in the rural areas, further supported by respective central line ministries through technical and financial assistance under various programs and missions. Multiple types of PPPs have been observed in the sector from an international perspective. In France, city level concessions have been observed, which led to the country moving towards re-municipalization. In Manila, 100% user fee-based PPPs have been prevalent. In India, recently, the NMCG project deployed the hybrid annuity model.

Operations & Maintenance of both legacy infrastructure and new infrastructure development are prevalent in the sector, so PPPs are predominant in infrastructure creation as well as operation and maintenance of existing assets. The sector is driven by state-level entities and hence, to combat disparity in state capacities, flexible models need to be envisioned. Further, climate risk is a huge consideration in the sector and projects in the sector need to seriously consider these risk elements at the time of planning and structuring.

2.2.2.1. Opening remarks

The session started with opening remarks on ‘**Smart cities program and how private sector**

funding can be harnessed for Indian cities’, by **Mr. Kunal Kumar, Joint Secretary, Ministry of Housing and Urban Affairs**. He spoke about: (i)

the necessity of investment required for human development, and the difficulty in inducing investment into the sector because of the revenue risks involved. To highlight the aforementioned point less than 30% of the O&M costs involved are typically recovered in water supply projects (ii) Political risks and capacity issues in the urban sector and that the Jal Nigams, Jal Boards and Sanitation Boards are technical bodies with capabilities to implement infrastructure projects but not structure them effectively (iii)

Continuous interaction with all entities involved in a PPP project maximizes innovation and bridges the gap in expectations between parties, and (iv) Service delivery in the sector has been severely underpriced, for example, in Surat, the charge for water supply equates to ~0.25 rupees per person per day, causing lower cost recovery, and funds gained as revenue from the project could be used to finance the same project’s functioning.

He also spoke about the necessity for the government to move from the ‘**funded approach to the financing approach**’; and he concluded by calling for a change in the ethos of the sector and inviting

Figure 18: Remarks and session conclusion by Shri Kunal Kumar, Joint Secretary, Ministry of Housing and Urban Affairs (MoHUA)



stakeholders for a continuous dialogue. He also felt that there is a need to innovate the current legal framework for the sector.

2.2.2.2. Challenges and suggestions shared by private sector participants

I. Water and wastewater sector

Figure 19: Presentation by representative of private sector infrastructure players in water supply



Challenges in water and wastewater PPPs

A diverse set of challenges were shared by the private sector participants based on their PPP experience related to water and wastewater projects, which are as presented below:

- **Institutional Challenges:**
 - **Institutional complexity results in lack of clarity for effective service delivery.** The sector is subject to multiple layers of institutional complexity, where the roles and responsibilities for each layer are opaque, causing overlapping functions. These factors lead to a complex operating environment for any private player to navigate.
 - **Limited capacity for post contract award management:** The role of the authority is to act as a partner to the private sector during both pre-contract and post-contract award stages of projects. However, the latter has been a challenge due to multiple factors such as, inadequate manpower capability, insufficient technical capacity and limited PPP knowledge of the public authorities.
- **Poor financial creditworthiness of respective public authorities:** Weak financial standing of urban local bodies and concerned state authorities create difficulties for private sector to achieve financial closure.
- **Financial institutions averse to long-term finance:** Non-standard escrow arrangements are a deterrent for FI interest in the sector. PSU banks do not lend without corporate sponsor guarantees. International sponsors are more willing to fund projects where central government schemes are applicable but resistant when it comes to state sponsored projects. Further, the non-recourse project finance is highly limited in the sector.
- **Lack of stakeholders’ buy-in for the PPP project:** There are PPP projects which have faced issues due to resistance from stakeholders (citizens, officials, local representatives, etc.) at the time of execution of the projects, which lead to termination of concession agreements.

- **Consultants and Transaction Advisors are often inexperienced in the sector** therefore leading to inefficient DPRs and project structuring which is the initial stage of the lifecycle.

Suggestions to strengthen water and wastewater PPPs

- **Stakeholder Engagement to ensure buy-in for the PPP project:** The public authority needs to ensure onboarding of stakeholders and secure buy-in from their end for the PPP project.
- **Model concession agreements in the sector need to be introduced** to have a standardised framework.
- **Financial Institutions to be sensitized by a central authority** to ensure availability of long-term finance for projects as well as a sense of confidence in providing long term capital infusion into the sector. Availability of long-term funding at reasonable rates is a major catalyst for mobilising private sector investment, healthy discussions with lenders is bound to positively impact the funding space in the sector and ensure better participation.
- **Insurance mechanisms for private partners** wherein the credit rating of the state and municipality is considered, and premiums are calculated based on such ratings. Through this manner, insurance premiums can be made significantly favourable for private sector operators by leveraging state government goodwill into getting favourable terms for private sector operators, hence inducing more investment and a better PPP ecosystem
- **Selection process to take into consideration ‘technology’ aspect:** Public authorities need to build-in appropriate provisions in the evaluation and selection criteria to take ‘modern technology’ into consideration that the private sector is proposing to deliver. The typical low-cost selection process does not capture the value addition and advanced solutions that a specific private sector intends to propose.
- **Future projects need to be O&M oriented** Since most current projects are EPC or works projects and there is an EPC preference in project structuring. An O&M orientation is extremely crucial for a comprehensive project structure and design, because, with the responsibility of operation and maintenance, the structuring party is bound to have a structured and comprehensive outlook on the project.

Solid Waste Management

As per the 7th schedule of the constitution of India, solid waste management in the country has primarily been the responsibility of urban local bodies or city governments. Considering rapid urbanization, industrialization, and general economic growth in the country, often, ULBs face design, execution and maintenance challenges. These hinder their ability to implement projects independently. Hence, to tackle these challenges and to improve service delivery, public private partnerships in the sector have been observed in primary and secondary collection, transportation, intermediary storage in a transfer station, process and treatment and disposal. These are subjected to multiple challenges, a few of which have been highlighted in the subsequent sections.

Figure 20: Presentation by representative of private sector infrastructure players in solid waste management



Challenges in solid Waste Management PPPs

A diverse set of challenges were shared by the private sector participants pertaining to their experiences in PPPs in solid waste management. The same are as follows:

- **Environmental premium is ignored during project structuring, affecting the commercial viability of PPP projects:** An environmental premium simply means the difference in cost of two methods of service delivery, where one may be costlier than the other based on its efficiency towards the environment. This environmental premium, especially in projects involving public sanitation or hygiene, is often ignored during project structuring. This occurs primarily because of the lack of an appropriate mechanism to tackle the environmental premium during decision making, discouraging the private sector to provide more environmentally friendly solutions, and affecting the commercial viability of the project as a whole.
- **Concern with the quality of project feasibility studies:** Project feasibility studies for projects in the sector often have shortcomings. Consequently, accurate data for effective decision making is unavailable, causing inaccurate projections for projects and a generally waning private sector interest at large within the sector.
- **Regulatory Challenges:**
 - The sector comes under the regulatory ambit of three Ministries - the Ministry of Housing and Urban Affairs, the Ministry of New and Renewable Energy, and the Ministry of Environment, Forest and Climate Change. Each ministry has a different set of compliances and frameworks applicable to PPP projects in the sector. This makes it difficult for the private sector to coordinate and successfully operate the projects.
 - Standardized model bid documents with financial, technical and contractual provisions are not available for PPPs in the sector. There are various versions of the concession agreements which are being followed by the public authorities with loosely drafted provisions that are open to interpretation, resulting in challenges in contract management.
- **Financial institutions are unwilling to share risks** of the project. The following elements present in the bid process add risk, particularly to WTE projects:
 - In case DISCOMs do not buy the power generated by the WTE plant, selling of power in the open market is not contractually allowed to the WTE project, causing not only viability concerns to the project, but also hindering lender interest in providing long-term finance for such projects.
 - In case of the input not being of the right quantity or quality, the private operator can source from the open market and recover the costs from the ULBs; however, contract enforceability has been an issue for the most private operators.
 - The sector is highly capital intensive and while competing with other power sectors it requires government support in the form of either VGF or capital subsidies.
- **Lack of integrated and comprehensive approach:** The value chain of solid waste management comprises of multiple components: collection, treatment, energy and recycling. Consequently, projects in the sector are often awarded for each element, causing multiple private sector participants across the value chain with limited coordination among them. This leads to them working in silos, and results in an inefficient and segregated structure.

Suggestions to strengthen PPPs in Solid Waste Management

- **Model concession agreements for the sector need to be developed** in a manner that integrates the vision and interests of various ministries that govern the sector. This would ensure that the framework for development of such projects is comprehensive, and the projects do not encounter any unforeseen overruns due to unpredictable compliances.
- **Ensure commercial viability through payment guarantee mechanisms:** The revenue streams in the sector depends on local municipalities and state DISCOMs. As a result, investors view the whole sector as a non-scalable sector, because of the presence of counter-party risks. This, however, can be amended by the centralization of revenue streams through the creation of a central revenue security mechanism, evaluation of hybrid financial options and creation of other payment guarantee mechanisms. Subsequently, in line with payment guarantee, the identification of the payer of service has been an area of concern for the private sector, affecting the ability of the concessionaire to have a stable and identified revenue source. This can be improved by clear frameworks for the identification of the payer of the services in question.

Key learnings from successful PPPs in Solid Waste Management

The first presentation was on ‘**Solid Waste Management Facility, Panaji**’, delivered by **Mr. Levinson J. Martins, MD, Goa Waste Management Corporation**. The Goa Waste Management Corporation (GWMC) was the first SPV formed by the Government for scientific waste management in Goa. The presentation covered their Integrated Solid Waste Management facilities in Saligao and Cacora, as well as bio-medical waste treatment facility in Kundaim.

Figure 21: Presentation by representative of public Sector on PPP experience in SWM



Learnings shared by the Public Authority:

- **Minimum equity by bidders:** Bidders should be expected to provide at least 25% of equity to ensure that the quality of bidding is maintained and the plant functions well.
- **Buffer funds within Escrow Mechanism:** Escrow accounts ensure that payments are regularly received even in case of difficult periods. The benefits of such an arrangement can be viewed from the example of the project, when even during the pandemic, the project continued to receive regular payments.
- **Tipping fee is generally successful for hazardous waste and bio-medical waste plants and not for municipal waste plants:** This occurs because there are small panchayats involved with limited financing capability hence, the projects should generally be financed by the bidder.
- **Local development banks like NABARD are viable financing partners:** The project was eligible to get a loan @ 2.5% interest rate, through local development banks suggesting that such economical financing options greatly help project viability.

This was followed by presentation on ‘**Bhubaneswar Water Supply Project**’, delivered by **Mr. Bhakta Kabi Das, Chief Engineer-cum-Additional Secretary, Housing and Urban Affairs Department, Government of Odisha**. The project was India’s first PPP project in water supply with state-of-the-art infrastructure developed for supplying potable water with the ultimate demand of 83 MLD on DBFOT basis.

Figure 22: Presentation by representative of public Sector in Water Supply on PPP experience



Learnings shared by the Public Authority:

- **Treating the concessionaire as a partner:** The project in Odisha was started in the true spirit of partnership and all risk allocation was done considering this, ensuring both concessionaire satisfaction and effective project implementation

2.2.3. Session 3: Urban Transport

Indian cities have moved from the monocentric model to the polycentric model, leading to reduced trip lengths and a substantial change in the modal mix of urban transportation, from buses to smaller vehicles. The growth of metro transit systems may also further reinforce shorter trip lengths. Congestion is a major issue in urban transportation in major cities. It is important to note that with the increase in the congestion index, the cost per effective km of fuel also increases, causing on-road commuters to spend more for covering the same distance. This causes spillover which trickled down to ride-hailing aggregators, who are experiencing growth and stagnation in the industry. Comfort and convenience are a key concern for end-consumers and typically, they are willing to pay more for it.

Cities are understood to be engines of growth for the economy and the public transport system within a city is an important aspect for supporting such growth. One of the key determinants for the development of sustainable cities is efficient public transportation. It needs to be affordable and must generate sufficient revenue for financial sustainability. Public transportation is a part of the Sustainable Transport target of 11th Sustainable Development Goals (SDG). Most of the urban cities in India lack the availability of adequate urban transport infrastructure, resulting in service delivery levels below prescribed standards. Currently, various modes of public transportation are actively operating on city roads, and there is a major concern related to lack of integrated and planned operations, which leads to competitive operations among multiple modes, resulting in financial losses for the stakeholders. Improvement in the efficiency of public transportation is critical to ensure urban growth as well as economic development.

2.2.3.1. Challenges and suggestions shared by private sector participants

I. Urban Transport

Figure 23: Presentation by representative of private sector infrastructure players in urban transport



Challenges in Urban Transport PPPs

A diverse set of challenges were shared by the private sector participants based on their PPP experience related to the urban transportation projects, which are as consolidated below:

- **Regulatory Challenges:**
 - **The sector is subjected to multiple regulators causing a significant hurdle for private sector participation and PPP transactions:** There is an absence of an integrated planning and monitoring body in the sector. Regulations are made by the Ministry of Road Transport and Highways, traffic is regulated by the police, registrations and permits are issued by the

Regional Transport Offices. The responsibility to provide public transport service lies with the Urban Local bodies and fares are regulated by the Regional Transport Agencies.

- **Bus-based transport system operations, specifically, are often subjected to multiple layers of taxation.** An operator has to bear the Motor Vehicle Tax on purchase of the vehicle, sales tax and VAT on purchase of fuel and GST and toll fees when applicable. This hinders the financial viability of projects, hence interest of the private sector in the sector is challenged.
 - Challenges pertaining to timely availability of funds locked under the input tax credit mechanism in GST are a source of concern for the already cash crunched private operators. Furthermore, an inverted indirect tax structure may negatively impact tax recovery for the private operators putting them in an unfavorable situation.
- **Lack of priority lending status and tax benefits in the sector, make it less favourable to the private sector,** when compared to other infrastructure sectors where such privileges exist to be availed by the private sector.
- **Public budgets do not adequately account for public transport:** Lack of a structured budgetary allocation hinders public transport operations to be sustained and sustainable. This is detrimental to the overall financial health of STUs and SPVs, resulting in operational inefficiencies, unplanned allocation and limited resources, in general.
- **Absence of structured and periodic fare revisions** cause losses to the operator, lend uncertainty to the operations, and hinder their ability to forecast and plan.
- **Institutional Challenges**
 - State Transport Undertakings have limited technical capability and understanding of the nuances of implementing PPP projects, this causes significant concerns over their ability to manage PPP projects and act as partners to private sector operators.
 - Terms and conditions of concession agreements are often not honored by the State Transport Undertakings, causing delays in payments.
- Passenger amenities and depots are not developed or under managed leading to inefficiencies and passenger inconvenience.

Suggestions to strengthen Urban Transport PPPs

A unified public transport authority needs to be setup to facilitate the growth of the sector and coordinate different modes of public transport, that are currently working in silos. Such an Authority could also oversee that disputes are resolved faster and that sustained growth in the sector gets translated into infrastructure and economic growth in the country.

Time and cost overruns owing to delays in approvals are a major source of concern for the private sector. Hence, the setup of a single-window clearance system in the sector could lead to fast-tracked approvals, greater efficiency in project implementation, hence, greater confidence in the private sector to be able to work and implement projects in the sector.

- **Capacity building at all levels in the sector should be provisioned** for the State Transport Undertakings, private bus operators, drivers, technicians and other staff.
- **Model Concession Agreements** should be referred to by all private operators for any project in the sector to ensure standardization. The following changes may be introduced in the frameworks for the same:

- **Escrow mechanism** may be introduced in the ticketing revenue deposit wherein the lender representative is a party. This exercise would help avoid the challenge of the delayed receipt of payments to the private sector operators by the authority, an occurrence that lends financial uncertainty to the project, limiting not only private sector interest to run such projects, but also lender interest to finance such projects.
- Eligibility criteria for projects in the sector should be flexible, to ensure greater participation by various funds and greater private sector investment overall.
- Since the sector has limited incentive mechanisms, when compared to other, more established, infrastructure sectors, an innovative way to gather private sector interest and ensure its sustainability is to relax the penalty mechanisms to 2-3%, instead of the current 10%.

2.2.3.2. Key learnings from successful PPPs in Urban Transport

The next in line for the session was presentation from the public authorities. The first presentation of the session was on ‘**Rewa project**’, delivered by **Mr. Manu Srivastav, Principal Secretary, Government of Madhya Pradesh**. He highlighted that a quarter of the projects output is used to power the Delhi Metro.

Figure 24: Presentation by Principal Secretary, Government of Madhya Pradesh on Rewa Project



Learnings shared by the Public Authority:

- **Project structuring and risk mitigation:** In order to ensure that the project is structured well, and risk is adequately mitigated, it is important to have:
 - **An efficient transaction structure** should be ensured, where procurers of the project are available before bidding, maintenance is undertaken by the developers, necessary evacuation infrastructure is built, and project structuring is robust causing payments and service delivery to be as efficient as possible.
 - **Robust project preparation** was undertaken wherein 97% of land was available before bidding, clear information about land and infrastructure development was provided,
 - **Encyclopedic Contractual provisions** wherein provision related to payment security mechanisms, guaranteed energy contracts, termination compensation, and equity infusion are present.
 - Sufficient parking of risks to the party that is best equipped to handle the risk.
- **Flexibility and open communication with bidders** ensure that PPPs are well structured and implemented.

The second presentation was on ‘**Pune Metro Rail Project**’, delivered by **Ms. Rinaj Pathan, Superintending Engineer, PMRDA**. Pune Metro Regional Development Authority (PMRDA) is a new organization established to develop Pune Metro Rail in a strategic manner.

Figure 25: Presentation by representative of PMRDA on their PPP experience



Learnings shared by the Public Authority:

- **Making land available to the concessionaire in a timely manner:** Land available with the central or state

entities should be made available to the concessionaire in a timely manner, to ensure project implementation without delays.

Third presentation was on ‘**Indore Public Transport on PPP mode**’, delivered by **Dr. Deval Mishra, Senior Program Associate, WRI India on behalf of Indore Municipal Corporation**. Indore’s public transport prior to 2006 consisted of old minibuses, autos and tempos which were unsustainable for the rapid growth of the city, causing congestion, accidents and pollution. There was an absence of an effective public transport system, and the concepts of bus stops, time schedules, route information and transit awareness were absent. Hence, Indore City Transport Service Ltd. was incorporated to manage the public transport system by using PPPs in the sector.

Since then, the landscape of public transport in Indore has changed immensely. Through the net cost, gross cost, VGF and cluster models, the Special Purpose Vehicle has been able to deploy Bus Rapid Transit System, Sutra Sewa, Electric buses, EV charging infrastructure and Intercity services. City and State Dedicated Urban Transport Funds have been setup to subsidize passes for the public. The Atal Indore City Transport Services Limited is in a favorable financial position through revenues from innovative mechanisms like corridor advertisement rights. In the last-mile connectivity space, public bicycles and e-rickshaws in the city are operated under the PPP mode. He shared that under the waste to wealth concept, the city explored setting up a bio-methanation plant on a PPP basis, which generates bio-gas that is used as fuel in the intracity buses. The subsidy provided by the Atal Mission for Rejuvenation and Urban Transportation has also been utilized in an innovative way wherein 80 buses with 40% capital subsidy are being made available as a part of the scheme. They are operated on two different models - the Net cost model for intracity buses and the gross cost model for the BRTS buses. The premiums being made available from intracity buses are used for cross-subsidizing BRTS operations. All these factors have brought about a significant change in the public transport space in Indore by increased ridership, more operators, induced mode shifts and introduction of renewable energy-based transportation.

Figure 26: Presentation by WRI India on Indore Public Transport’s PPP experience



2.2.3.3. Closing remarks

The urban transport session was concluded with remarks from **Shri. Jaideep, OSD, Ministry of Housing and Urban Affairs**, who spoke about the infrastructure pipeline and the current gap in urban infrastructure space. He emphasized the need for private investment in the sector and spoke on the importance and benefits of the gross cost model and the net cost model for urban transportation. In the gross cost model, the authority retains farebox revenue and pays the operator a specific sum of money for a definite service across a specified period, whereas in the net cost model, the operator retains the farebox revenue and pays a premium to the agency. In the net cost model, the risk entirely lies upon the operator, whereas in the gross cost model, the risk lies entirely upon the Authority. Hence, there needs to be sufficient paying capacity on the part of both the city and state to pay for the model. MoHUA is in the process of introducing a scheme wherein new buses will be introduced and financed through central assistance in order to ensure risk mitigation.

For the mass transit system, four metro projects which are under implementation have been on PPP basis; but it is important to note that these projects are highly capital intensive and the risks associated in terms of projected ridership should be mitigated appropriately. He highlighted that

adequate estimation of ridership is essential to ensure that there is no gap in projected and actual ridership at the operation stage of the project. The Metro Policy, 2007 mentions in detail the various models that need to be considered for metro projects being planned and implemented on a PPP basis. However, it is important to mitigate project risks appropriately to retain private sector confidence in such capital-intensive PPP projects.

He stressed on the need for a PPP regulatory framework to complement concession agreements and to appropriately address the complexities across the project life cycle for a capital-intensive project. This regulatory framework should ensure that risks for operators are reduced to a possible extent.

2.2.4. Session 4: Roads and Airports

Over 60% of the total PPPs implemented in India only belong to the roads and highways sector. PPPs in the roads and highways sector have paved the way for all future PPPs in other infrastructure sectors. In the last three decades, the PPP landscape within the roads and highways sector has greatly evolved. Model concession agreements for BOT, DBFOT, HAM, etc. have been prepared; new PPP models such as HAM and ToT have been introduced, to bring required changes in the financing pattern and to mitigate risk aspects related to PPPs in the sector, innovative financing mechanism have been explored i.e., InvITs, Asset monetisation. etc. The PPP landscape within the roads and airports sectors has witnessed a considerable evolution, due to which the sector has beheld continued and successful private sector participation.

More than 60% of total capital expenditure on the National Highways is spent on PPP projects. This highlights the evolution of the PPP ecosystem in the sector. Even though the sector has undergone considerable transformation due to a series of interventions and reforms undertaken by respective authorities, there are still challenges surrounding the regulatory framework, issues pertaining to climate resilience integration into project structures, etc. which need to be addressed.

2.2.4.1. Challenges and suggestions shared by private sector participants

I. Roads Sector

Figure 27: Presentation by representative of private sector infrastructure players in roads sector



Challenges in Roads Sector PPPs

A diverse set of challenges were shared by participants from the private sector based on their experience in the PPP ecosystem related to roads and highways projects. These are as presented below:

- **Regulatory Challenges:**
 - **Delayed land acquisition and right of way:** The concessionaire is typically expected to achieve financial close before substantial land clearance is obtained and has to incur financing costs regardless of the availability of the right of way. Hence, any delay in the receipt of the same leads to key contractual issues, disagreements and project implementation challenges. They often lead to cost escalations and time overruns for the project, primarily because a concessionaire cannot collect toll revenues until the requirement is fulfilled. Combining these challenges cause a major concern to the project's viability and substantially increase the possibility of a Non Performing Asset.
 - **Unprecedented price escalations of raw material make projects unviable:** Unpredictable price escalations of the raw materials like steel, oil, diesel, bitumen, cement, have considered many projects as unviable. The currently used indexing method of compensation doesnot fully compensate the concessionaire for such unprecedented escalations, causing significant feasibility concerns.
- **Stark difference between projections and actual traffic numbers:** Most of the data provided by the Authority related to the business model of the project is based on projections carried out using various assumptions for expected traffic volume, traffic mix, availability of alternate roads, industry growth, etc. In reality, these numbers vary considerably, impacting revenue collection and thereby, the project's financial viability.
- **Limited responsibility of Independent Engineers:** Independent Engineers, typically, do not represent the concessionaire's interests, and their responsibility is observed to be limited to monitoring of project, financial progress and ensuring quality in the project development phase.
- **Sub-optimal quality of project documents:** Project documents are essential elements of a PPP project as they guide the project development and life-cycle. Non-standardised project documents lead to inefficient project conceptualization, causing both challenges throughout the life-cycle of the project and the viability of the project in the long term.
- **Diminishing interest of foreign equity partners due to non-recourse financing:** non-recourse financing arrangements are types of commercial loans that require repayment only based on the proceeds of the project being financed. Foreign equity partners exit PPP projects in India due to the fear of losses arising out of the absence of such non-recourse financing arrangements. The non-availability of the same, affects both the sponsors' balance sheet and their financial capacity and interest to bid for future projects in India.

Suggestions to strengthen Roads Sector PPPs

- **To avoid delays in right of way grant,** 90% of land should be made available on the appointed date and the rest within 365 days from the appointed date.
- **Compensation to concessionaire to be on absolute value basis, beyond a 10% escalation:** Since projects in the sector suffer from unprecedented price escalations in the prices of raw materials causing viability concerns, concession agreements may account for any escalation beyond 10%. Such escalation may be compensated to the concessionaire based on the actual

amount spent in excess of 10% to ensure that the project continues to remain viable. These may be in the form of clauses on re-negotiation or exposure restrictions in the concession agreements.

- **Requirement of periodic road surveys:** Periodic Road surveys are required to review the assumptions made during project conceptualization and if any changes are observed beyond a fixed tolerable limit, such changes should be compensated through a comprehensive compensation framework.
- **Availability of long-term finance at reasonable rates:** Sustained and reasonably priced long-term finance should be made available to the concessionaires. Changes such as fixed interest ceiling rates, options of project restructuring by bankers without attracting provisioning norms and usage of local bond markets could be introduced to that effect.
- **Empowerment of the Independent Engineer and revision of general methods of appointment**
 - An independent engineer plays a crucial role in the project implementation of any PPP project. The appointment of the same should be a joint responsibility of the authority and the concessionaire. In addition to the current responsibilities of an IE, the IE should also be made more empowered including but not limited to, possessing the authority to assess the cost of delays in the concession.
- **Revised parameters for PPP projects:** For certain kinds of projects where it is difficult to evaluate bids, a better parameter of evaluation could be the 'concession period'. This method has been used in the past successfully and can be considered for future projects as well.
- **Stringent timelines for compensation in case of event of default by Authority** will help in providing assurance to the concessionaire regarding timely investment recovery in case of default.

Airports Sector

PPPs in the airports sector have been some of the most successful projects observed in the country. The sector has been a flagbearer of successfully implemented and operational PPPs in the country. The sector has been subject to multiple kinds of PPPs across different modes. PPPs in the sector are seen as an effective way to introduce more private sector investment into the country and leverage their experience to bring in operational efficiency, cost-effectiveness, infrastructure, and service delivery in general. Such PPPs also improve the overall passenger experience at airports in India.

Figure 28: Presentation by representative of private sector infrastructure players in Airports



Challenges in Airports Sector PPPs

A diverse set of challenges were shared by the private sector participants based on their PPP experience related to airports projects, which are as presented below:

- **Regulatory Challenges:**

- **Involvement of multiple government authorities result in institutional challenges:** A concessionaire in a PPP project in the airports sector has to conform to multiple layers of government instrumentalities in order to be in compliance with the requisite approval. This causes inadvertent delays and consequently, cost overruns.
- **Regulatory uncertainty** is prevalent in the sector increasing the project risks and threatens the financial viability of the PPP project. There have been observed delays in passing regulatory orders and decisions on tariff disputes have been awaiting decisions. This causes uncertainty to the project economics, and hence lends discomfort to the concessionaire for one, and the entire PPP ecosystem in the airports sector at large.
- **Availability of trained manpower** is crucial for functioning of the airport due to the technical nature of operations and maintenance of the same. Consequently, it is extremely important to have skilled manpower during the structuring and implementation stage of a project in the sector. However, adequate sourcing of the same has currently been a concern.
- **As-built drawings** are not available for utilities like electricals and IT infrastructure within the premises. For a project involving airports, where technical utilities are of crucial significance, such gap causes deviant and non-standard utility arrangements.
- **Limited revenue generation in the initial years for cities with dual airport:** Due to the presence of an airport in the city already, cash flows to the new airport are extremely uncertain, causing cash crunches during the initial years of operation due to higher fixed costs in reserved services to be delivered by the concessionaire.

Suggestions to strengthen Airports Sector PPPs

- **Dispute resolution** between AERA and Airport Operators should be done in an efficient and time-bound manner. An airport specific appellate tribunal or separate bench may be setup to expedite the dispute resolution process.
- **Need for national facilitation committee:** There is a need for a national facilitation committee headed by the cabinet secretary for expediting development of airports. A similar committee was in place during the Mumbai and Delhi airport development. Such a committee monitors and reviews the progress of the project and works closely with the concessionaire to provide support for the complexities involved in the implementation of the project. This gives the concessionaire huge comfort, and such a setup would really signify the true meaning of the government being a 'partner' to the concessionaire in the PPP process, by providing hand-holding support as well as being readily available during the life cycle of the project for any concerns.
- **Insurance companies, IDFs and pension funds should be allowed to invest in investment grade rated securities issued by the airport companies and airport holding companies.**
- **Strengthening AERA's institutional capacity:** The growth of AERA's institutional capacity may be supported to ensure competence and problem-solving capability. This ensures that perspectives are wider, which in turn leads to the enhancement of the efficiency of implementation of PPP projects in the sector.
- **Input tax credit on GST** paid on works contract services used for setting up and expansion activity airport could be allowed.
- **More certainty around the connectivity to the airport:** Details of the connectivity to the airport needs to be made available to the concessionaire prior to the bid process to facilitate actual risk assessment. Along the same lines of ensuring risk assessment, land acquisition could also be done prior to the bid process to avoid any delays.

- **Central mechanisms for determining State support** in the sector could be explored to aid project implementation. The PPP friendliness of states varies, with some states being more conducive to PPPs than others. This could be documented and rewarded at the central level to ensure that better state support is incentivized, and the ecosystem is made favourable to private sector investment.
- **Budgetary benefits** available at the time of bidding should be made available across the project life cycle of all future and existing projects, even if there is a policy change impacting a project.

2.2.4.2. Key learnings from successful PPPs in Roads and Airports

The first presentation was from **Mr. K K Gupta, Senior Financial Advisor, UPEIDA**. UPEIDA, or Uttar Pradesh Expressways Industrial Development Authority is a statutory body created under the Uttar Pradesh Industrial Area Development Act, 1976, acting as the nodal agency for development and management of expressways in the state along with creation of economic corridors along the expressways in the state.

Figure 29: Presentation by representative of public Sector on PPP experience in Roads and highways sector



Learnings shared by the Public Authority:

- **Project approvals** for conceptualization, alignment, DPRs, RfP and RfQs, bid finalization, financial support etc. can be obtained in an expedited manner through adequate prioritization from state governments.
- **Forest and Environment Clearances** can be expedited through the request of services and assistance from retired senior executives from the Forest and Environment Departments, similarly for rail-over bridges approvals from Railway Authorities can be obtained faster by close coordination with advisors having a background of railways.
- **State government guarantees** can ensure availability of adequate long-term finance to the private sector at concessional rates, building up confidence of the private sector to invest in PPP projects. These guarantees can ensure that borrowings from public sector banks can be availed at very preferential terms to the concessionaire. Through this method, a 15-year loan of INR 267 billion (INR 26,700 crore) was availed for part-financing of civil works and INR 68 billion (INR 6,800 crore) loan for part-financing of land procurement.
- **Coordination on behalf of Contractors** was done by UPEIDA, this ensured that the communication with the concerned state government authorities is timely and efficient to secure all statutory clearances.

The next presentation was delivered by **Mr. Vinayak Rao, Member – Finance, Airports Authority of India**.

Figure 30: Presentation by representative of public Sector on PPP experience in Airports



Learnings shared by the Public Authority:

- **Omnibus clause** permitting changes and amendments with mutual agreement do not work in reality because of post decision scrutiny.

- **There is need for an in-built mechanism** for appropriate decision making, especially for changes in the agreements.
- **The right balance** needs to be found between the level of control and involvement of the public partners in taking business decisions. It is important for the public sector to not be too intrusive during the concession, and yet be available to provide support at all stages of the project life cycle. This balance should be present in order to provide sufficient autonomy to the private sector to accomplish project implementation effectively yet give handholding support during complexities in the project.

2.2.4.3. Closing remarks

- The session was concluded with remarks from **Shri. Amit Ghosh, Addl. Secretary, Ministry of Road Transportation and Highways** who highlighted the fact that NHAI has a policy to not award projects or give the appointed date until 80% of land in HAM projects and 90% of land in EPC projects is sourced. For 148 projects in the pipeline, the appointed date is yet to be reached primarily because of the following reasons (i) Land acquisition by the state government despite best efforts (ii) Failure to reach financial close by the private concessionaire.

- He mentioned the lack of private sector appetite for undertaking BOT projects and invited private partners’ opinions on how BOT projects can be made more favourable for investment. He addressed the point on the availability of finance through the local bond markets and highlighted that NHAI with support from Ministry of Finance will access the bond market to raise required funding to undertake pipeline of projects. Through this route, NHAI will benefit from the government’s ability to raise money at economical rates. He resonated with the suggestions on the empowerment of Independent Engineers and said that the quality of consultants has been an issue and expressed interest and willingness to make policy changes to bid documents with transparent and workable suggestions.

Figure 31: Remarks by Shri Amit Ghosh, Additional Secretary, Ministry of Road Transport and Highways



- The second closing remarks for the session, was particularly related to Airports sector was delivered by **Shrimati Rubina Ali, Joint Secretary, Ministry of Civil Aviation**. She highlighted the continued engagement of the Ministry of Civil Aviation right from the beginning for PPP projects in the country. Out of INR 960 billion (INR 96,000 crore) envisaged in the National Infrastructure Pipeline, INR 660 billion (INR 66,000 crore) is planned to be derived from private partners in the sector. She mentioned that new airports across the country with an outlay of INR 360 billion (INR 36,000 crore) will give a huge boost to the economy of the country.

Figure 32: Remarks by Smt. Rubina Ali, Joint Secretary, Ministry of Civil Aviation



- She addressed the concern about the revival of the committee of the cabinet secretary by mentioning the existence of a project monitoring group headed by the Secretary – Coordination to

address issues that may come across the project life-cycle. She further mentioned that the revenue sharing model has been discarded based on prior experience, and a new model, where passengers are charged for embarking or disembarking, has been introduced. The uncertainty of extension of the concession period, has been removed and now the model of awarding a concession period of 50 continuous years has been introduced in order to provide certainty and trust to the concessionaire.

- She concluded with the stress on the importance of a balanced regulatory framework, where the private sector partner’s benefits and the government social responsibility are appropriately being considered.

3. Conclusion

The workshop concluded with 24 presentations and many-a-fruitful discussions. Eyes and ears were provided for the experiences, learning, and suggestions of private sector infrastructure players; and the workshop also provided an opportunity for them to present their views and opinions in front of relevant public authorities. Active participation by private sector infrastructure players truly reflects acceptance of the IFS’s theme of ‘Partner’s in Progress’. Further, collaborative efforts towards creating an enabling PPP landscape were evidently reflected through humble presence by the public and private sector participants in the workshop; and IFS is keen to continue this momentum in the near future as well.

The PPP experiences of private sector infrastructure players across various sectors were portrayed in detail, and each experience presented during the workshop brought along its own set of learning. This unique opportunity was greatly appreciated by both the public and private sector participants. Furthermore, it provided a wonderful platform for the participants to build professional network and interact with their sectoral counterparts as well as reputed industry players from other sectors. The summary of the key learning from the workshop is presented in the table below.

Particulars	Gaps and challenges hindering private sector participation	Potential interventions to improve private sector participation
PPP landscape	<ul style="list-style-type: none"> Limited sense of ownership and lack of true partnership approach by the public authorities Lack of single window clearance system to grant approvals for PPP projects Lack of balanced risk sharing and flexibility in PPP projects Lack of appropriate dispute resolution mechanism Lack of institutional capacity to design, implement and manage PPP projects Public authorities not honoring the concession agreements, resulting in diminishing interest of private sector as well as lenders Limited long-term financing instruments EPC mindset, while implementing PPPs 	<ul style="list-style-type: none"> Need for single-window clearance system for time-bound approval process Clearly structured concession agreement Appropriate dispute resolution mechanism to be built-in in the MCAs Institutional capacity building and continuous knowledge sharing programme for the stakeholders to bring behavioral change towards PPP projects. Government to work with financial institutions to explore long-term financing venues
Sector-specific		
Healthcare	<ul style="list-style-type: none"> Delay in payments linked to services offered under sectoral schemes Lack of healthcare specific (industrial) 	<ul style="list-style-type: none"> States need to accord industry status to healthcare and to ensure adequate enabling PPP regulatory framework Need to develop MCA for healthcare

Particulars	Gaps and challenges hindering private sector participation	Potential interventions to improve private sector participation
	<p>policies for all states</p> <ul style="list-style-type: none"> • No MCAs for PPP projects in healthcare sector • Lack of clarity on applicability of Goods and Services Tax (GST) on the revenue sharing • Project expansion often not considered as a part of project structuring • Lack of availability of human resource in rural/ remote areas • Low financial viability of projects in rural/remote areas • Delay in payments linked to services offered by the concessionaire under applicable social/ healthcare schemes • Lack of standard pricing and benchmarking of user charges 	<p>specific PPP projects</p> <ul style="list-style-type: none"> • States to provide clear direction and guidance for applicability of GST in case of PPP projects • Assistance from a single point of contact • Evaluation Criteria to take 'quality of care' into account • Commercial viability is critical attract private sector • Modal Concession Agreements for different project types • Periodic upgradation of the user charges (rate list) and benchmarking of user charges
Water Supply	<ul style="list-style-type: none"> • Timely right of way access and land availability is a concern • Institutional complexity results into lack of clarity for effective service delivery • Limited capacity for post contract award management • Poor financial credit worthiness of respective public authorities • Financial institutions averse to long-term finance • Lack of stakeholders' buy-in for the PPP project • Consultants and Transaction Advisors are often inexperienced in the sector 	<ul style="list-style-type: none"> • Stakeholder Engagement to ensure buy-in for the PPP project • Insurance mechanisms for private partners • Selection process to take into consideration 'technology' aspect • PPP projects with long-term O&M needs to be explored as alternate mode to preferred EPC mode for infrastructure development as well as service operation.
Solid Waste Management	<ul style="list-style-type: none"> • Concern regarding the quality of project feasibility studies • Environmental premium is ignored during project structuring, affecting the commercial viability of PPP projects • Regulatory challenges - sector is a state subject and there is a need to comply and adhere to different regulations that come under the ambit of three different central line ministries 	<ul style="list-style-type: none"> • Need to explore hybrid financial options to ensure capital and operational funding requirements • Need for a guaranteed mechanism and buyback assurance • Bid discounting guidelines by the government can improve the bankability of the projects by multifold.

Particulars	Gaps and challenges hindering private sector participation	Potential interventions to improve private sector participation
	<ul style="list-style-type: none"> Financial institutions averse to funds WTE projects due to limited visibility and confidence on the government payment guarantees Inherent sustainability aspects associated with it, due to lack of standardised documents and comprehensive approach toward concessions. Lack of integrated and comprehensive approach 	
Urban Transport	<ul style="list-style-type: none"> The sector is subjected to multiple regulators cause a significant hurdle for the private sector and PPP projects Applicability of multiple taxation leads to operational challenges Public budgets do not adequately account for public transport Limited and uncertainty with respect to periodic fare revisions GST liability on sale of tickets by transportation aggregators The sector is subjected to an inverted duty structure 	<ul style="list-style-type: none"> Need for unified public transport authority Eligibility criteria should allow sovereign/ green fund managers/ institutions to be able to participate Penalty to be capped at around 2-3% of revenue instead of 10%/ uncapped currently Escrow Account to be made a mandatory provision in all service-oriented PPP projects Linkage of incentives with PPP preparedness of states
Roads	<ul style="list-style-type: none"> Delayed land acquisition and right of way No provisions to address unprecedented price escalations of essential commodities make projects unviable Stark difference between projections and actual traffic numbers Independent Engineers typically do not adequately represent concessionaire interests Lack of financial implication consideration related to descoping of the project Sub-optimal quality of Project design documents Diminishing interest of foreign equity partners due to non-recourse financing 	<ul style="list-style-type: none"> 90% of land should be made available on the appointed date and the rest within 365 days from the appointed date Compensation to concessionaire to be on absolute value basis Periodic road surveys to review the assumptions made initially to understand the impact to be undertaken Fixed interest ceiling rate for infrastructure projects Appointment of Independent Engineer to be jointly responsible for the concession agreement of the parties Change in the selection parameter to ensure quality Timelines and formulas should be devised for compensation in case of Authority Default

Particulars	Gaps and challenges hindering private sector participation	Potential interventions to improve private sector participation
	<ul style="list-style-type: none"> Concern with no to limited support from public authorities 	<ul style="list-style-type: none"> Independent engineer should be empowered to assess cost of delays
Airports	<ul style="list-style-type: none"> Involvement of multiple authorities results in institutional challenges Regulatory uncertainty is a challenge Availability of trained manpower As-built drawings are not available for utilities developed in case of existing Airport considered to be handover to private sector for operations on PPP basis Limited revenue generation in the initial years for cities with dual airport 	<ul style="list-style-type: none"> Need to fast-track dispute resolution mechanism through sector-specific appellate tribunal or separate bench A national facilitation committee to address the institutional concerns and avoid direct involvement of multiple authorities <ul style="list-style-type: none"> Central mechanism for determining State support Insurance companies, IDFs and pension funds should be allowed to invest in investment grade rated securities issued by the airport companies and airport holding companies More certainty around the local connectivity to the airport to be ensured during design stage of project Budgetary benefits to be continued irrespective of policy changes taking place

During the workshop, participants also shared potential ideas that government can explore to accelerate PPPs as well as infrastructure development are presented in the table below.

Particulars	Potential ideas/ solutions
PPP landscape	<ul style="list-style-type: none"> Long-term innovative financing not only to sustain capital investment, but to sustain operational cash flow for financial sustainability for PPPs Market consultation during project design stage to ensure buy-in and interest from market players in the PPP project Local development banks like NABARD are viable financing partners due to comparatively lower interest rate
Sector-specific findings	
Healthcare	<ul style="list-style-type: none"> Renovating the existing facility, rather than building new one Bridging the urban-rural divide through technology advancements and NGO collaborations Technology driven partnerships
Sports	<ul style="list-style-type: none"> Sports should be recognized as a standalone industry Building an ecosystem

Particulars	Potential ideas/ solutions
	<ul style="list-style-type: none"> • Need focused efforts to build grassroot level development by building community sports infrastructure • Collaborative efforts to undertake marketing campaigns to promote sports and physical fitness awareness
Roads	<ul style="list-style-type: none"> • PPP model with managed road lanes options can be explored, which will provide stronger revenue stream for the private sector and may reduce financial burden on the public authorities

The workshop served the purpose of creating a platform to voice sector specific concerns and challenges along with potential interventions to improve the PPP landscape and accelerate private sector participation in infrastructure development. These insights gathered will help IFS as well as concerned public authorities to develop roadmaps to strengthen and improve the PPP landscape of India as well as ensure an enabling environment to witness successful PPPs across infrastructure sectors.

Appendix A. - List of Participants



Table 2: List of Participants from Public and Private Sector

Sr. No.	Name of the Firm/ Institution	Name of Individual	Designation	Total Attendees
A Special Delegates				12
1	British High Commission	Sally Taylor	Minister Counsellor (Director, Development, Climate, Science and Technology)	
		Alfie Alsop	Infrastructure Advisor	
2	FCDO	Shoubhik Ganguly	Senior Infrastructure Advisor	
		Sangeeta Sippy	Assistant Program Officer	
		Harpreet Singh Arora	Urban Advisor	
3	International Finance Corporation (IFC)	Wendy Werner	Country Head, IFC	
		Tushar Arora	Senior Financial Sector Specialist	
		Bhanu Mehrotra	Principal Investment Officer	
		Pankaj Sinha	Senior Investment Officer	
		Mohit Ganeriwala	Senior Operation Officer	
		Subhada	Investment Officer	
		Harsha Khubchandani	Associate Investment Officer	
B Special Delegates & Speakers - Government				7
4	Government of Madhya Pradesh	Manu Srivastav	Principal Secretary	
5	Ministry of Housing and Urban Affairs	Kunal Kumar	Joint Secretary and Mission Director (Smart Cities Mission)	
		Jaideep	OSD	
6	Ministry of Finance	Dr. V. Anantha Nageswaran	CEA	
7	Airports Authority of India	Vinayak Rai	Member - Finance	
8	Ministry of Road Transport and Highways	Amit Ghosh	Additional Secretary	
9	Ministry of Civil Aviation	Rubina Ali	Joint Secretary	
C Speakers from Government Authorities/ Institutes				13
10	MOUD Odisha	Dr. Bhakta Kabi Das	Chief Engineer cum Addl. Secretary	
11	ITUAPT Foundation of India	BK Mitra	Executive Member	
12	UPEIDA	Biswajeet Rai	Finance Controller	
		KK Gupta	Senior Advisor	
		Kamal Kumar	Advisor	

Sr. No.	Name of the Firm/ Institution	Name of Individual	Designation	Total Attendees	
13	IDA Bihar	Bijay Kumar Upadhyay	Director		
14	Department of Higher Education, Ministry of Education	Vishwajeet Kumar	Director		
15	Ministry of Health and Family Welfare	Vishal Chauhan	Joint Secretary		
16	H&UD Department, Odisha	Bhakta Kabi Das	Chief Engineer cum Additional Secretary to Government		
17	PMRDA	Alok Kapoor	CEO, Pune IT City Metro Rail Limited		
		Uday Narain	Head of Planning and Programme Management, Pune IT City Metro Rail Limited		
		Riraj Patnum	Superintending Engineer		
		Darshan Bamb	Metropolitan Commissioner		
18	Indore Municipal Corporation	Deval Mishra	Senior Program Associate, WRI India		
D	Delegates from IFS, DEA, MoF				19
19	Infrastructure Finance Secretariat, DEA, MoF	Ajay Seth	Secretary		
		B. Purushartha	Joint Secretary		
		Vishal Chauhan	Joint Secretary		
		Mukesh Kumar Gupta	Director		
		Himanshu Gandhi	Dy. Secretary		
		Dr. Molishree	Dy. Secretary		
		Bhupinder Goyal	Dy. Director		
		Dr. Kartik Agarwal	Dy. Director		
		Arya BK	Dy. Director		
		Sujeet Kumar	Under Secretary		
		Anand Kumar Pal	Advisor		
		Gaurav Jumrani	Consultant		
		Akshit Jain	OSD		
		Rohan Nair	OSD		
		Abhilasha Manda	Young Professional		
Suman Saurabh	ASO				
Rajendra Bisht	ASO				
Madhav Jha	ASO				
Shubham Varun	Stenographer				

Sr. No.	Name of the Firm/ Institution	Name of Individual	Designation	Total Attendees	
E	Session 1 - Sports, Education and Healthcare			12	
20	Olympiados	Vinod Haridas	MD & CEO		
		Raghav Jamwal	Consultant		
21	Max Healthcare	Yogesh Sareen	Senior Director and CFO		
22	Apollo Hospitals	Dr. Karan Thakkur	VP, Projects and Public Affairs		
23	Krsnaa Diagnostics	Rajeev Mutha	Chairman		
		Pallavi Jain	Managing Director		
		Yash Mutha	Executive Director		
24	Medanta	Pankaj Sahni	CEO		
25	GenWorks	Balaji R Raghupathy	Co-Founder and Senior Director		
		Ganeshprasad Sengamalam	CEO		
26	Apex Hospitals	Dr. Sachin Sharma	Director		
		Deepak Sharma	PA to the director		
F	Session 2 - Water Supply and MSWM			10	
27	Jindal Urban Infrastructure	Mr. Gian Bansal	Chief Financial Officer		
		Mr. Pranay Kumar	General Manager		
28	Vishvaraj Environment Private Limited	Arindam Talukdar	Assistant General Manager		
29	VA Tec Wabag	Rajneesh Chopra	Global Head, Business Development		
30	SUEZ India	Payal Saha	Manager, Business Development		
		Ayan Roy	Manager, Legal and Contracts		
31	Re Sustainability Co.	Masood Mallick	CEO		
32	Tata Projects	Himanshu Chaturvedi	Chief Strategy Officer		
33	Abellon Green Energy	Aditya Handa	MD and CEO		
		Priyank Shah	AVP		
G	Session 3 - Urban Transport			6	
34	Prasanna Purple Mobility	Mr. Prasanna Patwardhan	MD		
		Mr. Jayjit Dey	General Manager		
35	Megha Engineering	Rajendra Kondepati	VP		
		Kishore Desai	VP		
36	GreenCell Mobility	Sumit Mittal	VP, Business Development and Corporate Affairs		
		Sumit Barat	CFO		
H	Session 4 - Roads and Airports				11

Sr. No.	Name of the Firm/ Institution	Name of Individual	Designation	Total Attendees	
37	Reliance Infrastructure Limited	Parth Sharma	President, Corporate Development, Reliance Group		
		Girja Niranjana	AVP		
38	Hindustan Construction Company	Atul Kumar	Chief Operating Officer		
39	Cube Highways	Anuj Maitrey	SVP		
		P Anand Babu	Assistant Manager		
40	IRB Infrastructure	Vinod Kumar Menon	Head - BOT projects		
41	GMR Infrastructure	Mr. K Narayana Rao	Deputy Managing Director		
42	Noida International Airport	Nitu Samra	CFO		
		Ashutosh Chaturvedi	Head of Public Affairs		
		Rahul Mangal	General Manager		
43	Gammon India	Ashish Gupta	Advisor		
I	List of Participants				37
44	Fortis Memorial Research Institute	Manu Kaplia	Head, Corporate Affairs and CSR		
45	Shapoorji Pallonji	Abhishek Bhattacharya	General Manager (Business Development)		
		Manoj Gupta	Business Development Manager		
46	L&T Infrastructure	K S Anbumani	Head - Traffic Engineering		
		Dilip Poricha	Manager		
47	PNC Infrastructure	Amit Kumar	Senior VP		
48	Ashoka Buildcon	Sandeep Bamb	Senior GM		
49	NIPPON KOEI	Ashish Ghosi	Head - Business Promotion Unit		
50	APAO	Satyan Nayar	Secretary General		
51	AFCONS	BK Arora	GM		
52	Roadis	Satish Srivastava	Financial Controller		
53	Boehringer Ingelheim	Mr. Harsh Bedi	Senior Manager		
		Prabhat Sinha	Director - Government and Public Affairs		
54	Sunstone Enterprises	Mr. S K Nanda	Director		
55	Kishan Agro Industries	Mr. Jaibhagwan Tyagi	Consultant		
56	Incredible Medtech LLP	Mr. Ashok Arora	CEO		
57	Dynatom International	Mr. Pradip Dhir	Director - India Subcontinent		

Sr. No.	Name of the Firm/ Institution	Name of Individual	Designation	Total Attendees
	GmbH			
58	Innovative Technologies and Projects	Mr. Ravinder Singh	Inventor & Consultant	
59	Shree Finance	Mr. Shashank Jain	Vice President	
60	Aggcon Equipments	Ms. Jannat Wadhwa	Finance Advisor	
		Mr. Jitender Aggarwal	Director	
		Mr. Pankaj Kumar	DMO	
61	Live with style	Ram Arora	Director	
62	Goa Waste Management	Levinson J. Martins	MD	
63	Jindal Saw Ltd.	Aakanksha Bindal	Senior Manager - Marketing	
64	Aapulki Healthcare Private Limited	Piyush Raha	Assistant Manager	
		Kinjal Babariya	Director	
65	BLive	Sandeep Mukherjee	CEO	
66	Jindal Steel and Power	Manish Mishra	AGM	
66	Tata Realty	Alok Kapoor	CEO	
67	CE	Waheed Bhaksh	-	
68	Air India	Ankur Sethia	Head - Commercial Special Projects	
69	L&T IDPL	K S Anbumani	Head, Traffic Engineering	
70	Sekura	Satyan Kumar	Head of Project Finance and Treasury	
71	NIIF	Ankit Soni	VP-Funds of Funds	
		Animesh Singh	Associate - Strategy & Policy	
J	Workshop organizing partners			22
72	PwC	Shivanshu Chauhan	Partner	
		Ashok Varma	Partner	
		Kaustabh Basu	Partner	
		Devayan Dey	Managing Director	
		Nidish Nair	Executive Director	
		Harsh Shah	Manager	
		Aditi Rai	Associate	
		Naitik Pahuja	Specialist	
		Aditya Kurrup	Specialist	
73	KPMG	Sumouleendra Ghosh	Partner	
		Karun Sareen	Partner	

Sr. No.	Name of the Firm/ Institution	Name of Individual	Designation	Total Attendees
		Aparajita Tripathi	Director	
		Ankur Mishra	Associate Director	
		Tushar Saxena	Associate Director	
		Bhagirathi Dhal	Senior Advisor	
		Rishabh Sultania	Manager	
		Roshan Yadav	Manager	
		Amritesh Bhaskar	Assistant Manager	
		Rohit Trivedi	Consultant	
		Sumiran Mathur	Associate Consultant	
		Vishwas Negi	Associate Consultant	
		Nikita Chhabra	Associate	
K	Empaneled TAs			11
74	Mazars Advisory LLP	ILA Dohbal	Senior Manager	
75	Tandon Urban Solutions Pvt. Ltd.	Chaitanya Berde	CEO	
76	RITES	Anil Ghai	Advisor	
		Yash Shukla	Assistant Manager - Finance	
77	CRISIL	Supa Ray	Associate Director	
78	Almondz	Yogesh Sindhu	Manager	
		Ashwini Ghai	Executive Director	
79	EY	Shubham Arora	Senior Associate	
		Arun Tuli	VP	
		Sunay Jaiswal	Sr. Associate	
		Divya M	Manager	
L	Trade and Industrial Association/ Federations			6
80	FICCI	SK Nanda	FICCI Member	
81	CII	G Srivastava	Head Strategy	
		Deepali Chopra	Deputy Director - Economic Policy and Research	
82	ASSOCHAM	Vivek Tiwari	Assistant Director	
		Rajesh Kumar Singh	Joint Director	
		Basudev Mukherjee	Assistant Secretary General	

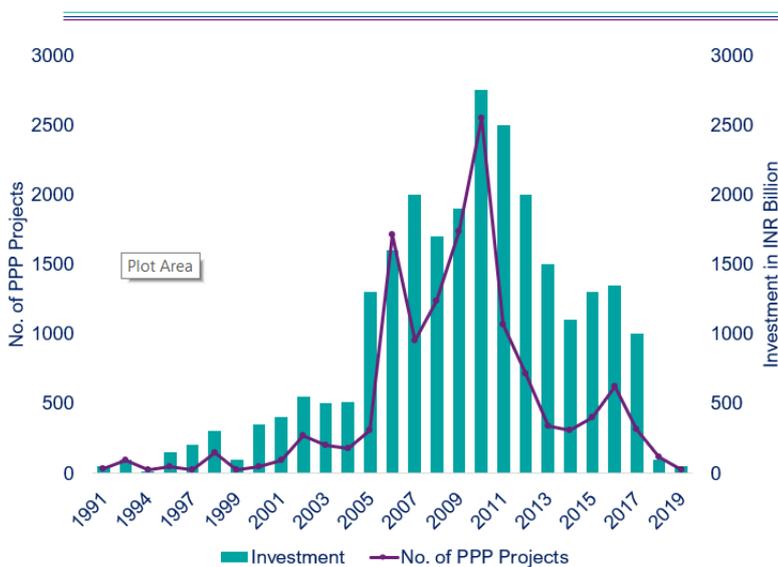
Appendix B. - Presentation on government initiatives to improve PPP Landscape



Presentation 01 by Dr. Kartik Agrawal, Deputy Director, Infrastructure Finance Secretariat, DEA, MoF to set the workshop context and disseminate recent initiatives of DEA for holistic development of PPP ecosystem



Strong need to re-evolve PPP ecosystem, private investments in infra has been on the decline, this decade



Source: DEA Database of infrastructure projects

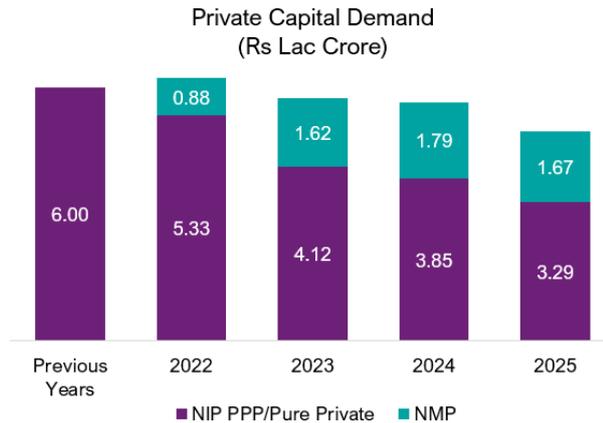


- Since 1991, India has undertaken several PPP projects
- YoY review of DEA database (with 1824 PPP projects) indicate substantial traction in PPPs during 2005-2010 - these were due to several policy & institutional measures taken by government
- However, while PPP growth had decelerated after 2013, GoI has taken up several reforms to improve PPP uptake

Success of key interventions of the Govt. (NIP, NMP) also require increased investment from private sector



- Global economic slowdown and impact on availability of finance remains a key challenge
- Disputes, delays – overruns, poor returns etc. of PPP projects
- Contractual issues relating to risk allocation and dispute resolution
- Lack of capacity at State and PSA levels



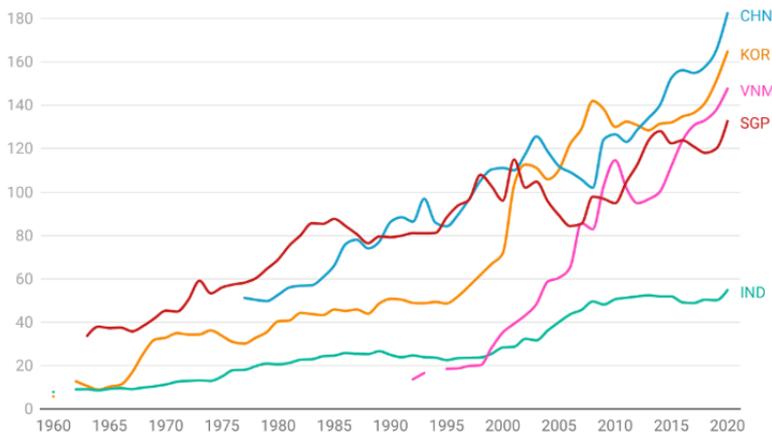
Infra projects worth ~Rs 20-25 lakh crores planned to be undertaken via PPP & pure private mode under NIP and ~Rs 6 lakh crores of private investment demand for assets monetized under NMP

3

Lack of innovative PPP, private funding models has limited private debt in India's economy



Domestic Credit to Private Sector % of GDP

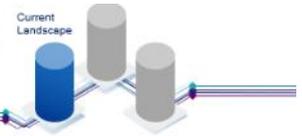


Source: World Bank • Created with Datawrapper

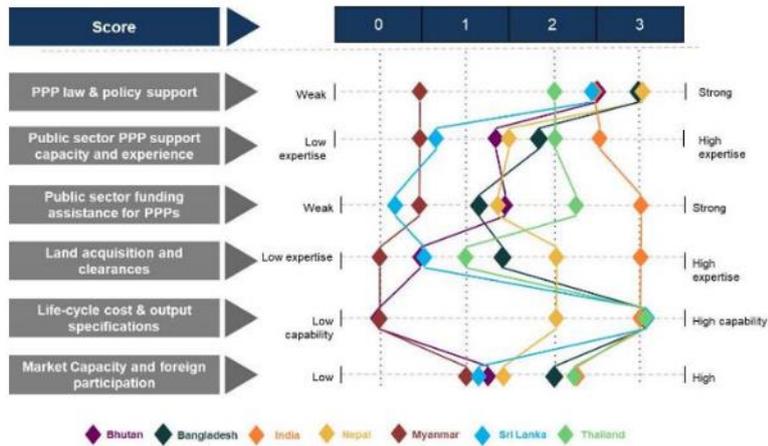
- Low domestic credit to private sector (as % of GDP) in India compared to China, Vietnam, South Korea and Singapore
- High reliance on tax-payers money vs domestic savings for infra creation
- Negligible participation of domestic long-term capital of insurance and pension funds to infrastructure sector
- Absence of innovative private participation models
- Need for leveraging domestic savings and creating vibrant private debt market

4

Initiatives have improved India's PPP readiness – One of the most preferred PPP markets



Public-Private Partnership Readiness (BIMSTEC Region)



Source: Final Report, Financing Transport Connectivity Infrastructure in the BIMSTEC region, March 2022

- India remains the top PPP ready economy in the BIMSTEC region
- India ranked 4th in the world in terms of total investment commitments made by private sector in infrastructure sector – as per WB PPP (2021) Half Year (H1) report
- India was SAR's largest Private Participation in Infrastructure (PPI) investment destination in 2021, with 49% increase in private investment commitments – WB PPI annual report 2021

5

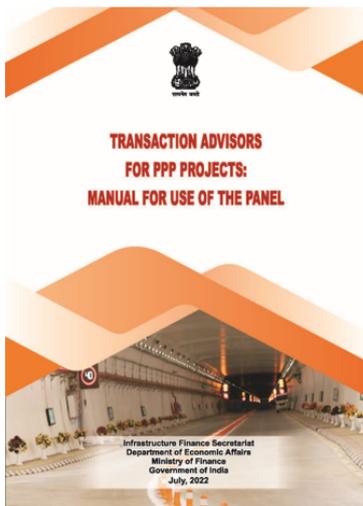
PPP Procurement Lifecycle – Interventions being undertaken by IFS

PPP Procurement Stages

Up to Procurement Stage	Post procurement up to COD	Post COD
<ul style="list-style-type: none"> ❖ Empanelment of TA ❖ Funding under IIPDF ❖ Handholding Support ❖ PPP Toolkits ❖ Model RFQ-RFP ❖ PPP Procurement Manual ❖ Waterfall mechanism ❖ Appraisal Manual 	<ul style="list-style-type: none"> ❖ Handholding Support ❖ Funding through VGF ❖ Post Award Contract Management Framework ❖ Model DCA 	<ul style="list-style-type: none"> ❖ Post Award Contract Management framework ❖ O&M Funding under VGF ❖ Project Renegotiation Framework

6

Strengthening and speeding up creation of bankable PPP projects through empaneled Transaction Advisers



- Twelve (12) Transaction Advisors have been empaneled by the Department of Economic Affairs (DEA)
- DEA has also released a Manual for use of the panel. This includes clear and easy to understand steps/SOPs for onboarding a Transaction Advisor for a PPP project
- Additional financial support to PSA for TA onboarding expenses is already available under IIPDF
- Panel is available for all Central Ministries, State Governments, Statutory Bodies, Public Sector Enterprises (“PSE”) and other such undertakings within the purview of ministries/ departments of Central and State Governments

7

Scheme for Financial Support to Public Private Partnerships (PPPs) in Infrastructure

Viability Gap Funding Scheme

Salient features of the Revamped VGF Scheme

Sectors Covered in VGF Scheme	Capital VGF Support as a % of the Total Project Cost		
	By DEA	By PSA	Total Financial Support under the Scheme
Sub-Scheme 1 - Water Supply, Solid Waste Management, Waste Water Treatment, Health and Education etc.	30%	30%	60%
Sub-Scheme 2 - Demonstration/Pilot projects in Health and Education sectors	40%	40%	80%
All other Eligible Sectors	20%	20%	40%

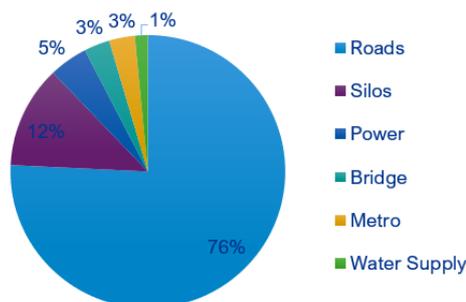
In case of **Sub-Scheme 2** in addition to the Capital VGF, **25% of O&M Cost** for the first 5 years after COD will also be given as operational grant by DEA and PSA each

9

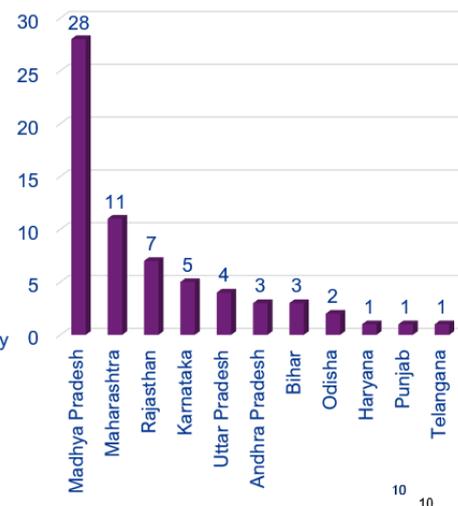
Funding under the VGF Scheme

- **66 projects** with total project cost of **Rs. 41,713 crore** have received 'final approval' under the VGF Scheme.
- VGF of **Rs. 6,864 crore** approved and disbursement of Rs. 4,428 Crore already completed

VGF Proposals by Sector



VGF Proposals by Location



India Infrastructure Project Development Fund (IIPDF)

Objectives of IIPDF



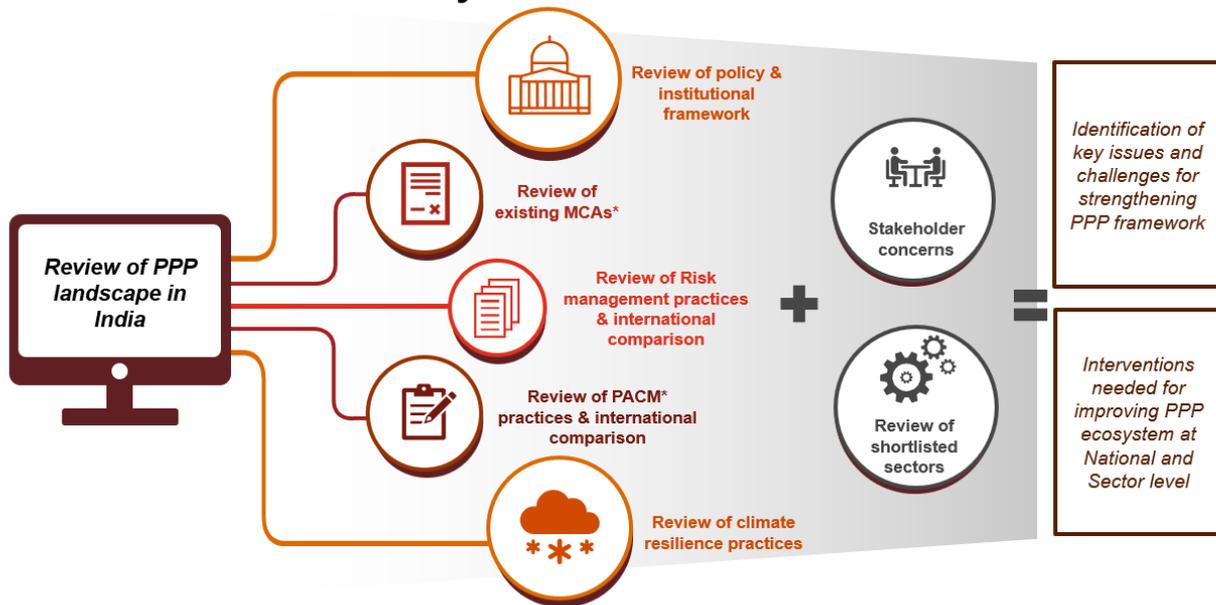
- To support PSA to cover substantial portion of the PPP transaction costs
- To prepare a self of 'bankable projects'
- To enhance the quality and quantity of PPP projects
- Doesn't include expenses incurred by the PSA on its own staff
- TAs to be appointed by the PSA through a transparent procurement

Thank you

Presentation 01 by Shivanshu Chauhan, Partner, PwC on findings of the Framework Review Report which is part of the Diagnostic PPP study carried out for the assessing the current PPP landscape in India



An overview of the study



*MCA – Model Concession Agreement
**PACM – Post Award Contract Management

Key gaps identified



Strengthening policy focus on non-traditional sectors; No extant policy on PPPs

Need for mechanism to bring flexibility in PPP contracts for renegotiations

Variance in institutional mechanism for PPPs across states

A more balanced risk allocation in line with international practices and stakeholder expectations

Variance in PPP capacities across states and ULBs

Climate resilience and adaptation practices in PPPs to **be actively implemented**

Need for well-organised databases / systems to evaluate and monitor PPP projects

Need for more long term financing mechanisms

September 2022
3

Key interventions being undertaken by DEA

-  A National PPP policy being contemplated
-  Dedicated PPP units in key line ministries /departments/ states and knowledge sharing
-  Revising the MCAs and aligning with present context and best practices
-  Revisiting the risk allocation matrices
-  Inclusion of climate resilient measures in Concessions

September 2022
4

Objective for stakeholder workshop and feedback required

Objective of the Workshop

Understand the views on:

- Current PPP ecosystem
- Areas/ sectors of interest
- Issues / Challenges faced while executing PPP projects
- Suggest interventions / initiatives required to further strengthen the current PPP ecosystem

Feedback required

- Need for an extant PPP policy
- Suggestion on improving the MCAs and the themes for improvement
- Improving risk allocation
- Building climate resilience infrastructure – issues and challenges
- Other challenges in implementing PPP projects

September 2022
6

Thank you

Appendix C. - Presentations by Private Sector Organisations



Session 01- Health, Education and Sports Infrastructure



Presentation 01 by Mr. Yogesh Sareen, CFO, Max Healthcare Institute Ltd.



PPP Project : Our Experience

September 2022



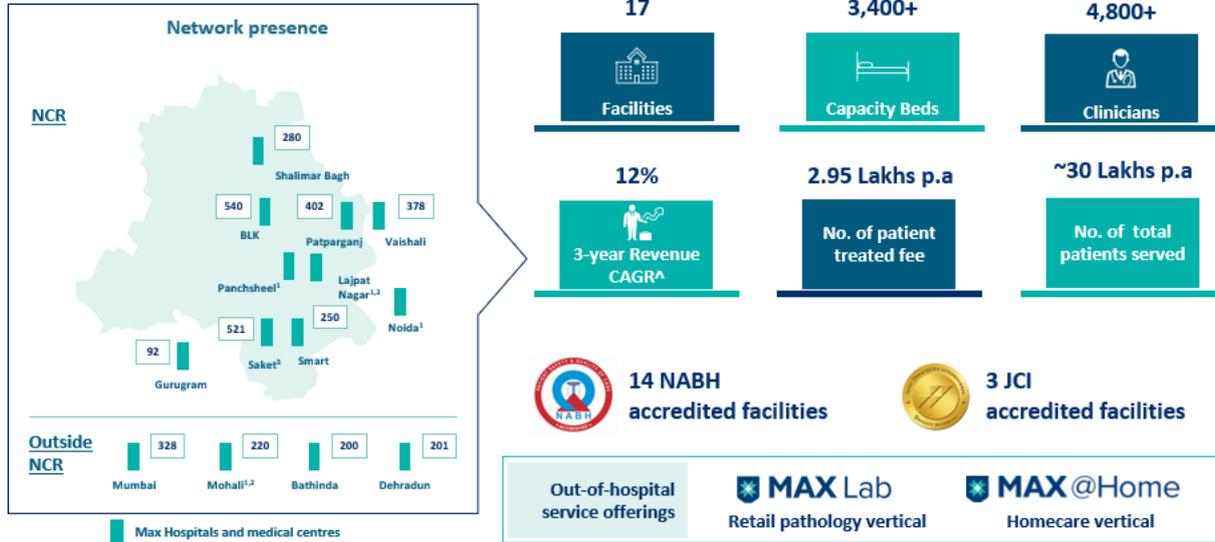
Contents

- ✦ Details of PPP Projects in Hospital Sector taken up by Max Healthcare in various states
- ✦ Key Issues and constraints faced during
 - ✦ Implementation Phase
 - ✦ Operating Phase
- ✦ Ground realities of PPP projects in the sector
- ✦ Our thoughts on creating healthcare infrastructure under PPP and important matters to consider while conceptualizing PPP



Max Healthcare: India's second largest Hospital Chain

- **Second largest healthcare chain*** in India in terms of revenue and Market Capitalization, with 3400 beds. Adding 2800+ beds in next 4-5 years through brownfield and greenfield expansions underway
- **Largest** leading tertiary and quaternary care hospital in the **National Capital Region**
- Amongst the **largest Homecare businesses in India** and the **3rd largest pathology business in the National capital region**
- Listed on Indian stock exchanges with a **market capitalization of ~INR 40,000 + Cr**
- Has a **strong legacy of 20+ years** and is currently **promoted and led by its Chairman, Mr Abhay Soi**



*Based on publicly available information for listed companies (FY22) in terms of revenue, EBITDA and Market Capitalization;
^ CAGR is calculated for FY19 to FY22

3



PPP Projects undertaken by Max Healthcare

220 bedded Super Specialty Cancer Hospital on BoT basis with Govt. of Punjab/ Pb Health System Corpn. (GoP/PHSC) at Mohali	INR 190 Cr Spent till date and 170 Cr lined up for expansion	Hospital is operating since second half of 2011. Bed capacity is being expanded by ~75% now. Provides care to > 2.0 Lacs patients annually. Employs ~1400 people	<ul style="list-style-type: none"> • Both are highly successful PPP projects where under GoP/PHSC had provided part of the spare land of Mohali District Hospital and Bhatinda District Hospital for setting up super specialty cancer hospital in the State on a Build Operate & Transfer (BoT) basis for a period of 50 years. • Under the model, the concessionaire has full freedom on all aspects of operations of the hospital and provides 5% revenue share of all collections at the hospital to GoP. The revenue share is paid via an escrow account mechanism.
180 bedded Super Specialty Cancer Hospital on BoT basis with Govt. of Punjab / Pb Health System Corpn. (GoP/PHSC) at Bhatinda	INR 170 Cr Spent till date	Hospital is operating since end of 2011. Provides care to ~ 1.0 Lacs patients annually. Employs ~600 people	<ul style="list-style-type: none"> • Currently, we are expanding the facility at Mohali for which an extra piece of land contiguous to the existing hospital has been allotted by GoP • We are paying INR 16 -17 Cr/ annum to GoP/PHSC as revenue share under these PPP contracts, which is used by State to build up healthcare infrastructure & prov. of healthcare services to needy
PPP for Setting up Dialysis Centre in Delhi	Bid in association with Nephroplus and won the bid for one of the cluster but withdrew later once our partners found the system to be non-supportive		<ul style="list-style-type: none"> • The project was to set up dialysis beds in the premises of some of the Govt. Hospitals in Delhi. We jointly bid with Nephroplus who are our partners for running Dialysis services in some of our hospitals. Once we won the bid and the partners visited the hospitals where the dialysis beds were to be set up, the host hospital admin. was found to be non supportive and unhappy with Govt. decision and sensing trouble, we withdrew.

4



Key Issues faced/ being faced in PPP Projects

<p>"Partnership" part is missing and there is "no sense of urgency"</p>	<ul style="list-style-type: none"> • Our experience during implementing the Projects for which a joint Committee of Govt. Official and Max Healthcare was formed was that there is no "partnership" at work and in fact it was Max Healthcare's project all along, where Govt. nominees were also to carried along in addition to regulatory agencies, with no real helping hand. • We also noted a general "lack of sense of urgency" in deciding matters brought to the joint committee in a time bound manner, leading to paralysis
<p>Single Window time bound clearance for project build out and from "you propose and I dispose" to "let's plan together"</p>	<ul style="list-style-type: none"> • This is one of the main constraint we faced and are still facing for our Mohali expansion project • It takes 9-12 months to get the approval after plans are firmed up, before a single brick is laid • There are multiple agencies involved and the process is no different for a PPP Project or a private project. It is tiring to work with multitude of agencies for building plan approvals etc. • Instead of these agencies handholding a PPP project and provide help in planning for quick approvals, "you propose and I dispose" attitude elongates the time to approval and beyond a time, the private partner loses interest in the initial phase only
<p>Of late, show cause by GST Authorities on share of revenue paid to State</p>	<ul style="list-style-type: none"> • Of late, we are also facing issues from GST, who wants to treat revenue share under PPP to be lease rent & want Max Healthcare to pay GST on reverse charge basis despite settled principle of law that in a revenue sharing arrangements – partners are not rendering services to one –another. • Healthcare services are otherwise exempt from GST and hence any GST levy will become a big dampener esp. in healthcare PPP projects where margins are wafer thin
<p>Risk Sharing/ Financing Options & Others</p>	<ul style="list-style-type: none"> • The structure of PPP with GoP allows the partners to share risk of slower ramp up/ low realizations/delayed start etc. It would have been more fair if there was moratorium for payment of revenue share for initial 3 years post commercialization of the project, to help tide over "tough" years. • Concessional Financing (at subsidized rate) would have helped reduce pain during capex phase

Other than lack of help in quick operationalizing of the hospital, we found the PPP Structure of GoP to be just, fair and matured in its approach, with little dependence on State for day to day functioning of the Hospitals

5



Ground Realities of PPP Projects in the Sector & Our thoughts on the potential

- There are quite a few but still not many successful projects in the Healthcare Industry
- There is an urgent need to create and improve the healthcare infrastructure in the country. It's inadequacy and fault lines were exposed during Covid.
- Healthcare system in India is not only plagued by inadequate infrastructure (our ratio of beds to population is 1/3rd of WHO recommendation) but the quality of infra is woefully lacking
- Given the national building bye laws etc., any projects of 300 plus beds require 3+ acre of land, which is scare in populous cities.
- Limited study by EnY in past of cost of select procedure carried 3 year back suggests that generally, the cost of doing a secondary care or tertiary procedure on a like to like basis in government district hospital is higher than that of private hospital, thereby underlining the need for PPP
- Hospitals also tend to create very high direct and indirect employment for skilled and unskilled labor (~ 10 people to 1 bed) and hence a no. of employees commute every day. In a tertiary care hospital, the patients visit hospital from remote locations in the region - so connectivity of location is very key. In addition, hospital also tend to develop an economy around – eateries, pharmacies, pathology labs, hotels & inns.
- Therefore, PPP in Healthcare involving setting of healthcare infrastructure is very satisfying and rewarding in many ways
- However, the location of land for setting up hospital is an important key to ensure its success. Accessibility during emergency or otherwise helps a hospital provide greater service to community.

6



Our recommendations and important matters for PPP involving creation of bed capacity

- It is thus recommended :
 - That States may be asked to zero on the possible locations for setting up hospitals under PPP in cities where there is otherwise abundance of skilled and unskilled labor & which already have medical colleges
 - Land available with local bodies and other state organs can be used for setting up both secondary and tertiary care hospitals in association with private players at locations which are accessible & well -connected
 - PPP arrangement may mandate "free economy beds" or "% revenue sharing on collection basis" or a mixture of the two
 - For all PPP projects, the approvals process need be simplified as "Public Projects". These may be canalised thru Chief Minister Office or equivalent, for faster clearances in time bound manner
- At the conceptualization stage of PPP projects involving setting up of hospital, it is important to :
 1. Provide for complete operational freedom to the private player within the overall format
 2. Plan for expanding the bed capacity by at least 25%, after every 6-7 years of operation
 3. Build some moratorium /support for the initial 3 years, which is "make or break" period for a new hospital
 4. Cater to adequate parking and other infrastructure while plannigng PPP (metro, hotel, hostel etc.)
 5. Provide freedom to navigate the medical programs
 6. Build in some state sponsorship of patients by the Govt. whereby occupancy on some new beds being created is assured
 7. Provide incentive for "re-investment of profits" in PPP project by expanding the capacity or investment in new technologies, and also allow subsidies for power costs, property tax payment etc.

7



Thank You !

Presentation 03 by Mr. Pankaj Sahni, CEO, Medanta (Health)



Jayprabha Medanta Hospital: PPP in healthcare

September 14, 2022



Agenda

- Jayprabha Medanta Hospital – PPP Background
- Key highlights
- Key success factors and improvement areas for the PPP
- Key interventions required to enhance private sector investments in the sector
- Way forward for PPPs in the sector(suggestive models)

Jayaprabha Medanta Hospital – PPP Background



Background for hospital PPP

- Located in eastern India, Bihar is a low income state with population of ~104 million¹. Over half of the population in the state is Below poverty line (BPL)²
- Substantial gaps existed in healthcare infrastructure including qualified staff, equipment, drugs, and consumables. **As a result, people in the state had to travel to other states for their treatment**
- To help improve access and availability of, advanced and affordable healthcare- **Govt of Bihar and the state's Infrastructure Development Authority (IDA) planned to implement a PPP aimed at building a greenfield super-specialty hospital in Patna**
- In 2015, Hospital PPP Project was awarded to **GHPPL, a unit of Medanta to develop the 500 bed super-specialty hospital on Design, Build, Finance, Operate, & Transfer (DBFOT) basis for a concession period of 33 years**

Key Facts - Bihar	
Area (in sq km) ¹	94,163
Total Population (Census 2011)	104 Mn
Decadal Growth % (2001-11)	25%
Urbanization Rate (2011)	11.3%

Source: 1. Census 2011
 2. NITI Aayog's Multidimensional Poverty Index (MPI)- based on the reference period of 2015-16 of the National Family Health Survey (NFHS)



Key highlights of the PPP



- First successful greenfield hospital PPP project in Bihar
- Designed to accommodate over 500 beds, 112 ICU beds (after fully operational)
- Total cost of the project – Rs 800 cr
- Built-up Area of 10 Lakh Sq. ft.
- Current status:
 - 300 operational beds
 - 4 OTs
 - 50+ ICU beds
 - 2 cath labs
- 12+ super specialties



Jayaprabha Medanta – Lobby area



4



Jayaprabha Medanta – Emergency area



5



Jayaprabha Medanta - Medical facilities

Technology and equipment



- 128 slice CT
- 1.5 Tesla MRI
- Gamma Camera
- PET CT
- Digital x-ray, Fluoroscopy, Bone Densitometry
- Neuro Navigation system
- Mammography
- Cath Labs

7



Key success factors and improvement areas for PPP

Key success factors

- Full autonomy provided by the Govt to operate the facility and thus provide highest end of medical care
- Govt of Bihar collaborated as a partner to smoothen the unseen challenges. Eg: unexpected covid wave hit the country
- Nodal authority (Joint secretary, Department of Health, Govt of Bihar) assigned at the beginning of the project to ensure readiness
- Clearly structured contract/ agreement

Improvement areas

- Regulatory approval process is sequential in nature, which leads to delays in the implementation of the project

8



Key suggestions to enhance private sector participation in healthcare PPPs

- **Assistance with the SPOC:**
 - Crucial to assign a "Nodal agency" on behalf of the Govt which acts as a SPOC from launch till completion of the project. This agency takes complete ownership of the project and provides assistance to private sector in meeting contractual commitments
- **Evaluation criteria should also take into account quality of care:**
 - Prequalification bid should be linked to "ability to deliver" highest end of quality and not only look at commercial viability (specifically for increased participation from well known healthcare providers)
- **Commercial viability for the private sector provider**
 - In structuring the PPP terms, tariff/ pricing should be such that private partner is able to cover for the cost of operation while providing quality care

9



PPPs- Way forward in healthcare (1/2)

- PPPs have a untapped potential in expanding reach of super-specialty healthcare, especially in the hinterland to provide advanced and affordable care
- Can be done using existing or purpose build government infrastructure, supported clinically & operationally by private players
- Suggested Focus areas:
 - Transplants (LTP, KTP, BMT, Chest Surgery)
 - Cancer (including Day care Chemotherapy)
 - Hi-end Cardiac procedures
 - Complex Neuro procedures
 - Diagnostics: Tele-radiology/ Tele-pathology
 - Critical Care (eICU)

10



PPPs- Way forward in healthcare (2/2)

Suggested models for partnership

- ***Super specialty quaternary care hospital O&M Model***
 - Govt can set up a greenfield hospital & partner with private hospital to operate
 - Govt can get a private partner to operate its hospital/medical college hospital
- ***Box-in-box model***
 - Partner with a private provider to manage a department in a Govt hospital/medical college hospital on O&M model
- ***Diagnostic model***
 - Partner with a private player to manage the pathology/ radiology department in a govt hospital/medical college hospital on O&M model (CT/MRI)
- ***Hi end Digital health: eICU in remote areas***
- ***Telehealth: Digital OPD in remote areas***

Presentation 04 by Dr. Sachin Sharma, Director, Apex Hospitals (Health)

Concept –Critical Care Hope

Critical Care Hope "Guardian Angels of ICU", a Tele-ICU platform is taking tertiary level medical expertise to remote locations by making a network of partner hospitals to provide **Right Care to the Right Patient at Right Time** through the HOPE Command Centre where technology maximizes healthcare resources.

'Tele-ICU' platform is an innovative technology model, which allows a critical care expert to actively manage the needs of **60-80 ICU patients** across multiple locations, monitoring from a command center, as against 10-12 patients in the current scenario, with a critical care expert at the patient bedside.

This Tele-ICU model

- Increases the number of ICU beds that a critical care expert can reach.
- Optimizes cost & resources.
- Deploys automated warnings and diagnostic assistance to provide high-quality care to critically ill patients.
- Improves patient outcomes.

Systems for problem identification and optimizing treatment (SPIOT), are the **RIGHT** steps in the direction to leverage technology (Software, AI, ML) to achieve :



1. Enhance care co-ordination between stakeholders
2. Enhance the customer experience
3. Improve efficiency - optimize spend with outcomes
4. Streamline Clinical decisions & Outcomes.
5. Information availability & accessibility to patient/family
6. Expand customer & clinical access in the entire ecosystem



Mr. Mikey Kay (International Filmmaker & Journalist)

1

Way forward for PPPs in the sector (Suggestive)



HUB



Remote Site

How do we do it?

- ❑ ROBOT-like cart connected with Command Centre through technology.
- ❑ 24 x 7 dedicated team of critical care experts.
- ❑ Onsite coordinators to manage operations.
- ❑ Constant communication between the command center and the treating doctor.

2



HOPE Impact during the pilot project phase

Occupancy in 2021				
MONTHS	ANAND HOSPITAL	MAHAVEER HOSPITAL	JYOTI HOSPITAL	NIROGDHAM HOSPITAL
JAN	17	81	49	62
FEB	106	67	55	73
MARCH	113	69	51	96
APRIL	56	50	32	79

Occupancy in 2022				
MONTHS	ANAND HOSPITAL	MAHAVEER HOSPITAL	JYOTI HOSPITAL	NIROGDHAM HOSPITAL
JAN	19	95	58	71
FEB	123	81	63	89
MARCH	125	82	59	116
APRIL	67	62	36	88

Increasing patients treated at Pilot Partner Sites (Comparative Data of 2021-22)



Partner hospital is now able to treat more critical/complex patients



3

HOPE Socio-economic Impact during the project



Average distance from tier-2 & tier-3 cities - 275 KM (Approx.)

Average cost of patient transit (Rs. 30/KM) - Rs. 16,500

Associated Cost of family (Stay/Food/Travel)	Stay - 1000/Day, Food - 250/Day, Travel - 500/Day Total Associated Cost is Rs. 5250 (if ALOS - 3 Days)		
Factors	Cost in Tier 1 City	Cost in Tier-2/Tier-3 City	Difference
ARPOB (Average Revenue Per Occupied Bed)	Rs. 38,000	Rs. 5700	Rs. *34,300
Cost saved per treatment by family	15750 + 16500 + 102900 = 135150		
Total Patient treated in Mahaveer Hospital, Hanumangarh.	*1578		
*50% of patients (1578) could have been referred to higher centre without HOPE support.	*34,300 x *789 = Rs. 2,70,62,700 (Social Impact)		
If 10% die during transit (Some studies say 40% deaths) (As per the https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5124107/)	150 x 60,00,000 = Rs. 900,000,00 (Social impact)		

4

Adding Value to Volume

Impact created from management of poisoning cases at Mahaveer Hospital



Northern districts of Rajasthan traditionally see lot of poisoning cases (*Oraganophosphorus, Oraganochlorine* and *Paraquat*).

How Critical Care Hope improved outcomes

- Early start of protocolised treatment at partner hospital
- 24x7 monitoring support of command centre
- Supervision by Critical care team
- Involvement of Multi-disciplinary specialists

We have been able to manage 37 patients with parquat poisoning at our partner hospital in Hanumangarh.

विजनेस न्यूज

महावीर हॉस्पिटल को एपेक्स समूह की क्रिटिकल केयर होप ई-आईसीयू से जोड़ा

हनुमानगढ़, आईसीयू में भर्ती रोगियों के इलाज के लिए एपेक्स हॉस्पिटल समूह की ओर से क्रिटिकल केयर होप के माध्यम से ई-आईसीयू सेवा शुरू की गई थी। इस सुविधा से अब हनुमानगढ़ टाउन स्थित महावीर हॉस्पिटल को भी जोड़ा गया है। इसमें हॉस्पिटल के जल्दपूर सेक्टर से क्रिटिकल स्थिति में कहीं भी भर्ती मरीजों का त्वरित इलाज स्थानीय हॉस्पिटल में ही हो सकेगा। इस सुविधा के बाद गंभीर मरीजों को बड़े अस्पतालों में भेजने की बजाय स्थानीय अस्पताल में ही इलाज मिलने से उनके ठीक होने की दर बढ़ेगी। साथ ही रोगियों के परिवारों का बड़े शहरों में आने-जाने आदि का खर्च भी बच सकेगा। महावीर हॉस्पिटल के डायरेक्टर डॉ. प्रतापसिंह शेखावत ने बताया कि क्रिटिकल मरीज को अब जल्दपूर जाए बिना यहीं पर इलाज दिए जाएगा। इसमें क्रिटिकल केयर एंजिनियरिंग सेक्टर के माध्यम से सुविधा 24 घंटे प्रत्येक दिन उपलब्ध रहेगी। उन्होंने बताया कि गंभीर मरीजों के लिए शुरूआती समय बेहद महत्वपूर्ण होता है। इस दौरान उन मरीजों को इलाज मिल जाए तो उनका जान तक बचाई जा सकती है। इस सुविधा में ऑडियो विड्युओ के माध्यम से गंभीर मरीजों को जल्दपूर से एपेक्स डॉक्टर और महावीर हॉस्पिटल के डॉक्टरों मिलकर ट्रीटमेंट दे सकेगे। अब तक करीब 700 से ज्यादा केस का ट्रीटमेंट किया जा चुका है। इसमें से 250 केस पॉइजनिंग के आए थे। अब तक 85 प्रतिशत केस में सफल इलाज हुआ है।

Data of Paraquat poisoning from Mahaveer Hospital, Hanumangarh



PPP Project taken up by private players in that sector

- Acknowledging the healthcare burden and the vastly disproportionate urban-rural divide, it is safe to assume that for long-term and impactful change, the government and the private sector need to work together.
- Public-private partnerships (PPP) in India have already worked, with good success, for sectors like tourism, education, energy and more.
- While both the public and the private sectors have their advantages and fallacies, a strategic partnership that can get the best of both parties together, can actually be the answer to bridge the divide.

The prime examples which are running specifically in healthcare:

- Dialysis
- Laboratory
- Radiology

Key issues/constraints faced by private players during structuring and implementation.

There is a huge scope of critical care delivery in India and have a massive opportunity to reach the most remote areas through the ecosystem using technology and existing critical care expertise (restricted to the urban area only)



Our Proposal

Proposal

- ❑ We would request you guide us on how to start this relationship with the district hospital. Permission, assessment of the existing facility & coordination with the medical team.

Terms and conditions.

- ❑ We would request an initial confirmation in district hospitals and accessibility of our staff at the site.
- ❑ We work in complete confidentiality no data will be shared by us with the media, public and patient relatives.
- ❑ Remuneration of the solution can be discussed mutually.

Why are we doing it

- ❑ This will be a breakthrough revolution in the way care is provided in district hospitals, which we would like to do once we convince our leadership by proving our theme.
- ❑ Solution such as this is the way forward for the constant shortage of trained & skilled manpower in our country.

9

Critical Care Hope – Training Programs



D.S. HOSPITAL IN COLLABORATION WITH APEX HOSPITALS & CRITICAL CARE HOPE ARE ORGANIZING BASIC LIFE SUPPORT | BLS | & FIRST RESPONDER COURSE WORKSHOP

OBJECTIVES:

- Recognize the seriousness of the patient's condition or extent of injuries to assess requirements for first aid
- Administer appropriate first aid for life threatening injuries relative to airway, breathing and circulation and stability
- Understand certain life-saving emergencies and initiation of first responder care
- Successful transfer of the victim to Medical care system.
- Assist health care providers.

REGISTRATION DETAILS

Registration Fees
₹ 100/-

Please Call
Mr. Santosh Kulkarni - 9652031017
Mr. Subroto Rappal - 9948863576

91 9521198922 | connect@criticalcarehope.com

10

Critical Care Hope



गंगापुरसिटी भास्कर 06-07-2022



एसके हॉस्पिटल गंगापुर की नई पहल, क्रिटिकल केयर होप ई आईसीयू की सुविधा से जोड़ा

PARTNERSHIP ANNOUNCEMENT

HOPE Vinayak Hospital, Kanota.

We are glad to join hands with Vinayak Hospital, Kanota. We will now work together in our mission to let critical care reach every patient.

18 Pothohar street (Rajasthan & U.P.) 9521199922 connect@criticalcarehope.com

निरोगधाम हॉस्पिटल, अकलेरा को एपेक्स समूह की नई पहल क्रिटिकल केयर होप ई-आईसीयू की सुविधा से जोड़ा



मान्यता प्राप्त अस्पताल है, जिसमें 80 शय्या का अति आधुनिक जीवन रक्षक प्रणाली से सुसज्जित ICU की व्यवस्था के साथ, एक ही छत के नीचे सभी प्रकार की जांच जैसे की CT Scan, MRI, Cath ySc, डायलिसिस, ब्लड बैंक की व्यवस्था भी है। अस्पताल द्वारा RCHS व चिरजीवी योजना को अग्रेसर ईलाज नियुक्त कराया जा रहा है साथ ही चिरजीवी/मानसशा काई धारकों, RGHs, यह बीमा धारकों को परामर्श नियुक्त प्रदान किया जा रहा है।

निरोगधाम हॉस्पिटल के डायरेक्टर कंवर लाल मीणा ने बताया कि क्रिटिकल मरीज को अब जयपुर जाए बिना यहीं पर ईलाज दिया जायेगा। इसमें क्रिटिकल केयर एपेक्स ग्रुप की गई ई-आईसीयू की सुविधा से अब अकलेरा का निरोगधाम हॉस्पिटल भी जुड़ गया है। इसकी शुरुआत शनिवार से की गई। जिसमें हॉस्पिटल के जयपुर संदर से क्रिटिकल स्थिति में कहीं भी मरीज मरीजों का त्वरित इलाज निरोगधाम हॉस्पिटल, अकलेरा में ही मिल सकेगा। इस सुविधा के बाद गंभीर मरीजों को बड़े अस्पतालों में भेजने के बजाय निरोगधाम हॉस्पिटल, अकलेरा में ही इलाज मिलने से उनके ठीक होने की दर बढ़ेगी।

अस्पताल में सेकंड ओपियन की व्यवस्था भी उपलब्ध है जिसके लिये अस्पताल ने टैली मेडिसिन को द्वारा अन्य अस्पतालों से अनुभव बन रहा है ताकि मरीज को ईलाज के लिये दिल्ली, मुंबई, जयपुर इत्यादि बड़े शहरों जैसी सुविधा एक ही छत के नीचे उपलब्ध हो सके। किसी भी अस्पताल में एक छत के नीचे सारी सुविधाओं को होना मुश्किल है लेकिन निरोगधाम हॉस्पिटल में एक ही छत के नीचे सारी सुविधा अनुभवी विशेषज्ञ चिकित्सकों द्वारा उपलब्ध कराई जा रही है।

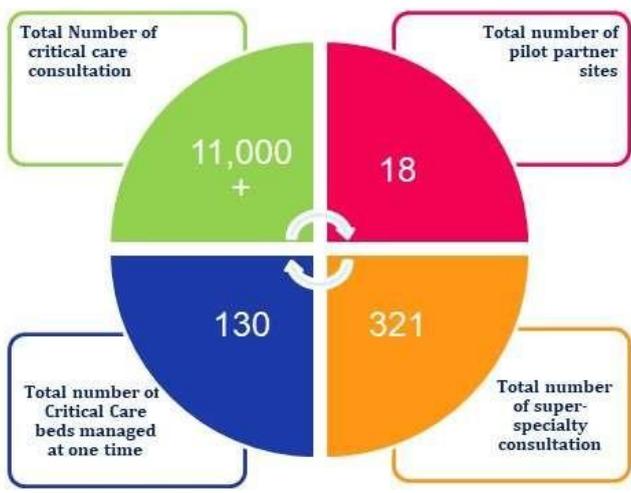
खबरों की दुनिया 05

आईसीयू ब्लॉक का हुआ भव्य उद्घाटन, पर्यटन मंत्री ने बताया बेहतर पहल शहर के सोलंकी हॉस्पिटल में एपेक्स समूह के द्वारा संचालित आईसीयू ब्लॉक का हुआ क्रियत उद्घाटन



शहरों की दुनिया

HOPE - Where have we reached



HOPE Pilot Associations

Presentation 05 by Rajeev Mutha, Chairman, Krsnaa Diagnostics Pvt. Ltd. (Health)



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PPP projects taken up by Krsnad Diagnostics Limited in Diagnostics sector
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Key interventions required to enhance private sector investments in the Diagnostics sector
Way forward for PPPs in the Diagnostics sector

www.krsnaddiagnostics.com



Company Overview

Krsnaa Diagnostics at a glance



Fastest growing and leader in Diagnostics Public Private Partnership space in India

2011
Incorporated

Aug-21
Listing at BSE and
NSE

1,900+
Diagnostics
Centre

16+ States
Presence in India

30+ Million
Patients Served
Since Inception

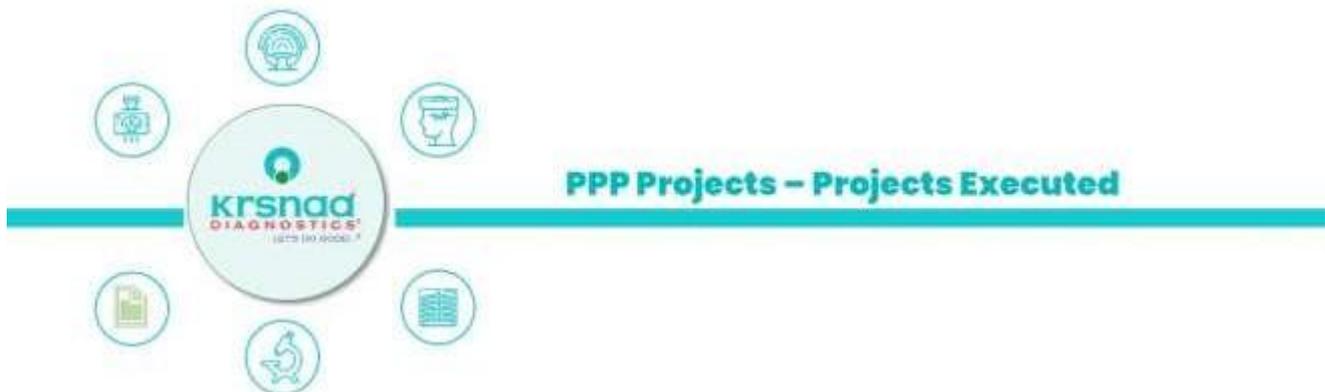
Krsnaa Diagnostics is one of the **fastest growing and differentiated diagnostic service provider** with services including radiology, pathology and tele-radiology

Provides **quality** and inclusive diagnostic services at **disruptive rates** across various segments with a focus on Public Private Partnership model

One of India's largest tele-radiology reporting hubs in Pune with capability to scale process of X-rays, CT scans and MRI scans and serves patients in remote locations

Workforce comprises of **200+ radiologists, 50+ pathologists, 7 microbiologists** and **over 2,700 qualified professionals** including clinicians, technicians and operators

www.krsnaadiagnostics.com



PPP Projects undertaken by Krsnaa – Key Highlights



28+ PPP Partnership agreements pan India



~ Rs 500* Crs+ of Investments made in establishing Diagnostic centers



3000+ Qualified workforce working pan India



India's largest tele-radiology hub operational 24 x 7



All projects successfully implemented and ongoing

www.krsnaadiagnostics.com

* Including projects under implementation

Pan India PPP across 17 States + UT



120+ CT Scan Machines

50+ MRI Machines

1800+ X-ray Machines

1500+ Collection Centers

50+ Processing Labs



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PPP Projects undertaken by Krsnaa – Impact Created



1 Crore+ lives touched every year



Employment generated for 4000+ skilled and semi-skilled workforce



Quality healthcare services provided in remotest location from Kargil to Kanyakumari



Ensuring adequate utilization of Govt. Infrastructure to deliver last mile healthcare services

Krsnaa Diagnostics Limited is a significant contributor and leader in Diagnostic PPP Space

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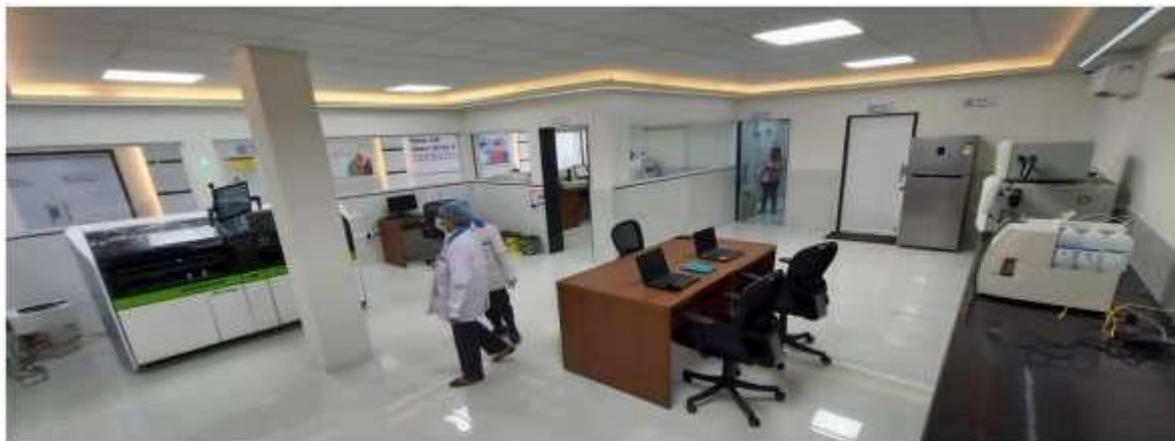
* Ongoing projects under implementation

Our Centers in Govt Hospitals



www.krsnaadiagnostics.com

Our Centers in Govt Hospitals



www.krsnaddiagnostics.com

Our Equipment Partners



www.krsnaddiagnostics.com

Our PPP Partners



www.krsnaddiagnostics.com



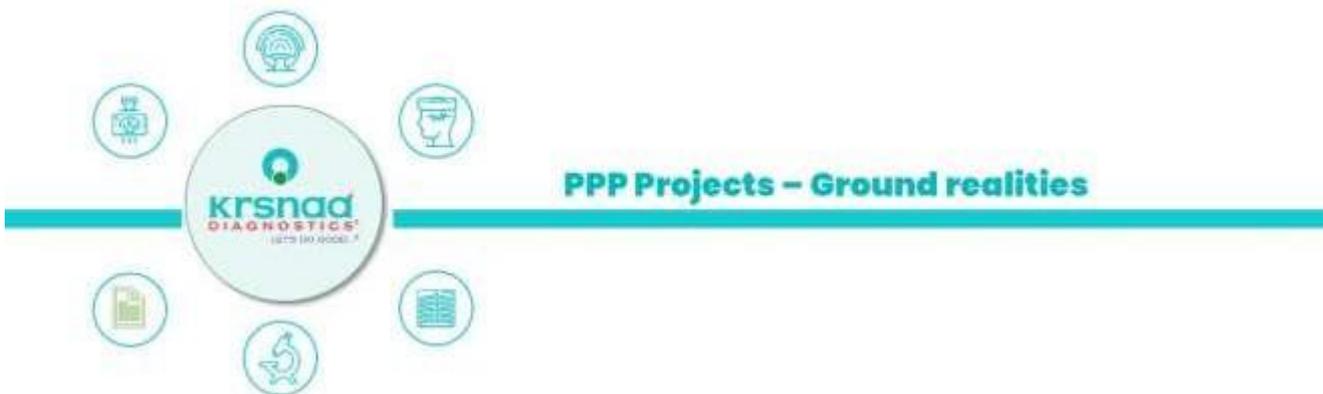
PPP Projects – Key Issues and Concerns

Key issues/constraints faced by Service Providers during Structuring and Implementation



Regulatory Mechanism (Delays in clearances or approvals/release of grants)	<ul style="list-style-type: none"> ➤ Delay in Administrative approvals from respective authorities ➤ Delay in site handover, ➤ Non-availability of proper power supply as per project requirement. ➤ The payment under various governments schemes is not received in time impacting ability to pay salaries, statutory dues, vendors etc on time.
Inadequate and skewed risk sharing	<ul style="list-style-type: none"> ➤ Agreements with Concessionaire are generally one sided with very little flexibility for changes. ➤ Entire risk is skewed towards Concessionaire – for e.g. providing services, getting invoices verified as well as collecting dues and paying statutory dues on time. ➤ Confirmation not provided on outstanding dues. ➤ Due to delayed payments – services to patients are hampered
Lack of long-term finance options	<ul style="list-style-type: none"> ➤ Unlike other PPP projects, lack of viability gap funding and other similar long term finance options are not available in Healthcare PPP
• Other Issues	<ul style="list-style-type: none"> ➤ Not treating Concessionaire as a partner ➤ Inadequate transfer of knowledge, transition during change of authorities

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Ground realities of PPP projects in the Diagnostics Sector



Investor’s (domestic as well as foreign) sentiments about PPPs in the sector	Investors both domestic and foreign have negative perception about PPP business especially on account of delayed payments, interference and risks due to change in Governments and consequential delays
Experience sharing about ground realities based on implementation of PPPs (one or two examples of major projects)	<p>Lack of communication regarding the project;</p> <ul style="list-style-type: none"> • Adequate space not available • Suitable site not identified • Ground people are not made aware of project resulting in lack of co-operation • Unwarranted delays due to overlapping of authorities and services
Common mistakes made while project conceptualization	<ul style="list-style-type: none"> • Project scope not well defined considering real need. • Relying on equipment vendor rather than service providers • Unreasonable demands in the tender document • Lack of understanding of ground realities.

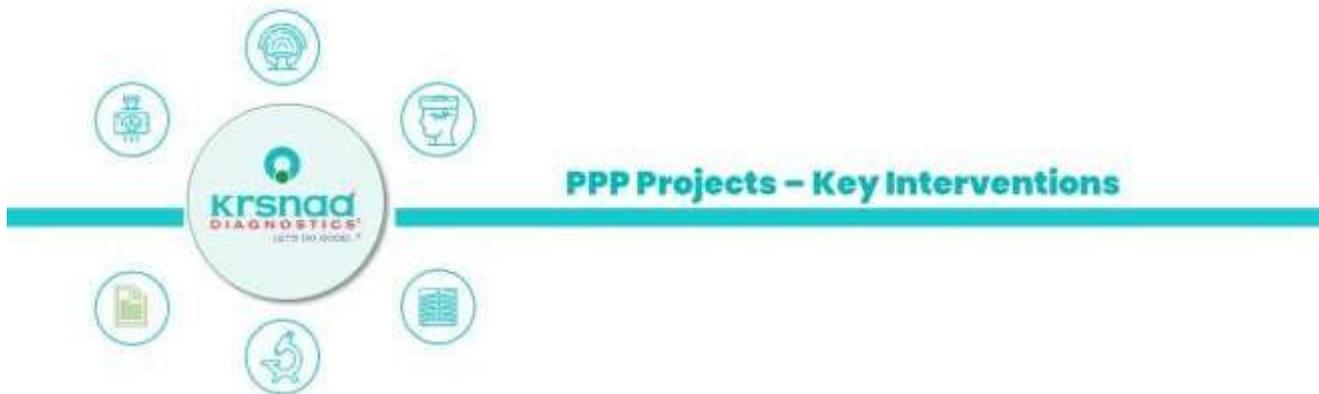
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Ground realities of PPP projects in the Diagnostics Sector



Mechanisms to address the same	<ul style="list-style-type: none"> • Views of subject matter experts to be considered during RFP / Tender stage • Gain deeper understanding and data points of ground realities. • Seek views of equipment manufacturer as well as services providers and best outcome to be chosen. • Project implementation takes longer duration (6 months to years), this impacts contract tenure. Contract tenure to be minimum 10 years • Views of Services provider are more important than OEM vendors as they only supply equipment and have no risk in project continuation. No additional financial support from vendors for PPP projects.
Common issues faced while collaborating with foreign investors	<ul style="list-style-type: none"> • Perception - doing business with Government • Foreign investors expect higher returns on investments (25% and above)
Concerns during implementation phase	<ul style="list-style-type: none"> • Tone of the top • Lack of clarity about project to ground staff • Rigidness of staff, lack of willingness to adopt new technologies. • Timely approvals, Influence of external interference

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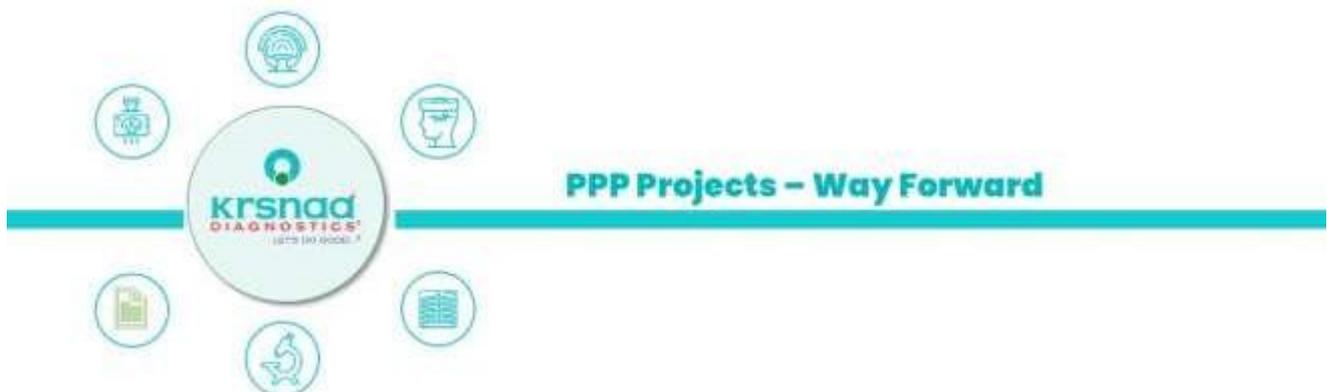


Key interventions required to enhance private sector investments in the Diagnostics Sector



<p>Developing MCAs customized for the sector and value chain</p>	<ul style="list-style-type: none"> • MCAs dedicated to Healthcare and especially Diagnostic sector can be considered. • Involve all the stakeholders in tender designing and execution process so that everyone is aware from initiation to execution • Centralised project monitoring platform for effective communication and escalation management
<p>Payment guarantees</p>	<ul style="list-style-type: none"> • Confirmation of outstanding balances post submission and invoice verification should be provided in 60 days • Atleast 80% of payment should be released within 40 days post invoice submission, 20% can be paid post audits and verification not exceeding 60 days of invoice submission • If no concern is raised within 60 days – it should be construed that invoices have been accepted
<p>Effective dispute resolution</p>	<ul style="list-style-type: none"> • Cure period should be considered / given for any default by service provider • Dispute resolution to be achieved through reconciliation and periodic governance meetings • In case arbitration is required – arbitrator to be appointed by each party as per the Arbitration and Conciliation Act 1996.

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Way forward for PPPs in the Diagnostics Sector



Overall potential of PPPs in the sector	<ul style="list-style-type: none"> • PPP's ensure quality healthcare services even in remotest location and thereby impacting / saving lives. Significant part of Indian population continues to reside in remote locations and hence PPP's are boon for people in such locations • PPP's are effective way of leveraging existing Government infrastructure and providing services to the people even at Tier II & Tier III locations. At such locations, almost 80% to 90% population rely on Government healthcare services. • Helps reduce Out of Pocket Expenditure in healthcare for the citizens • Allows infrastructure development without immediate outlay of capital expenditure by Government • Professionally managed services provided 24 x 7, 365 days to citizens at disruptive rates through public private partnerships
Approach to be taken by Government for boosting investors confidence in the sector	<ul style="list-style-type: none"> • Timely payments of Concessionaire • Agreements which reflect true Partnership between Service Provider and Government / Authorities. • Viability Gap Funding / Long term finance • Mechanism to ensure change in Governments do not impact Project. • Follow best practices implemented globally for e.g. PPP projects such as Turkey, where through PPP Significant improvements in Healthcare have been achieved.

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Way forward for PPPs in the Diagnostics Sector



Emerging areas which could potentially be developed on PPP model and preferred mode of PPPs.	<ul style="list-style-type: none"> • Cancer care and treatment • Diagnostic services in upcoming Medical Colleges • Hub and Spoke services in Pathology labs across PHC's, CHC;s and District Hospitals • Revamping existing Healthcare infrastructure (e.g. district hospitals etc)
Domain areas and type of PPPs where more collaterals/guidance materials (such as MCAs, risk allocation framework, etc.) can be prioritized.	<ul style="list-style-type: none"> • Separate legal framework for PPP agreements focussing on the required services. • Treat Concessionaire as a Partner • CGHS Rates to be reviewed every 3 years and aligned according to equipment <ul style="list-style-type: none"> • for e.g. CT Scan 16 Slice, 32 Slice and 128 Slice have prices ranging from Rs 1 Crs to Rs 6 Crs, however prices for tests are same in CGHS rate list irrespective of equipment used • for e.g. MRI Scan 0.3 Tesla, 1.5 Tesla and 3 Tesla have prices ranging from Rs 2 Crs to Rs 13 Crs, however prices for tests are same in CGHS rate list irrespective of equipment used • Pathology – e.g. Manual blood group rate as per CGHS is Rs 20, however no rate for automated blood group rate. <ul style="list-style-type: none"> • Rates should be according to technology / equipment used. • MAKE IN INDIA equipment to be given priority and reduce unnecessary dependence on requirements of having US FDA approved equipment

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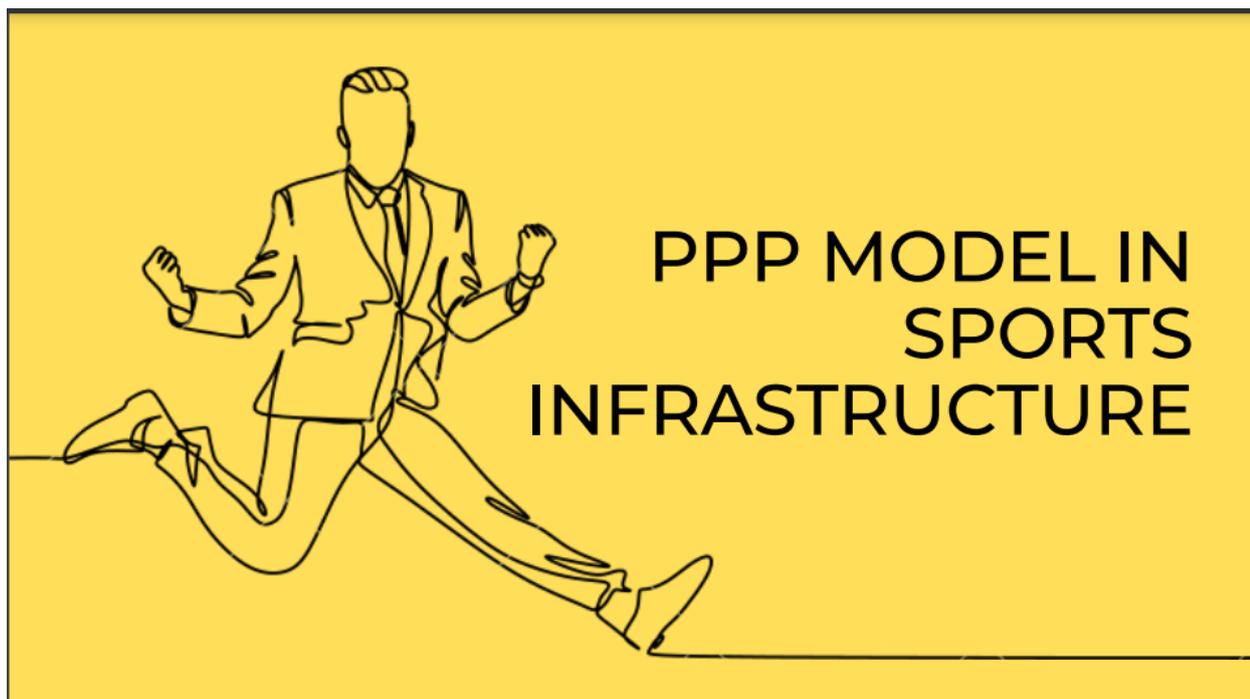


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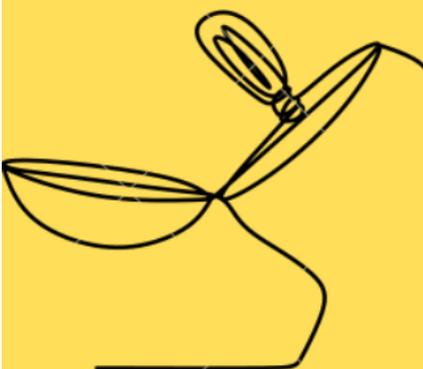


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Presentation 07 by Vinod Haridas, MD and CEO, Olympiados Holding Pvt. Ltd. (Sports)



IMPORTANCE OF PPP MODEL IN SPORTS INFRASTRUCTURE



A meagre 2 paisa per capita invested into the sports field is undoubtedly the reason why India stands at the 55th position in the Olympics tally despite of having 1.4 billion population. A nation is not alone built with bridges, roads and buildings. We need a healthy population, where sports become an integral part of nation building. India has the highest youth population and for them we need to build sports facilities. A PPP model ideally suits in this scenario.



OUR LARGER IDEA

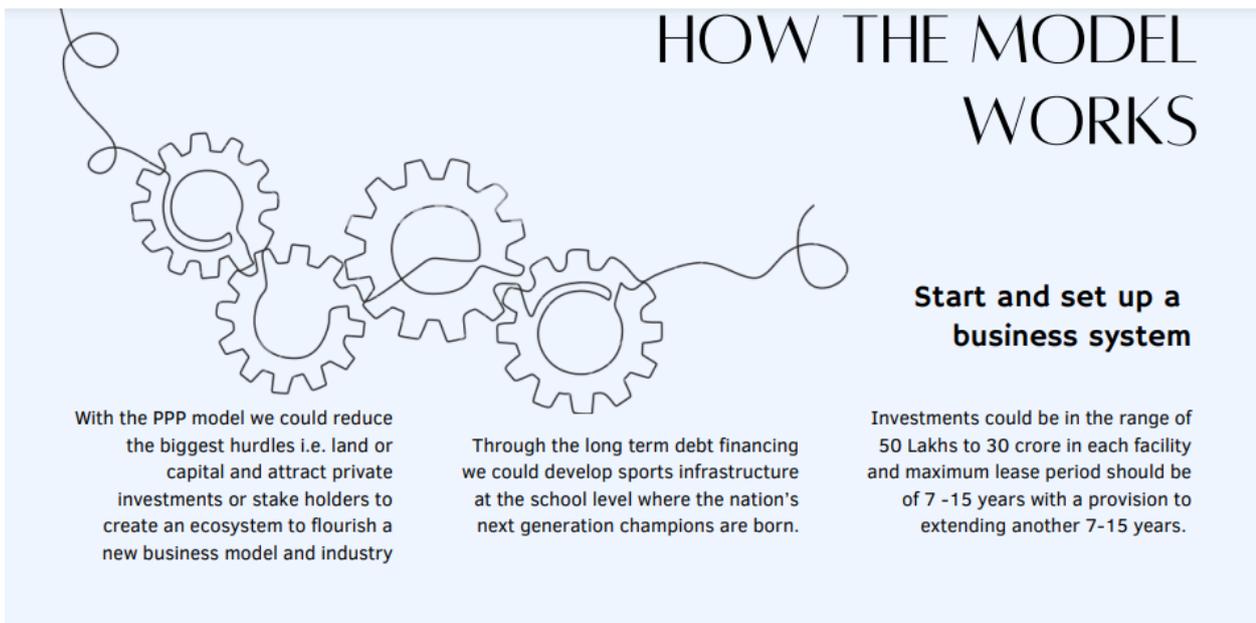
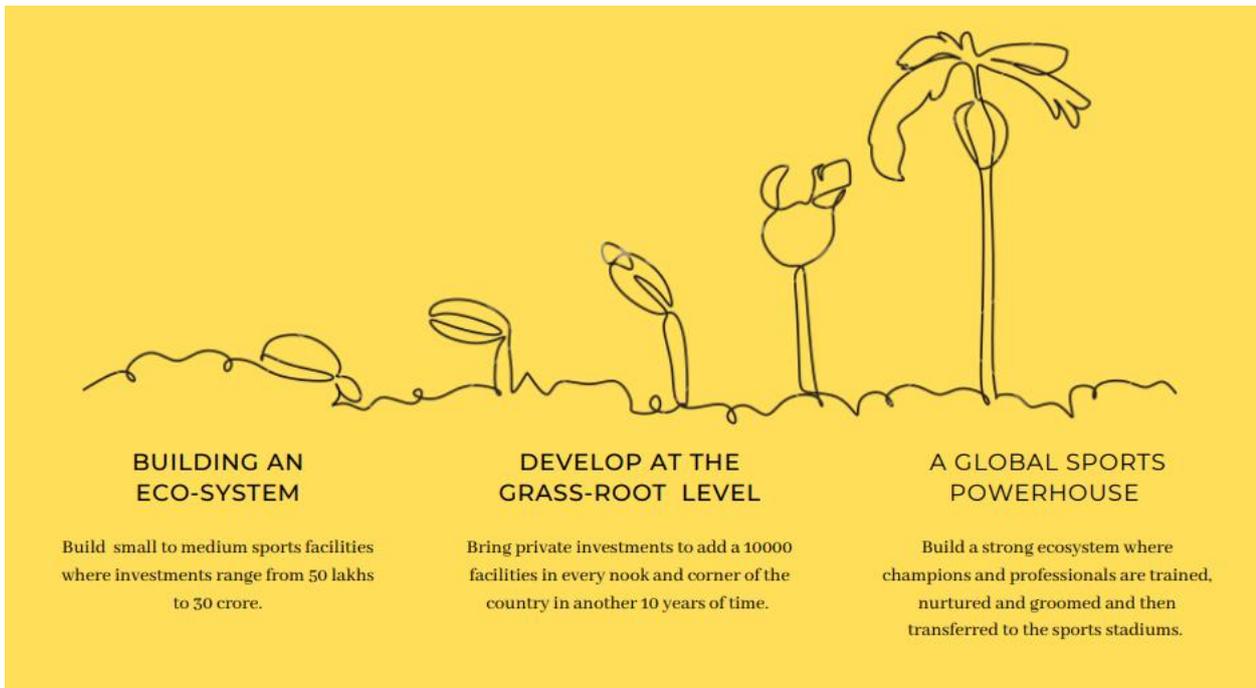
The question need to be pondered on if we double or triple the number of stadiums in the country, does that radically transform the sports industry? Is it fair to expect whether the medal tally also will be double?

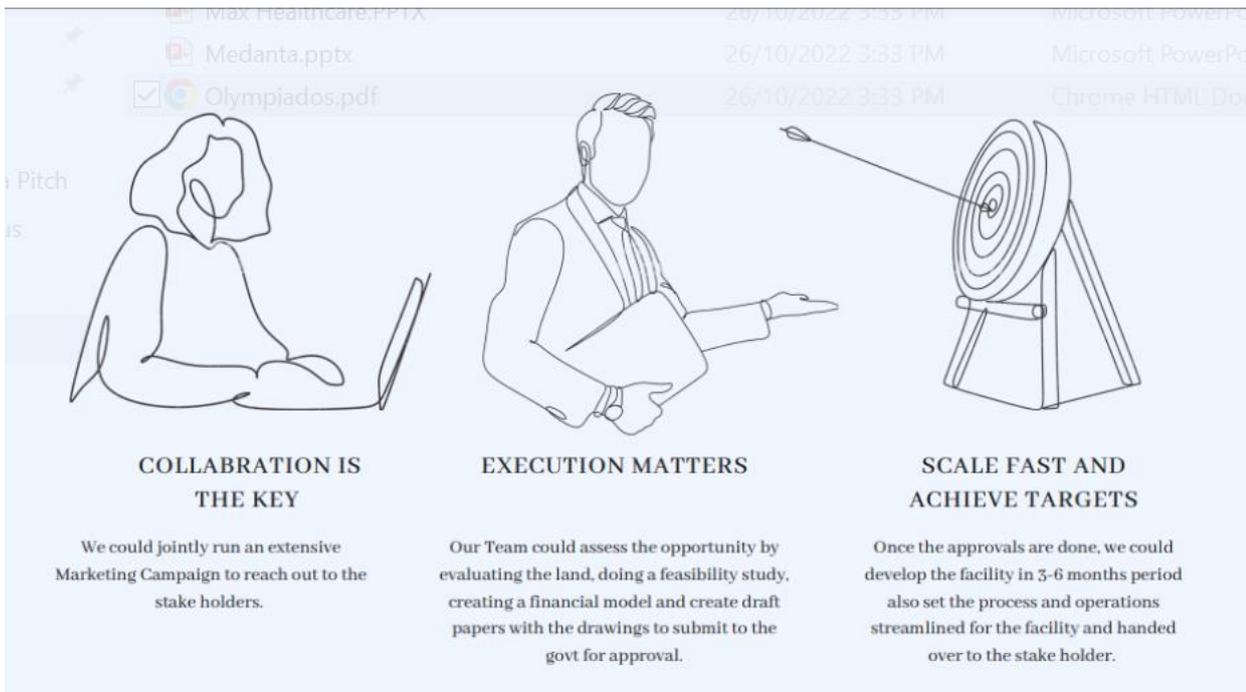
TheAnswer is NO.

Who is going to play in the stadiums ? Either the champions or the professionals. At the grass root level if the sports facilities are not been built, there won't be enough number of champions or professionals to play in the stadiums.

WHERE TO START







COLLABRATION IS THE KEY

We could jointly run an extensive Marketing Campaign to reach out to the stake holders.

EXECUTION MATTERS

Our Team could assess the opportunity by evaluating the land, doing a feasibility study, creating a financial model and create draft papers with the drawings to submit to the govt for approval.

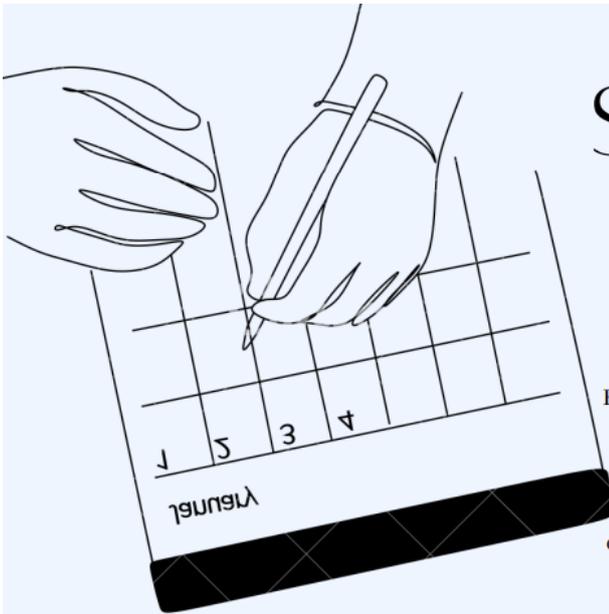
SCALE FAST AND ACHIEVE TARGETS

Once the approvals are done, we could develop the facility in 3-6 months period also set the process and operations streamlined for the facility and handed over to the stake holder.



EXPECTATIONS FROM THE GOVT

- +First and foremost recognize Sports as a standalone industry.*
- +Speedy processing and approvals.*
- +A sincere effort from the govt machinery to make the model work.*
- +In all earnestness government should recognize sports as an important function in the nation building process.*



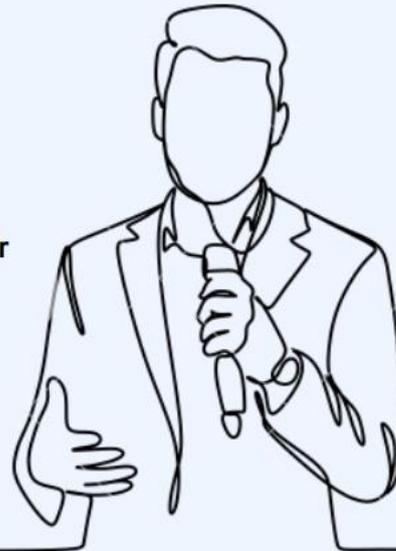
SYNOPSIS

Building Grounds for the Champions

Build small to medium Sports Infrastructure facilities at the grass-root level through a public private partnerships across the nation.
Enhance and elevate the game and Create a talent pool
Later build large sports complexes and sports stadiums for them to take their game to the next level.
By this creating a complete ecosystem for sports and a conducive environment for the sportsmen and also for creating an alternative career in sports field.

I will be happy to answer your

QUESTIONS



Session 02 - Water, Wastewater and Solid Waste Management



**Presentation 02 by Arindam Talukdar, Assistant General Manager,
Vishwaraj Environment Private Limited (Water)**



**Water Supply and
Waste Water
Management on
PPP**

VISHVARAJ ENVIRONMENT PVT LIMITED
ARINDAM TALUKDAR
14.09.2022



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- VEPL -PPP experience in Water Sector
- Key issues/constraints
- Ground realities of PPP projects in the sector
- Key interventions required to enhance private sector investments in the sector
- Way forward for PPPs in the sector (suggestive)

2

PPP Projects - Water sector

24x7 Water Supply project, Nagpur

- India's first full city 24x7 project on PPP
- 50:50 JV of Veolia and Vishvaraj
- **1.96 Mil Citizens benefited**
- Scope
 - End to end scope from WTP to customer tap including billing and collection
 - 785 MLD treatment | 3700 Km pipeline | 325,000 house service connection.
- Contract duration – 25 years
- Project cost – 550 Crs.
- Performance linked PPP contract with 50% investment by the operator
- Many national and international accolades including Prime Minister's "Best Water Practice" award
- VEPL recently disinvested its stake after 8 years of operation



3

PPP projects - Waste Water and Industrial Reuse

200 MLD STP

- India's largest STP project on PPP Model
- Infrastructure Developed
 - 200 MLD STP on SBR technology
 - 17 km of sewage pipelines
- Financially self sustainable project
- Meeting latest NGT disposal norms



190 MLD Reuse for Thermal Power Plants

- India's largest reuse project on PPP
- Infrastructure Developed
 - 190 MLD Tertiary Treatment infrastructure
 - 20 Km of conveyance pipeline
- 190 MLD treated water supplied to power plants
- Financially self sustainable project
- Resulted in national policy on reuse



Project Cost – 580 Crs

Ongoing PPP projects - Waste Water and Industrial Reuse

50 MLD Reuse for Chandrapur Thermal Power Plant

- STP & TTP
 - 45 MLD and 25 MLD STP
 - 50 MLD TTP
 - 9 Km of conveyance pipeline
 - Project Model – PPP-HAM
- Project Cost – 160 Crs**



Agra STP project under Namami Gange program



- STPs
 - Major STPs - 100 MLD, 34 MLD, 31 MLD
 - Distributed STPs – 10 Nos.
 - Project Model – PPP-HAM
- Project Cost – 595 Crs**

Maheshtala (Kolkata) STP project under Namami Gange Program



- STP – 35 MLD
 - Associated infrastructure – 4 pumping stations, pipeline
 - Project Model – PPP-HAM
- Project Cost – 190 Crs**
Debt Funding by AoB Austria, first European bank in Indian water sector

Key Issues/Constraints during Structuring and Implementation

- PPP Contract Structure
 - Non standard Escrow arrangements, FIs not comfortable
 - Credit rating of the client
 - Contract drafting bandwidth issues at ULB level
 - Delays in financial closure
- RoW and Land availability
 - Projects get stuck even if a small piece of intermediate land is not available
 - Road / Railway permissions take a long time
- Non availability of underground utility maps resulting in damages of utilities and delays
- Contractor Vs Operator mindset – Not paying due attention to long term O&M obligations, Works with EPC mindset
- People involvement is lagging during development phase resulting in resistance during execution



Ground Realities of PPP Projects in the Sector

- PPP Contracts are structured with pre-bias of EPC contracts
- Risks are not balanced, Skewed towards operator
- Financial closures are delayed, even FIs lag capabilities to appreciate project viability, very long internal approval processes
- Quality of consultants, DPR estimates are generally very low, does not reflect current market rates
- Delays for land handing over and RoW permissions
- Payment delays even after Escrow arrangements, billing approval processes remain same as EPC contracts



7

Key Interventions Required to Enhance Private Sector Investments in the Sector

- ✓ PPP project pipeline to be clearly demonstrated for operators to plan in advance
- ✓ Projects to be launched only post all land and RoW approvals are in place
- ✓ FIs to be sensitized by the authorities in advance and if possible, pre-approvals could be sought (Gulf has this practice)
- ✓ Model RFQs and RFPs for the sector to be introduced along with strong Escrow arrangements
- ✓ Payment securities – Municipal finances and disciplines are poor. FIs are uncomfortable lending based on municipal finances. Centre Ministry backup (Like NMCG) can resolve this problem big way
- ✓ People onboarding / communication right from development phase – PPP to 4P



8

Way forward for PPPs – Big Opportunities for Reuse

Challenge 1

Inadequate Sewage Treatment

- Sewage in India (MLD)*

	Volume
Generation	62,000
Treatment	22,000
Untreated	40,000

- Consequences

- Water borne diseases ~ 21%
- Person days lost ~ 10 Crs
- Pollution – Lakes / Rivers

Challenge 2

Water Scarcity

- Water Availability (BCM) **

	Supply	Demand
2008	1,123	634
2030	744	1,498

- Reasons

- Rapid urbanisation / industrialisation
- Extreme ground water extraction

Opportunity

Reuse of Treated Sewage for Non potable use (Missing link)

- Sewage is available within city limits to treat it to non potable use by industry
- Benefits
 - **Reuse potential – 5,600 MLD**
 - **Private investment – 30,000 Crs**
 - **Drinking water for 12 cr citizens**
 - Health benefits to citizens
 - Environment benefits
 - Secured source for industry

Thank You

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Presentation 03 by Rajneesh Chopra, Global Head of Business Development, VA Tech Wabag Ltd. (Water)



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- PPP projects taken up by private players in that sector
- Key issues/constraints faced by private player during structuring and implementation
- Ground realities of PPP projects in the sector
- Key interventions required to enhance private sector investments in the sector
- Way forward for PPPs in the sector(suggestive)

PPP projects taken up by private players in that sector

- **Name of the Project:** KMDA HAM Project, Kolkatta under Namami Gange Program for construction of 3 Sewage Treatment Plants of 187 MLD
- **Total Project Cost:** 417 Cr
- **Current status:** Under construction 70% completed
- **Project Successful / Stalled / Failed / Terminated:** Under construction

3

Key issues/constraints faced by private player during structuring and implementation

For example

- **Regulatory Mechanism (Delays in clearances or approvals/release of grants):** Declaration of Effective Date before a) handing over of the site & delay of 3 to 5 months b) before access road construction in scope of Authority c) Delay in approval of engineering drawings, Delay in project engineer approval etc
- **Inadequate and skewed risk sharing:** Only 85% debt is paid in case of termination due to Concessionaire EOD (model CA/road CAs have 90%)
- **Lack of long-term finance options:** a) PSU Banks not willing to lend without Sponsor corporate guarantee while NBFCs are open same with conditions b) While bidding concessionaire is allowed 100% exit at COD+3, lenders want to hold them till end
- **Other Issues:** Extension of Time insisted for allowing drawal of loan while delay in project is due to Authority CPs and EOT takes time.

4

Ground realities of PPP projects in the sector

- Investor's (domestic as well as foreign) sentiments about PPPs in the sector :

Overseas investors keen in sector see sizes are small for investment – they look for indemnity for ESG related areas while Authority is reluctant and takes significant time for decision

- Experience sharing about ground realities based on implementation of PPPs (one or two examples of major projects) : a) Delay due to ESIA related issues like MSW site next to STP site and issue of indemnification held project for 1.5 years to start
- Common mistakes made while project conceptualization : PCB holding Consent to Establish for new NGT norms while Tender is released before new norms – delay of 1 year seen in another NMCG project (BUIDCO in Bihar)
- Mechanisms to address the same : NGT to be fair that when 70% domestic sewage is not treated, they don't hold new plants for licence for new NGT norms as delay means raw sewage entering water body for that time
- Common issues faced while collaborating with foreign investors : Size and ESG related
- Concerns during implementation phase : In KMDA site, in Baranagar, 100 pigs died in short time in MSW site next door. Many key workers left site due to same. No response to letters from Authority

5

Key interventions required to enhance private sector investments in the sector

For example

- Developing MCAs customized for the sector and value chain : MCA which is used PAN India without deviations will be great advantage
- Payment guarantees : This is available in NMCG projects. But when States or Municipalities go for revenue generating PPP projects, counter party risk of such municipalities and assurance of payment from end user seen as big risk by lenders. A central insurance mechanism will go long way to develop Indian sub-continent
- Effective dispute resolution : No comments
- Tax incentives for repatriation of capital by foreign investors : No comments

6

Way forward for PPPs in the sector

- Overall potential of PPPs in the sector : Great – Billion Dollar possibilities
- Approach to be taken by Government for boosting investors confidence in the sector : Address the counter party risk of States and municipalities through an insurance mechanism (details can be provided) so that large number of infrastructure in all places of need comes up quickly
- Emerging areas which could potentially be developed on PPP model and preferred mode of PPPs : HAM or VGF is preferred
- Domain areas and type of PPPs where more collaterals/guidance materials (such as MCAs, risk allocation framework, etc.) can be prioritized.

Presentation 04 by Payal Saha, Manager-Business Development, and Ayan Roy, Manager-Legal and Contracts, SUEZ India (Waste and Water)

SUEZ IN INDIA
LEADER IN WATER TREATMENT AND DISTRIBUTION MANAGEMENT

Contributing to the sustainable development of the cities of tomorrow

The slide features a blue background with a large, stylized graphic of water pipes on the right side. The text is in white and blue. The Suez logo is at the bottom center.

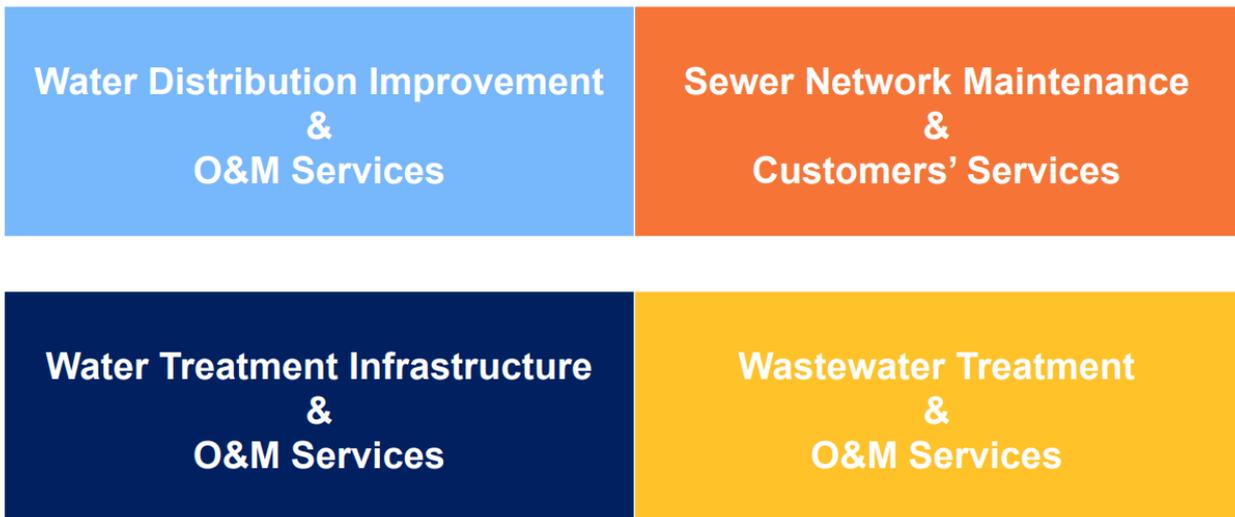
An International footprint
Meeting local problems



SHAPING A SUSTAINABLE ENVIRONMENT FOR OVER 40 YEARS IN INDIA



Current Activities in India





PPP projects by Suez India in Water Sector

07/02/2020 | Document title (personalise the footer with "Insert / Header and Footer")



5

Malviya Nagar- Delhi



KEY FIGURES

- Started in 2013
- PPP with Delhi Jal Board
- 51,000 Connections
- Integrated water supply improvement programme
- 400.000 population in Malviya Nagar UGR Command

Scope

- Reduce Non-revenue water, increase services level, prompt grievance redressal and improve revenue collection
- Detection of leaks with Helium Leak Detection technique

Results Achieved

- 60% increase in the number of registered connection
- 75% increase in billed volume
- 800% increase in revenue
- Significant reduction in contamination
- Saved Approx 3 lakh KVAH annually by decommissioning tube wells

6

Malviya Nagar: Roles & Responsibilities

Client roles and responsibility

- Secure availability of water at UGR.
- Pay energy bills
- Establish Tariffs (same as in rest of Delhi), pay subsidies
- Facilitate disconnections of illegal and non paying customers
- Pay Operator for Capex and Opex
- Contract Monitoring

Operator's role and responsibilities

- Operation & Maintenance of Network
- Customer Services (meter reading, billing, complaint handling)
- Collect user charges and deposit in escrow account
- Design & rehabilitate distribution system, Achieve KPIs
- Invest its portion of the Capital Cost

7 |

7 |

Malviya Nagar: Pre-tender Exercise by Client

- DJB did extensive research on various PPP models in the water sector globally
- Appointed a transaction advisor to prepare detailed project report and recommend suitable project/ contract structure.
- Detailed study and project report was prepared.
 - Study covered existing system, service levels, sample network condition assessment, existing manpower requirement, project area demand and supply analysis
 - Estimation of capital cost for network rehabilitation and cost of performance-based O&M
- Advisor recommended a project structure (PPP model) with
 - Gross Rate/ M³ of volume billed and collected as bid variable
 - Departmental estimate for Gross Rate/ M³ based on financial model
 - Definition of KPIs and performance measurement system
 - RFQ + RFP and draft concession agreement
- Discussion/ workshop with potential bidders on the project structure
- Funds tie-up (State Govt, JNNURM). Discussion with banks for their comfort in lending to private companies for this project
- Legal vetting of tender/ agreement document and specifically the escrow agreement

8 |

8 |

Coimbatore- Tamil Nadu



- **KEY FIGURES**

- Population of 1.6 million inhabitants
- 1,50,000 Consumers
- 26-year project

- **SCOPE**

- Design, Rehabilitation and Implementation of Distribution Constructing Service Reservoirs/Pumping stations (34 existing and 29 New)
- Laying Distribution System (1122 Km existing and 250 Kms new)
- 150,000 Connections with metering, Meter Reading, billing & Collection
- Customer Services including two contact centers and 4 billing centers
- O&M from MBR to Customer Taps

9

Project Scope: Scope of Works

- Bulk Water Supply continues to be under TWAD Board
- Battery limit of this projects starts from outlets of Master Balancing Reservoirs (MBRs)
- Design, Rehab and Implementation of Distribution system (reservoirs, network, HSCs, meters, valves, etc.)
- Operator given flexibility to design and make BOQ during Study period
 - DPR and Tender BOQ are for guidance only for bid preparation
- O&M of distribution system
 - O&M phase commences simultaneously with Works Phase (post study period)
 - KPI objectives – 24x7 supply, reduce NRW, water quality and CRM

101

Key issues/constraints faced by private player during structuring and implementation

- ⇒ **NON-STANDARD FINANCIAL MODELLING,**
defining the template and variables
- ⇒ **NON-PERFORMANCE OF ESCROW MECHANISM**
- ⇒ **CHALLENGES IN PROCUREMENT OF PERMITS AND LICENSES,**
- ⇒ **CONTRACT ADMINISTRATION CAPACITY**
Limited experience of PPP among core project team and auditors
- ⇒ **CONFLICT BETWEEN THE STATUTORY/GOVERNMENT BODIES**
- ⇒ **POOR PUBLIC PERCEPTION ABOUT PRIVATIZATION**
- ⇒ **POLITICAL RISK**
- ⇒ **UNTIMELY REDRESSAL OF DISPUTES**

Key issues/constraints faced by private player during structuring and implementation

COMMON MISTAKES MADE IN CONCEPTUALIZATION:

⇒ **RISK ALLOCATION PRINCIPLES TO INCREASE THE FINANCIAL TENSILE STRENGTH**

- Lack of anticipation of all the risks
 - Consideration of all parameters impacting on project viability – IDC, ROI
 - Risk Return Ratio
- Improper sharing of risk

⇒ **EXPERIENCE OF TA / CONSULTANT IN SIMILAR PROJECTS**

⇒ **TECHNOLOGY AGNOSTIC TENDERS**

- lead to ineffective technology selection considering cost of technology

- The transaction advisor must include a technical consultant for the “Evaluation of offered system”

⇒ **MINDSET OF THE CLIENT WHILE CONCEPTUALIZATION**

- PPP agreement must reserve the ethos of the “Partnership” arrangements rather than typical Contracting arrangement.

Ground realities of PPP projects in the sector

⇒ LACK OF INTEREST AMONG BANKS AND FINANCIAL INSTITUTIONS TO PROVIDE NON-RECOURSE PROJECT FINANCE

- Creditworthiness of Municipal bodies
- Non-reliability of payment mechanisms
- Time and cost overruns

⇒ LACK OF PROVEN SUCCESS STORIES IN PPP IN WATER

Recommendations for Water Management Project Tenders

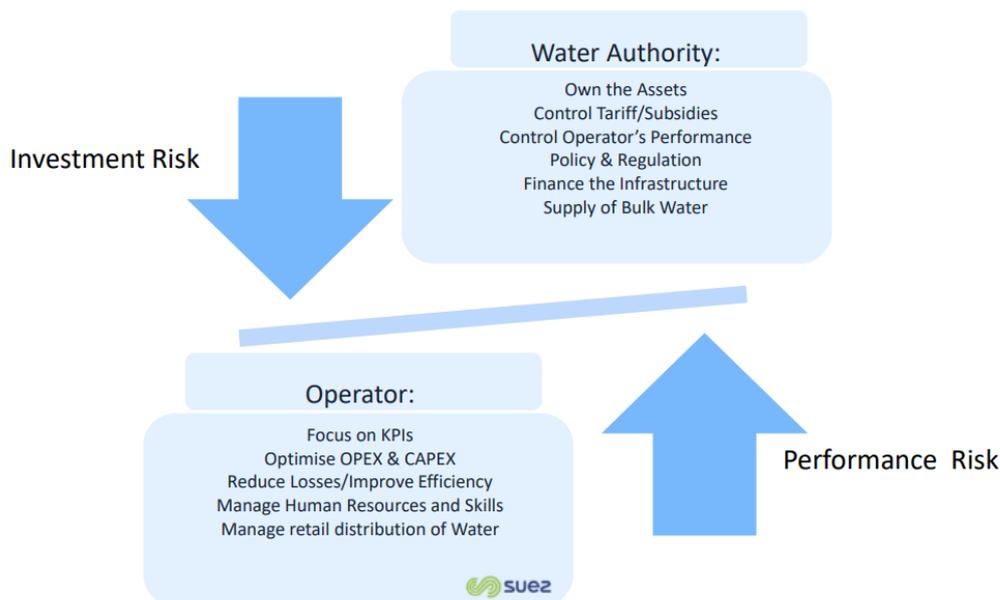
- **Define your Vision and Key Objectives**
 - Asset Creation or Sustainable Operations or Both
 - Target KPIs
- **Carryout studies upfront before launching the tender**
 - Existing assets, Customers, Maintenance history and Personnel
 - Reliable data always help in successful execution
- **Pre-qualification criteria should reflect the expertise required for the project**
- **Secure Financing for both Upfront Construction, O&M and Replacement Capex**
 - Ensure timely payments through ringfenced escrow account
- **Adopt one of the globally acceptable contract agreement template like that of FIDIC (very successfully done in ADB projects)**
- **Role of following is very critical especially during the early phase of project**
 - Counterpart organization of the two parties to develop common understanding of project priorities and implementation schedule
 - Competent Independent Engineer to resolve ambiguities and even take corrective measures in the interest of project

To Summarize

- **Structure wherein Operator has control on Works and O&M**
 - Works as BOQ items which is developed by bidder during Study Period
- **Projects should not be Works dominated, but has equal or more O&M orientation**
 - Not necessary to change all pipes and assets
 - Design and O&M Revenue should be atleast 50% of Works Value
- **An Operator adds value in**
 - Optimization (or deferred) Capex enabling savings for the Client
 - Improving Operational efficiency, superior service delivery, better customer satisfaction
- **Strong O&M scope is a must have for improving KPIs; should commence after Study period**
- **Focus on adopting few KPIs; for emerging markets, focus first on four KPIs**
 - Increase in Service Coverage of piped network
 - NRW reduction
 - Water quality
 - Customer Complaints Resolution



Balance of Roles





nalise the foote

leader and Foot

17

Presentation 06 by Pranay Kumar, General Manager, JITF Urban Infrastructure Ltd.

P R JINDAL GROUP

- P R Jindal Group is a part of O P Jindal Group. The flagship company is Jindal Saw Ltd.
- P.R. Jindal group is the pioneer and the largest developer in India in Waste to Energy (WTE) domain. Group has made significant strides in developing the waste to energy business as follows:
- Total Portfolio of 117 MW spread across India.
- Total 53 MW of Operational and balance 66 MW in pipeline/under implementation.
- First company in India to demonstrate success of WTE project, with commissioning of 23 MW project at Okhla, Delhi in Sep 2012.
- The group has been awarded various awards including prestigious clean earth award and best performing waste to energy plant.
- Total investment made in WTE is ~Rs. 1500 Cr and a future commitment of ~Rs. 1200 Cr in coming 2 to 3 years.

PPP Project undertaken by company: WTE Sector



S. No.	Name of the Project	Capacity MW	Project Cost (Rs in Crore)	Project Status	Remarks if any	Concessional Authority/Year of Award
1	Timarpur Okhla Waste Management Co. Ltd.	21	317	Operational Since Sept-2012	Successful	Municipal Corporation of Delhi-2008
2	Jindal Urban Waste Management (Guntur) Ltd	15	362	Operational since 1st Oct-2021	Successful	Guntur Municipal Corporation - 2016
3	Jindal Urban Waste Management (Vishakhapatnam) Ltd	15	359	Operational since 23rd Feb-2022	Successful	Greater Visakhapatnam Municipal Corporation - 2016
4	Tehkhand Waste to Electricity Project Limited	25	465	COD is expected by Nov-2022		Municipal Corporation of Delhi-2008
6	Jindal Urban Waste Management (Ahmedabad) Ltd	15	315	Project Under implementation		Ahmedabad Municipal Corporation -2016
7	Jindal Urban Waste Management (Jaipur) Ltd	15	315	Project Under implementation		Nagar Nigam Jaipur - 2016
8	Jindal Urban Waste Management (Jodhpur) Ltd	8	202	Project Under implementation		Jodhpur Municipal Corporation - 2016
9	Jindal Urban Waste Management (Tirupati) Ltd	6	104	Land Not Provided by ULB	Project Cancelled	Tirupati Municipal Corporation - 2016
Total		120	2439			

Key Issues/Constraints: During Structuring and Implementation



Regulatory Challenges

- No standardization in project development framework with transfer of all obligations on the developers Vs no effective mechanism for mitigation risk related to default by ULB's/DISCOMs. (Non fulfilment of LC payment Condition)
- Institutional complexity in service delivery –reflected in multiple agencies- (PHEDS, Boards and municipalities etc.), overlapping functions, lack of clarity of roles and responsibilities.

Financial Challenges

- Financial status of most municipalities and DISCOMs is in bad condition which results in challenges in achieving financial closure for the projects.
- WTE is high capital-intensive project which required long-term financing and currently only limited FI's provides long term financing.
- Issues related to financial closure without credit enhancement from promoters.
- No Risk mitigation to PPP projects for abnormal inflation due to unexpected global economic condition.

Ground Realities of PPP Project in the WTE Sector



Investor's Sentiments

- Capital intensive projects with low returns and high risk resulting in low sentiments of foreign investors.
- Restrictions for transfer of equity/Ownership during the project period under project documents/financing documents.
- Contract with third tier of governments, which increase the perceived political risks for private sector investments.

Experience Sharing –JUIL

- No Mechanism to address post bidding change in scenario i.e Project awarded considering about 40% revenue from CER's as per the tender and subsequently CER's market collapsed after the Award.
"No Compensation for loss of revenue to developer"
- Lack of acceptance level of WtE. plants among public (NIMBY Syndrome)-resulting in post bid nuisance.
- Mechanism for enforcement of Obligation under project documents- payment default, Waste Quality/quantity

Project Conceptualization –Common Issues

- Faulty bid process design with lack of proper feasibility studies about the project
- Lack of stakeholder's involvement in project conceptualization.

Intervention Required to Enhance the Private Sector Investment in WtE Sector



Regulatory Support

- Acceptance of central government in pushing WtE projects as RE installations
- Land should be allotted free of cost and creation of buffer zone for WtE.

Financial Support

- Facilitation of preferential cost-based tariff for WtE projects.
- Support to DISCOM in improving their financial health, including creation of separate funds of WtE projects for timely payments.
- Financial support to the WtE sector by way of tipping fee and subsidy/viability gap funding.
- More Financial Institutions/ Banks to be mandated for funding WtE Sector
- Tax benefits to be provided to WtE sector for capital goods as there is no GST credit available.

Way forwards: WtE Sector



- Customized bidding process based on feasibility report
- Single window clearances for WtE projects
- Guaranteed payment mechanism including project specific subsidy to reduce burden on DISCOMs
- Tax exemption/concession for WtE projects.

Presentation 07 by Masood Mallick, CEO, Re Sustainability Limited (Waste)



INTEGRATED SUSTAINABILITY SOLUTIONS



- One of Asia's largest providers of environmental solutions
- Comprehensive, integrated capabilities across segments
 - Deep domain expertise backed by advanced technologies in waste processing, WTE, recycling & resource recovery and other environmental solutions
- Sustainability deeply rooted in the company's vision and operations
- International business includes presence in South-East Asia, Middle East, Africa and US





INTEGRATED SUSTAINABILITY SOLUTIONS

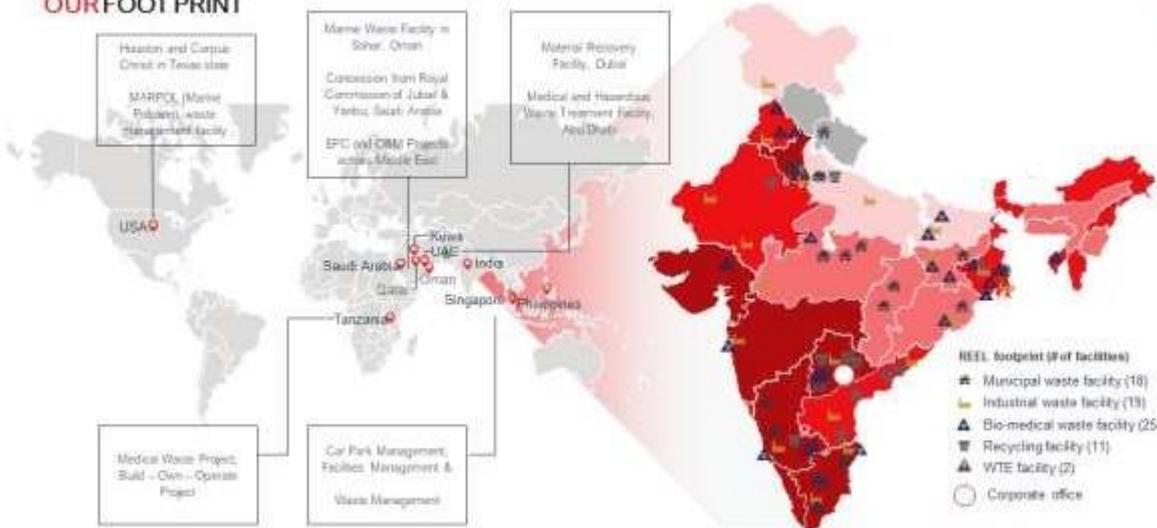


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Slide 3



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Slide 4



RE SUSTAINABILITY'S PRESENCE (MSW SECTOR) IN INDIA



Integrated (11,770)



Hyderabad (8555)	Dhanbad (378)	Sagar (188)
Delhi (2675)	Dehradun (392)	Katni (123)
Raipur (683)	Haldia (55)	Koyambedu (190)
Bilaspur (232)	Rewa (298)	

C&T (1,110)



Chennai (900)
Bhubaneswar (155)
New Town (55)

P&D (359)



Belgaum (237)	Shimoga (122)
---------------	---------------

Others†



Noida (162 kms)
Delhi

(Capacity in TPD)

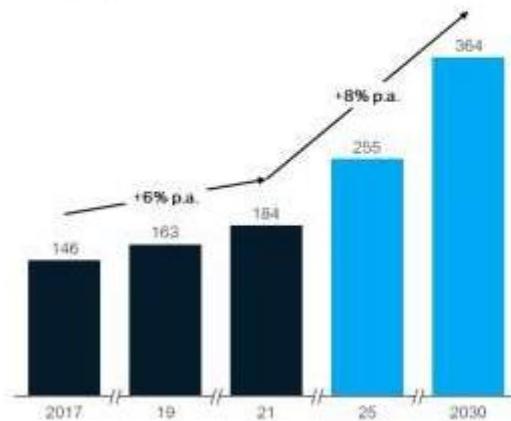
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Side 5

URBAN WASTE GENERATION IN INDIA

Urban MSW generated in India

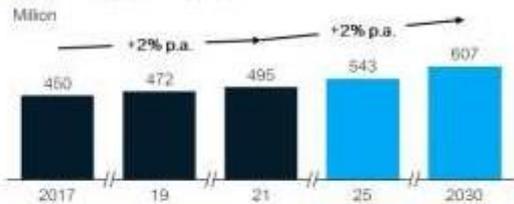
'000 MT per day; FY



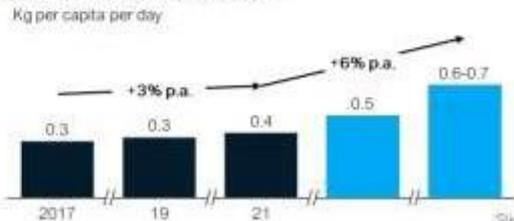
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1 Urban Population (India)



2 Per capita MSW generation



Side 6



TOP 30 CITIES (40-45% OF WASTE) STILL HANDLE C&T IN-HOUSE AND DO NOT HAVE P&D SITES (1/2)

- Ability to process portion of waste collected
- Ability to process all waste collected
- C&T managed by ULB
- Ability to process all waste collected
- Contract in different stages of setup/ tender
- C&T managed by local player

City	SS Rank ¹	Waste gen. (TPD) ²	C&T	P&D	WTE	
Mumbai (MH)	497	13,500	ULB	Partial ³	Awarded	
Delhi (UT)	4/1498 ²	11,750	LP	LP	LP	
Chennai (TN)	904	6,500	LP	None	None	
Hyderabad (TS)	37	6,000	LP	LP	LP	
Bangalore (KK)	303	5,200	local	None	None	
Kolkata (WB)	N/A	4,750	ULB	None	None	⊖
Ahmadabad (GJ)	27	3,300	local	None	Awarded	⊖
Surat (GJ)	2	2,500	Awarded	Partial	None	⊖
Pune (MH)	10	2,200	ULB	None	None	⊖
Kanpur (UP)	182	1,800	no	None	None	⊖
Jaipur (RJ)	455	1,700	ULB	Partial ³	Awarded	⊖
Lucknow (UP)	34	1,600	LP	Partial	Awarded	
Vadodra (GJ)	22	1,500	LP	Partial	None	
Nagpur (MH)	228	1,250	LP	None	Awarded ⁷	⊖
Pimpri Chinchwad (MH)	173	1,250	local		No	⊖

1. Estimate for 2021, approximate values
2. There are 6 cities in Delhi with total capacity of 6,000 TPD
3. managed by local MP's waste
4. No-tender and take facility in managing by existing waste
5. Composting plant by ULB
6. Waste recycling plant
7. awarded to developer
8. awarded to Ande
9. Awarded to Ande

Note: LP indicates national waste management established player

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Slide 7

TOP 30 CITIES (40-45% OF WASTE) STILL HANDLE C&T IN-HOUSE AND DO NOT HAVE P&D SITES (2/2)

- Ability to process portion of waste collected
- Ability to process all waste collected
- C&T managed by ULB
- Ability to process all waste collected
- Contract in different stages of setup/ tender
- C&T managed by local player

City	SS Rank ¹	Waste gen. (TPD)	C&T	P&D	WTE	
Indore (MP)	1	1,200	ULB ²	Partial ³	No	⊖
Coimbatore (TN)	1531	1,200	Local	Partial	No	⊖
Ludhiana (PB)	519	1,100	ULB ²	Partial ³	No	⊖
Howrah (WB)	N/A	1,100	Local	No	No	⊖
Meerut (UP)	296	1,000	Awarded	No	No	
Agra (UP)	234	1,000	LP	Awarded	Awarded	
Bhopal (MP)	19	900	LP ⁴	Partial	No	⊖
Thane (MH)	40	900	LP	Partial	No	
Navi Mumbai (MH)	4	900	LP ⁴	Partial	No	
Kalyan Dombivli (MH)	242	900	ULB	No	No	⊖
Vasai-Virar (MH)	311	800	ULB	Partial	No	⊖
Bhubaneswar (OD)	771	800	LP	LP	Awarded	
Vijaywada (AP)	3	750	ULB	Partial	No plant	⊖
Amritsar (PB)	392	750	LP	Partial	No	⊖
		750			No	⊖

1. Estimate for 2021, approximate values
2. There are 6 cities in Delhi with total capacity of 6,000 TPD
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Slide 8



EXECUTION CHALLENGES FACED BY THE INDUSTRY



Financial health of ULBs

- Most ULBs have weak financial state with reliance on grants from Centre and States as major source of revenue with ~55% coming from grants
- Any decline in Central and State grants/ budget allocation could adversely impact ongoing and new MSW management projects
- ULBs do not make timely payments to suppliers/ contractors even with available funds



Not In My Backyard (NIMBY)

- MSW facilities (pre-processing, transfer stations, landfill sites, etc.) sometime face protests from nearby residents interrupting operations
- Protests lead to delay in project commissioning and initiation
- Negative perception of health impacts of nearby MSW facilities



Low Segregation at Source

- Segregation of waste into different storage bins at household is currently severely limited
- Most ULBs have collection vehicles equipped to store domestic e-waste, bio-waste, wet and dry waste –but is not practiced currently

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Slide 9

ONLY 17 OF THE TOP 30 ULBS IN INDIA HAVE INVESTMENT GRADE CREDIT RATING REFLECTING HIGH RELIANCE ON TRANSFERS FROM STATE AND CENTRE



Top 30 metro ULBs

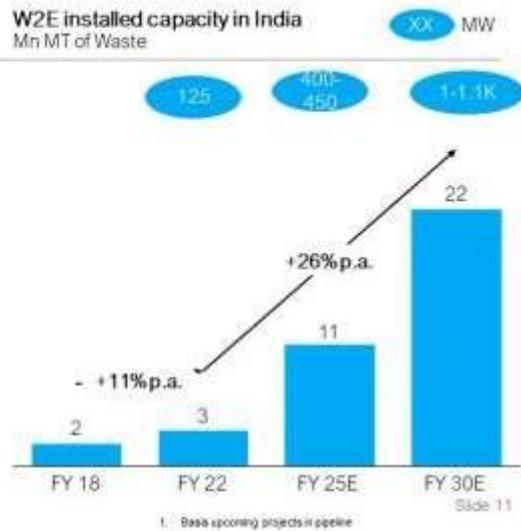
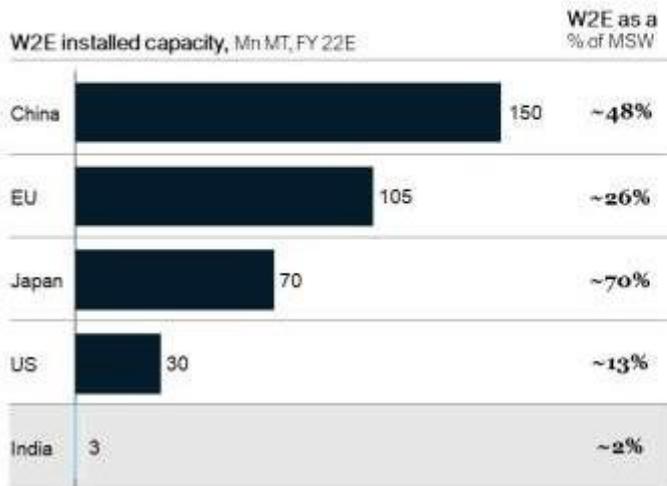
Municipality	Rating	% Share of own revenue	% share of transfers	Municipality	Rating	% Share of own revenue	% share of transfers
1. Agra	BB-	27	73	16. Lucknow	BB	33	67
2. Ahmedabad	A+	90	10	17. Ludhiana	BBB-	55	45
3. Allahabad	B+	24	76	18. Madurai	BBB+	49	51
4. Amritsar	BB-	57	43	19. Meerut	BB	23	77
5. Bangalore	BBB+	52	48	20. Mira Bhayandar	A-	96	4
6. Bhopal	BBB-	31	69	21. Mysore	BBB+	55	45
7. Chandigarh	A+	27	73	22. Nagpur	A	93	7
8. Chennai	BBB+	57	43	23. Navi Mumbai	AA	99.5	0.5
9. Coimbatore	BBB+	58	42	24. New Delhi	AA+	xx	xx
10. East Delhi	A+	xx	xx	25. North Delhi	A	xx	xx
11. Greater Hyderabad	AA-	63	37	26. Pune	AA-	94	6
12. Greater Mumbai	AA-	90	10	27. Raipur	BBB-	31	69
13. Greater Vadodhapatnam	A	71	29	28. Rajkot	A	88	12
14. Howrah	BB-	42	58	29. South Delhi	AAA	xx	xx
15. Indore	BBB	31	69	30. Surat	AA-	90	10
16. Jabalpur	BB+	35	65	31. Thiruvananthapuram	BBB-	60	40
17. Jaipur	BBB+	34	66	32. Vadodra	A-	91	9
18. Kalyan Dombivli	A	96	4	33. Varanasi	B+	22	78
19. Kochi	BBB-	67	33	34. Vijayawada	BBB+	67	33
20. Kolkata	A+	60	40	35. Pimpri Chinchwad	AA	N/A	N/A
				36. Thane	AA	N/A	N/A
				37. Visal-Vitar	A-	N/A	N/A

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Slide 10



GLOBALLY W2E IS A LEADING MECHANISM FOR DISPOSING MSW BUT HIGHLY UNDER PENETRATED IN INDIA



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Slide 11

HISTORICALLY THERE HAS BEEN A SIGNIFICANT PUSH TO SCALE UP W2E CAPACITY IN INDIA (~60 PROJECTS WITH ~639 MW TOTAL CAPACITY WERE TENDERED)



Tenders floated (2010-2021), MW

● Tendered Capacity (MW) ● Tendered Projects



Top -5 states account for ~69% of the tendered W2E capacity

State	Total tendered capacity (MW)	State tendered capacity as a % of total tendered capacity	No of projects
Telangana	134	21%	9
Uttar Pradesh	87	14%	8
Gujarat	77	12%	6
Delhi	74	12%	4
Madhya Pradesh	60	10%	5
Total	432	69%	32

Slide 12

Source: Industry research



HOWEVER, MAJORITY OF THESE PROJECTS FAILED TO OPERATIONALIZE OR GOT DELAYED

Tenders floated (2010-2021), MW

	Operational	Planning stage	Construction to commence	Construction stage	Yet to commence operations	Terminated	Grand total
Total	125	91	84	107	11	221	639
Dalh	47			25		2	
Telangana	24	29	24	15	11	31	
Uttar Pradesh	12		15			60	
Madhya Pradesh	11		10	6		33	
Andhra Pradesh	15			15		20	
Gujarat	8	15		45		10	
Haryana	8		15				
Rajasthan		18					
Jharkhand		6				12	
Karnataka							
Maharashtra			20			12	
Punjab		12				15	
Odisha							
Uttarakhand							
Bihar							
Chhattisgarh		6				5	
Kerala		5					
J & K							
Goa						5	
Tamil Nadu						3	
Manipur				2			
Orissa						6	

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Slide 13

ON ACCOUNT OF THE ABOVE FACTORS, BANKING INSTITUTIONS FIND THE W2E PROJECTS RISKY, MAKE IT DIFFICULT TO OBTAIN FINANCIAL CLOSURE



Major reasons why W2E plants have not met financial closure

Quotes from our conversations with lending banks

<p>A Given historical failures, confidence on the industry is low</p>	<p>“ If the company has a history of delaying projects, and chances are that such situation might be repeated, we might say no to the loan application ” - Zonal Credit Manager, leading bank in India</p>	<p>“ We haven't seen any great examples of success in W2E and therefore need a very strong commercial case for funding ” - VP, leading bank in India</p>
<p>B High perceived NPA risk in absence of real collateral</p>	<p>“ Given there is no land or any other asset as collateral, we find the projects very risky ” - VP, leading bank in India</p>	<p>“ PSU banks will find it very difficult to provide loans in such uncertain conditions if revenue streams are not locked ” - Zonal Credit Manager, leading bank in India</p>
<p>C W2E commercial model is non-standardized and not well established</p>	<p>“ This is a relatively new sector and hence banks do not know how to think about providing debt to this industry ” - Former AVP, leading bank in India</p>	<p>“ If projects come with either low tariffs or line of sight of good tariffs without PPA closure. So it is a commercial risk ” - VP, leading bank in India</p>
<p>D High leverage on company balance sheets and sub-optimal credit payment history</p>	<p>“ Most companies that come for such projects already have over-leveraged balance sheets ” - VP, leading bank in India</p>	<p>“ If the group company has had a bad loan in past, getting loan for project is extremely difficult ” - Zonal Credit Manager, leading bank in India</p>

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KEY ISSUES – PROJECT DEFINITION

Scientific management of Solid Waste is a long-term investment towards improved public health and sustainable development.

This requires services in the following areas to be handled in a focussed manner:

1. Street Sweeping
2. Door to Door Collection and Transportation of Wastes
3. Collection and Transportation of Institutional and Commercial Wastes (bulk generators)
4. Secondary Collection & Transport Points (mini transfer stations)
5. Transfer Stations
6. Processing and Disposal of Wastes
7. Closure of legacy dump sites and Open Garbage Points

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Slide 15

KEY ISSUES – ULB LEVEL CHALLENGES



The Urban Local Bodies face significant challenges in ensuring these are attended properly for various reasons including:

1. Inadequate knowledge and exposure within the Urban Local Bodies (ULBs)
2. Non-availability of a clear State Level Policy
3. No Standard bidding document or process
4. Poor understanding of Public Private Partnership (which is a key ingredient towards solution)
5. Poor understanding of Concession Agreement
6. Lack of funds, barring a few strong ULBs
7. Inconsistent Political and Bureaucratic direction, especially at the local levels

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Slide 16

DISPUTE RESOLUTION FOR PPP



S.No	MECHANISM	ON GROUND REALITY
1	Amicable Settlement	Negligible Success
2	Arbitration Award	a. Not really binding and always appealed b. Resolution takes years if not decades c. The whole purpose of Arbitration as an alternative to Litigation is defeated
3	Litigation	a. 3 Tier Process for commercial disputes often involving decades b. Further delay in implementation post award

- For both MSW & WTE sectors the counter-party often suffers from poor financial health (both ULBs & DISCOMS).
- ULBs and DISCOMS are often constrained to employ disputes as a cashflow management mechanism.

RECOMMENDATIONS



Issues	Recommendations & Rationale	Action (s) required by the govt/ regulator to implement the recommendation
<ul style="list-style-type: none"> • As per the prevailing Municipal Acts and Municipal Solid Waste (MSW) Management and Handling Rules 2016, it is the obligation and duty of the Urban Local Body (ULB, Municipal Corporation or Municipality) to manage Municipal Solid Waste within its jurisdictions. The Swachh Bharath movement has imparted significant momentum across the country towards improved collection, transportation and disposal of MSW in ULB's. We believe that some additional initiatives and interventions would significantly accelerate the journey towards sustainable management of MSW, thereby achieving the objectives of Swachh Bharath faster. • According to the 2011 Census of India, there were 4041 statutory urban local bodies (ULBs) in the country. This number has further grown since. • Each ULB in the country is adopting its own model for Public Private Partnership (PPP) in relation to MSW management, based on a disparate set of considerations (or advice being provided by consultants). 	<ul style="list-style-type: none"> • The Concession Agreements proposed by the ULBs have a diverse set of terms and conditions and in most cases, these are one-sided (i.e. favoring ULB's). • Owing in part to such one-sided PPP agreements, project viability has suffered and a large number of MSW management concessions across the country are currently in arbitration or have been pre-maturely terminated. • A model Concession Agreement for MSW management (like in case of NHAI for roads and highways), would aid improved compliance and performance help the sector grow faster and would enable the ULB's to adopt faster. • A model Concession Agreement document has also been drafted by Niti Aayog. 	<ul style="list-style-type: none"> • A Standardized Concession Model and Model Agreement for Integrated MSW Management Projects (building upon the model document issued by Niti Aayog) may be issued and its use by ULBs may be made mandatory for all future tenders. • Ensure tripartite agreement model with state government as guarantor. • Ensure 'Must Buy' status for all recycled materials and recovered energy.

RECOMMENDATIONS



Issues	Recommendations & Rationale	Action (s) required by the govt./ regulator to implement the recommendation
<p>There are over 5,000 open/ unscientific municipal solid waste dumpsites across all major cities in India. These are not only urban eyesores, but also represent serious public health and environmental risks.</p> <p>A majority of the waste generated in India is still being disposed of in such open dumpsites.</p>	<ul style="list-style-type: none"> In 2016, the Union Ministry of Environment, Forests and Climate Change (MOEFCC) notified the Solid Waste Management Rules (SWM Rules). Also, in 2016, the Central Public Health and Environmental Engineering Organization (CPHEEO) published a manual on solid waste management in three parts, which includes guidance on landfill rehabilitation. The Central Pollution Control Board (CPCB) has also published a guideline on management of legacy waste dumps in 2019. A few dumpsite reclamation/ rehabilitation projects have been initiated in certain cities. However, an in-depth review of mass-balance, learnings and long term environmental cost-benefit analysis of the ongoing/ recent dumpsite reclamation/ rehabilitation projects has not been undertaken. However, given the magnitude of the problem, a comprehensive National Framework for sustainable management of Illegal/ Legacy Dumpsites, including a deep science-based review of standards and criteria for Dump-capping and Biomining is required. 	<ul style="list-style-type: none"> A comprehensive National Framework for sustainable management of Illegal/ Legacy Dumpsites, including a deep science-based review of standards and criteria for Dump-capping and Biomining is required. An in-depth review of mass-balance, learnings and long term environmental cost-benefit analysis of the ongoing/ recent dumpsite reclamation/ rehabilitation projects is required to inform the suggested National Framework. Also, case studies/ research reports published on the successful remediation or redevelopment of some of the old dumpsites across the world may be reviewed to better understand various aspects such as approaches employed, challenges faced, lessons learnt, best practices, etc. Integration of dumpsite rehabilitation with future waste processing and recycling facilities must be encouraged.

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Side 19



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Session 03 - Urban Transport



Presentation 01 by Mr. Prasanna Patwardhan, Managing Director, VP – BD and Corporate Affairs, Prasanna Purple Mobility Solutions Pvt. Ltd.



PPP Projects Undertaken By Private Players

Intercity and City Bus

Intercity & City



PPP Projects taken up



Sr	Name of the Project	Cost In Lakh	Current Status	Project Successful Terminated
1	Intercity : Maharashtra State Road Transport Corp (M.S.R.T.C.)	4204.00	In Operation	Two contracts Successfully completed, one In progress
2	City : Atal Indore City Transport Service Ltd (AICTSL)	2318.79	In Operation	Three contracts successfully completed One In progress
3	Surat City Link Ltd (SCLL)	2639.00	In Operation	One completed one in progress
4	Pune Mahanagar Parivahan Mandal Limited (PMPML)	947.19	Non Operational	One completed, another Mutually discontinued
5	Goa Tourism Development Corp Ltd (GTDC)	346.32	Non Operational	Mutually discontinued
6	Bhopal City Link Ltd (BCLL)	1399.61	Non Operational	Mutually discontinued
7	Delhi Metro Rail Corp (DMRC)	744.01	Non Operational	One successfully completed, one in progress
8	Delhi tourism (HOHO)	1050.00	Non operational	Successfully completed
10	Ahmednagar Municipal Corporation	349.34	Non Operational	Successfully completed
11	Jalgaon Municipal Transport Undertaking (JMTU)	441.77	Non Operational	Opted for exit
12	Ludhiana City Bus Service Ltd	254.90	Non Operational	Opted for exit
13	Ujjain City bus services	340.00	Non Operational	Opted for exit



Issues affecting growth of Public Transport

- **Public Transport is no one’s Baby** – Regulation is made by MORTH & State transport ministries, Traffic is regulated by Police, Vehicle registration & Permits are issued by RTO ,responsibility to provide service is with ULB ,Service is operated by STU / SPV but fares are regulated by RTA. Schemes are floated by (MoHUA & DHI)
- **Multiple Taxation** – Unlike Rail , Water or Air based systems, buses are taxed multiple times by MV Tax, Cess & VAT on Fuel , Toll & GST.
- **Absence of integrated Planning & Monitoring body** –No Institute at National level like TRAI to facilitate & monitor progress of Public Transport (UMTA)
- **Lack of Coordination between Different modes** – Planning & Operations of Rail, Metro and Bus systems are independent without any coordination
- **Lack of Statutory provisions**– MV Act ,Town Planning Act and Development Control Rules needs to be changed to make providing Public Transport to citizens mandatory.
- **No provision in National / State or ULB budget for Public Transport**– In absence of budgetary provision STUs/SPVs are always on survival mode.
- **Absence of Quality Services** - Loss making inefficient STUs & Unorganized private operators
- **No special status (Industry / Infrastructure)** – No benefits to borrower or investor
- **Lack of Infrastructure**– Absent or poorly managed bus stations



Issues affecting success of PPP model

- **Capacity to manage** – Majority of the STUs are not yet well equipped to handle PPP projects.
- **Capacity to Operate** – Very few Private bus operators have experience & expertise to operate city bus services.
- **Planning** - Tenders are issued, concessions are awarded without considering Infrastructure & financial requirement of the project from long term perspective.
- **Infrastructure** - Passenger amenities & Depots are either not developed or poorly managed adding to inefficiency and passenger inconvenience.
- **Concession agreement** – Conditions of model concession agreements are changed leading to ambiguity and discretionary powers to head of STU.
- **Disrespect** - Term & Conditions of concession agreement are not honored by STU.
- **Payment Guarantees** - In absence of budgetary provision payments of concessioners are never paid on time
- **Fare regulation** – Politically influence, Uncertain fair revision leading to huge losses to Operator.
- **Political interference**–declaration of concessional fares, non-viable routes add to losses
- **Professionalism**-Due to unprofessional handling of the projects big corporates are not willing to participate.
- **Dispute resolution**– Disputes never reach logical end as in most cases head of STU is arbitrator



What is required



- **Public Transport Authority** – To facilitate growth & coordination between and within different modes of Public Transport
- **Regulation** – Changes in law & rules to support fulfilment of Vision & Policy of the Nation (NUTP) , Legal provisions to give UMTA certain powers.
- **Awareness** - About importance of Public Transport amongst all stake holders- Citizens, Politician, Bureaucrats. Inclusion of Public Transport subject at IAS / IPS training academy.
- **Capacity building** - At the STU and Private Bus Operators organisation, Driver, Technicians & Staff training centers across India.
- **Infrastructure development Authority**– National or state level authority like Airport authority to develop supportive Passenger Infrastructure
- **Model Concession agreement** – Whoever wants to participate in Government schemes has to use only model concession agreement.
- **Budgetary support** - Robust financial model with provision for viability funding
- **Auto fare revision**– On the basis of realistic charging methods.
- **Use of Technology** – Faster adoption of suitable latest Technology.
- **Qualified Operator** - Experienced quality conscious operator
- **Effective Dispute resolution** - Mechanism to address dispute
- **Change in role of CESL to make PPP successful**–CESL should take similar role like SECI to manage concession agreements.



Let us join hands to make citizens happy !...



Thank You



Prasanna Purple Mobility Solutions | www.prasannapurple.com

Presentation 02 by Mr. Rajendra Kondepati, Vice President, Megha Engineering & Infrastructures Ltd



Megha Engineering and Infrastructure Limited

Stakeholders' Conference on PPP

14th September 2022

1

Overview



Industry Experience



Group Turnover



Robust Credit Rating



Presence in 20+ countries



Group Companies



Skilled Workforce

2

A large group with presence across diversified sectors



Irrigation



Drinking Water



Roads



Power



Electric Vehicles



Hydrocarbons



Indigenizing world class tech



Manufacturing engg products



Renewable Energy



Hospital Infrastructure

3

At the forefront of transition to Frontier Green Tech



Expanding presence across the EV Value Chain



Setting up integrated solar PV module manufacturing



Incubating state of the art technology for the development of Green Hydrogen

4

At the forefront of transition to Frontier Green Tech



Expanding presence across
the EV Value Chain



Setting up integrated solar
PV module manufacturing



Incubating state of the art
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Hydrogen

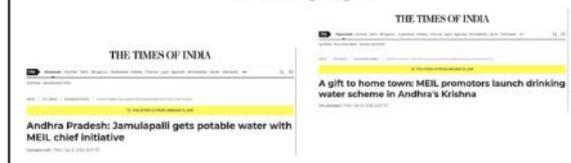
4

Creating Social and Environmental Impact

Benefitted more than 37 million farmers across
India



Access to clean drinking water for more than 12
million people



Reduction in more than 16,000 MT of CO2 through
electric buses



Provision of clean cooking fuel to more than
2,50,000 households



5

PPP in Urban Transport



PPP Projects on Gross Cost Contract

- Handled through subsidiaries of MEIL - Olectra and Evey Trans Private Limited
- Have 7 ongoing PPP projects with 700+ buses delivered in 9m AC and 12m AC formats
- Another 100+ buses have been delivered through a mix of Outright sale, AMC and handling operations for different periods
- Have an order book of around 3500 buses

- **Force Majeure (eg., Covid-19 related uncertainty)**
 - **Issue (discussions ongoing)**
 - During Covid-19, fixed costs were incurred in terms of charges and essential maintenance
 - Some STUs have partially honored the minimum kilometer based payment and a few are pending
 - **Potential Solutions**
 - Outright compensation or extension of concession period could mitigate the adverse impact
 - It helps to have a framework wherein, where the extension of concession adequately takes into account
 - costs incurred during the shutdown of operations
 - time value of money in determining the extension period to compensate for profits foregone

7

Key Issues and Potential Solutions

- **Delayed Payments by a few STUs**
 - **Issue**
 - There are payments pending from a few STUs
 - **Potential Solution**
 - Promotion of payment through Smart Card could enable money transfer directly to an escrow account, from which a waterfall mechanism could be instituted to clear at least a major portion of payments

- **Financing an issue, for contracts floated by a few Transport Undertakings**
 - **Issue**
 - Banks are open to financing these projects, however, it is dependent on the financial health of STUs
 - **Potential Solutions**
 - It’s been observed that City specific Transport Undertakings have better financial health. Therefore, promotion of corporatising City specific Transport operations may augur well for introducing PPPs
 - Accounting PPP projects (especially EV mobility) in priority sector lending could augment financing

8

Key Issues and Suggestions

- **On a generic basis for PPP projects,**
 - DEA could set up a faster dispute resolution mechanism for all PPP projects, as this affects infrastructure development and economic growth eventually

 - PPP projects require commitment from developers on a long term basis and pending payments severely stress these projects.

 - A single window for all State and Central Government approvals, could be in place to fast-track approvals

 - DEA could nudge various States and Concession Authorities in terms of PPP friendliness index or a variant of, with ample weightage for pending payments.
 - This may be linked to viability gap funding disbursement from GoI.
 - Developers and Financial institutions will certainly take cognisance of these indices while planning their operations

9

Thank You



Presentation 03 by Mr. Sumit Mittal, VP – BD and Corporate Affairs, GreenCell Mobility Pvt. Ltd.



Green Growth Equity Fund (GGEF)

India focused fund with the mandate to mobilize significant volume of permanent institutional capital into Indian green infrastructure

About GGEF

- SEBI registered Category II Alternate Investment Fund with a fund size of USD 741 Million
- Investments across Ayana Renewable, Radiance Renewables, Ever Enviro, Lithium Urban, Kathari Water Management and GreenCell Mobility – **with total investment commitment exceeding USD 350 Million**

GGEF's Anchor Investors

GGEF achieved First Close in October 2018 with **USD 340 Million** invested by Govt. of India anchored National Investment and Infrastructure Fund (NIIF) and Govt. of UK's Department for International Development (DFID); including Sponsor Commitment of INR 1,800 Million by EverSource Capital.



Key LPs to the fund being



GGEF's investment manager EverSource Capital is a 50 : 50 joint venture between Everstone Group and Lightsource BP

Everstone is one of the largest India and Southeast Asia focused alternative asset managers with USD ~4.0 billion in assets under management. Lightsource BP is Europe's leading solar energy developer with 11+ GWs capacity under management / development.



2

e-Mobility Market Opportunity in India

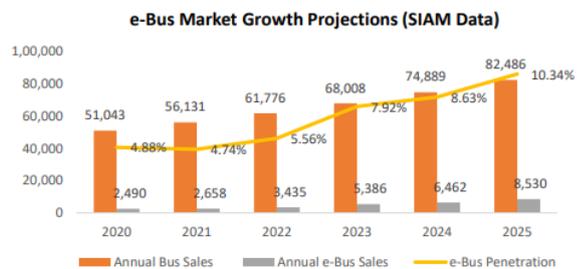
Indian Automobile Market

- Market size of Indian automobile industry is **USD 70 billion** with 30.92 million vehicle manufactured in FY19
- In 2017, India was the largest 2-wheeler market in the world
- India is the 2nd largest producer of buses in the world dominating 16% of global production
- 1.65 mn buses registered in India (2017) of which 9% were public sector operations

Strong Regulatory Tailwinds

- Government target of **30% electrification** of all new vehicles registered in India by 2030
- Government has allocated **~INR 100 billion** under FAME II Scheme
- The largest share **~ INR 35 billion** dedicated towards e-bus deployment

Projected e-Bus Market*



*SIAM Data (2019), Ashok Leyland Analysis and PwC Analysis

Current Bus Market Segmentation

Segments	Fleet Size	Total Revenue
G2C	0.15 mn	~ USD 7 – 9 bn
B2C	0.54 mn	~ USD 23 – 27 bn
B2B	0.4 mn*	~ USD 8 – 10 bn

Rest of the market is ~0.56 mn buses include ambulances, other specialized applications etc.

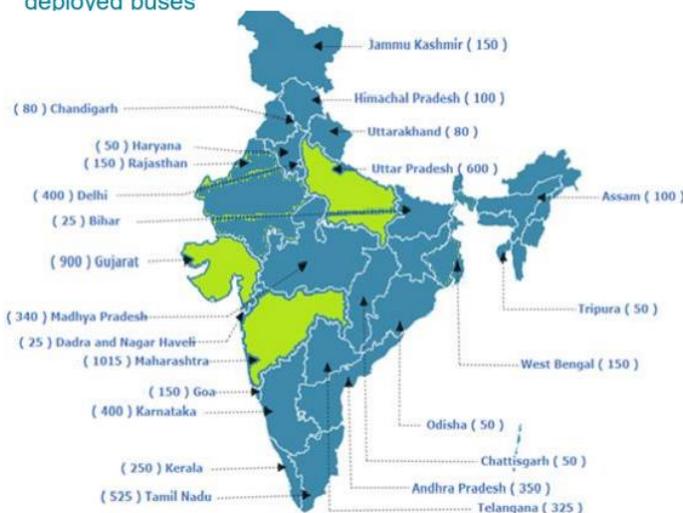


3

EXISTING PROJECTS

GOI had sanctioned 6,315 e-buses under FAME II & GreenCell is implementing 900 e-buses.

GreenCell till date made an investment of ~ USD 200 MM & has market share of ~25% of FAME II deployed buses



GreenCell Existing Projects: ~1,250 e-buses

Projects	Operation/Type	E-buses (#)
UP (4 Projects)*	Intracity 9 M	700
MSRTC**	Intercity 12 M	50
Surat (Gujarat)	Intracity 9 M	150
B2C^	Intercity 12 M	350

* 700 buses across 14 cities of UP

** 50 buses across 5 cities of Maharashtra

^ 350 buses covering 11 states

Tail pipe emission reduction of 90,000 ton CO₂ / annum

Key Challenges in PPP EV Financing

- **Clear Budgetary Allocation/VGF visibility for payment**
 - State Guarantee / State Support Agreement for payment (both subsidy and operational payment)
 - Clear identification of Viability Gap Funding by means of availing partial credit guarantee/support from DFI such as WB, KFW, ADB etc.
- **Creation of a central nodal agency on lines of SECI**
 - CESL may act on lines of SECI providing payment security comfort (2-3 month Revolving LC) and take responsibility of payment to winning bidder.
 - CESL may also sign tripartite agreement with winning bidder and STU for direct disbursement of FAME-II subsidy to bidder on compliance to tender.
- **Changes in Model Concession Agreement**
 - 3 months revenue deposit in Escrow A/c
 - Escrow Mechanism to include deposit of ticketing revenue. Lender Representative to be party
 - Relaxation of Bid parameters to allow participation of Sovereign Funds/Green Funds etc. and New Players where OEMs are either consortium member or have extended MAF/MOU
 - No requirement of submission of BG for release of subsidy. Banks are averse to offering 5 year BGs | Comes at 100%+ margin (treated as disputed/financial guarantee)
 - Penalty capping at 2-3% of revenue instead of 10%/uncapped currently



5

Key Regulatory Challenges

1. **Amendment in Section 9(5) of CGST Act - GST liability on sale of tickets paid by E-commerce operator ('ECO')**
 1. With latest amendment in Act, GST on passenger transportation sold through ECO will be discharged by ECO partner and not bus operator
 2. As majority of bus ticket sales happen through ECO for which GST liability will be discharged by ECO, this leads to accumulation of Input Tax Credit by bus operator which ultimately becomes cost to the company
2. **Inverted Duty Structure rationalization for OEMs**
 1. All the procurements for manufacturing of EV buses are at GST rate of 28% and 18%
 2. However, the output liability on sale of EV buses is only 5% which results into inverted duty structure
 3. EV bus manufacturer then has to claim refund of such inverted duty paid which leads to blockage of working capital and increases cost of doing business



6

Thank You



Annexures



Usual Concession Agreement Terms for Govt. projects

Contract Term	Description
Substitution Agreement	Lender to be able to substitute the Concessionaire by a Nominated Company in the Concessionaire's event of default
Charge on Assets and Revenue	Assignment clause in the concession agreement to allow hypothecation of assets, revenue and receivables for by Lenders as security
Assignment	Assignment clause in the concession agreement to assignment of Concessionaire's rights to Lenders are security
Subsidy BG	BG for subsidy received with 5 years tenor with 20% annual reduction
Performance BG	3% of Total Project Cost
Change in Ownership	Allowed with the prior approval of Authority 3 years after COD
Termination Payment (Concessionaire EOD)	<ul style="list-style-type: none"> 90% of Debt due to be paid No payment before COD
Termination Payment (Force Majeure)	<ul style="list-style-type: none"> Off-taker pay termination payment of 90% of debt due less insurance cover In certain conditions, termination payment includes 110% adjusted equity
Termination Payment (Off-taker Event of Default)	<ul style="list-style-type: none"> Debt due to be paid 150% (one hundred and fifty per cent) of the Adjusted Equity
Change in Law Provision	All impact on project economics owing to change in law, which excludes INR 2 Crs for each project to be a pass through (negative or positive) for each project
Dispute Resolution Mechanism	Strong dispute resolution provision through arbitration
Payment Security	Escrow account with 2 / 3 months payment reserve and revolving LC in some contracts
Schedule Renegotiation	Schedule given
Revenue Escalation	Revenue escalation in the contracts in line with WPI, CPI and electricity tariff increase



9

Bus Market Opportunity in India

Bus is the mode of choice for India's growing middle class population

100 million commuters daily in India

70% by road (60% intra city and 40% inter city)

93% out of this is bus

- 38% out of above is long haul inter-city (>250 km) and intra city
- 62% is medium haul inter-city (<250 km)

Bus: Online penetration of the bus segment is growing the fastest at 20% CAGR till FY24 (*double that of market*)

Online penetration was low at 15% which has increased to 35% during the pandemic and is expected to settle at 25-30% by 2024.



Source: Frost & Sullivan Research

- India's middle class projected to grow at 7.5% CAGR till FY2030, adding 500 Mn
- Road network in India is the 2nd largest in the world
- Rise of OTAs like RedBus, Ixigo etc. has increased bus bookings sharply
- ~12 Mn rail passengers are left unconfirmed in waitlist every year who can be tapped by the bus industry



10

Session 04 – Roads and Airports



Presentation 01 Parth Sharma, President – Corporate Development, Reliance Infrastructure Ltd. (Roads)

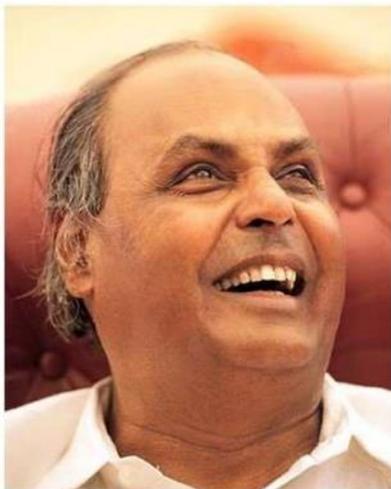


Stakeholder Engagement on PPP

Reliance Infrastructure Ltd.
- Roads Business
14th September, 2022

RELIANCE

Our Legacy 



Our ambitions higher. Our commitment deeper. And our efforts greater.
This is my dream for Reliance and for India.

- Padma Vibhushan Dhirubhai Ambani

Reliance Infrastructure – Businesses RELIANCE

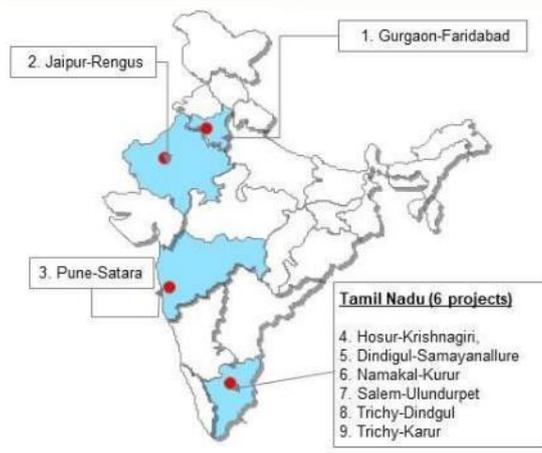
Power Generation	Power Distribution	Transportation	Engineering & Construction	Defence
<ul style="list-style-type: none"> Thermal Renewable Captive Coal Mining 	<ul style="list-style-type: none"> BSES Discoms Smart Meter 	<ul style="list-style-type: none"> Toll Roads Mumbai Metro Airports 	<ul style="list-style-type: none"> Nuclear Power Plant Construction of Mumbai Metro – Line 4 Construction of Roads 	<ul style="list-style-type: none"> Aerospace Land Systems Defence Equipments Defence Infrastructure
				

Reliance is a key player in nation building with presence in core infrastructure sectors

Confidential Slide 3

Roads: Overview RELIANCE

- One of the oldest concessionaires of NHAI on Build Operate Transfer (BOT) model
- 9 Projects running and operational, with average remaining concession period of ~ 10 years.
- All toll plazas equipped with FasTag and Weigh In Motion (WIM)
- 98% toll collection through FasTag
- Traffic of over 3.5 lakh vehicles per day with average daily collection of Rs 3 crore
- Received O&M and Safety Award for 3 consecutive years from MoRTH



Confidential Slide 4

Road Project through PPP		RELIANCE	
Name of the project	Total Project Cost (Rs.cr.)	Project Stretch (Km.)	Project Status
Gurgaon-Faridabad Toll Road	180	66.19	Operational
Jaipur-Reengus Toll Road	268	52.65	Operational
Pune-Satara Toll Road	1725	140.35	Operational
Dindigul Samayanallur Toll Road	284	53.33	Operational
Namakal Karur Toll Road	206	33.48	Operational
Hosur Krisnagiri Toll Road	535	59.87	Operational
Salem Ulunderpet Toll Road	941	136.36	Operational
Trichy Dindigul Toll Road	576	88.27	Operational
Trichy Karur Toll Road	516	79.95	Operational
Kandla Mundhra Toll Road Pvt Ltd.	954	71.40	Terminated
DA Toll Road Pvt. Ltd.	1928	179.5	Divested

11 Projects | 6 States | 900 kms | Rs. 8,500 crore

Confidential Slide 5

RELIANCE

Key PPP Issues, and Recommended way forward

Confidential Slide 6

Delayed Right of Way handover

- ❑ Leads to cost escalation and enormous delay in project completion
- ❑ The Concession Agreement of DATR was signed in May 2010, however the last RoW land was handed over in June 2019.
- ❑ Such delays of 9+ years leads to disputes, dissatisfaction and failure between the Authority and Concessionaire
- ❑ Financing Costs start immediately and concessionaire has to pay regardless of availability of RoW. In the absence of toll revenues, this leads to stress or in dire cases, projects becoming NPA.
- ❑ The Authority is not compensating for such delays.
- ❑ **Suggestion:** On the Appointed date of the Project, 90% of the land should be made available, free of all encumbrances. And the rest 10% within 365 days thereafter.

Confidential

Slide 7

Cost Escalation above threshold levels

- ❑ The prices of Steel, Oil & Diesel, Bitumen, Cement and Aggregate have seen unprecedented escalation, rendering many projects unviable,
- ❑ During the recent COVID and Ukraine crisis, material costs went up by over 30-40% as well as created shortages.
- ❑ The Indexing method of compensation does not compensate for such escalations.
- ❑ The objective is to complete the Project, not make companies bleed.
- ❑ **Suggestion:** Compensation on Absolute value basis, beyond 10% escalation, to be paid by Authority. Concession Agreement needs to build in a policy for such variances.

Confidential

Slide 8

Business Risk Mitigation in severe cases

- ❑ Business Models are based on assumptions like traffic volume, traffic mix, availability of alternate roads, industry growth, etc. Most of these data are provided by the Authority.
- ❑ Any major disruptions in these assumptions will impact the revenue collection and thereby the Project viability.
- ❑ For example, banning of mining based on government or court orders which reduces the Multi Axle traffic, or alternate roads reduces the toll collections.
- ❑ **Suggestion:** Periodic road surveys to review the assumptions and if the impact is beyond a reasonable tolerance band, a compensation mechanism to be built in.

Confidential

Slide 9

Sustainable Interest Rates for Infrastructure Projects

- ❑ Long Term Infrastructure Finance availability at reasonable rates
- ❑ **Suggestion:** Government to fix interest rate ceiling (single digit) for Infra Projects.

Confidential

Slide 10

Independent Engineer

- ❑ Current Independent Engineer is a misnomer, it is actually an engineer appointed by Authority to monitor project progress, costs and quality under its supervision and control.
- ❑ Example: Most of the concessionaire requests are rejected while the Authority's defaults are justified.
- ❑ **Suggestion:** To enhance the transparency of the process, transactions and acceptance; Authority should have a panel of defined and prequalified IE firms. The Concessionaire should have a choice of appointing the agency from among these empanelled firms.

Presentation 02 Atul Kumar, Chief operating Officer, Hindustan Construction Company Ltd (Roads)



Table of contents

- PPP projects taken up by HCC in Roads sector
- Key issues/constraints faced & Learnings
- Key interventions required to enhance private sector investments

PPP projects taken up by HCC in Roads sector



AD : Appointed Date

3

PPP projects taken up by HCC in Roads sector

S N	Name	Authority-Type	State	Length (km)	Status	TPC (As per FC) (Rs. Cr.)
1	Nirmal BOT Ltd	NHAI - BOT (Annuity)	Telangana	30	Operational since Jul-2009	315
2	Badarpur Faridabad Highways Ltd	NHAI - BOT (Toll)	Delhi-NCR	4.4	Operational since Nov-2010. Closed in Feb-2018.	572
3	Dhule Palesner Tollway Ltd	NHAI - BOT (Toll)	Maharashtra	89	Operational since Feb-2012	1,420
4	Baharampore Farakka Highways Ltd	NHAI - BOT (Toll)	West Bengal	101	Operational since May-2014	1,169
5	Farakka Raiganj Highways Ltd	NHAI - BOT (Toll)	West Bengal	102	Operational since Oct-2016	1,378
6	Raiganj Dalkhola Highways Ltd	NHAI - BOT (Toll)	West Bengal	50	Terminated	684

4

Key issues/constraints faced & Learnings

- Land acquisition especially critical part of Project – Bypasses, bridges etc
- Descoping without considering financial impact
- Delayed approvals – COS, Inland waterways, CRS, etc.
- Quality of DPRs => Design changes => Further Approval => Delays
- Delay in Payment by Authority => Termination, Force Majeure (Demonetization etc)
- Delays have Double impact due to Increase in Capex, increase in cost of funds (debt & equity) while Operation Period reduces if completion is delayed
- Exit of Equity Partner (Foreign) due to Non-recourse financing
- Dispute Resolution => Mechanical challenge => Accounts turning NPA

5

Key interventions required to enhance private sector investments

SN	Area	Recommendations
1	Adoption of Lowest Bidder Total Project Cost (TPC) instead of Authority TPC	<ul style="list-style-type: none"> • Authority to acknowledge Financial Closure TPC of lowest bidder (price discovery) • Concession Agreement can be tripartite between Authority, Lenders & Concessionaire
2	Long Term Financing for PPP infra project	<ul style="list-style-type: none"> • Access to long-term debt from financial institutions like insurance, pension, and provident fund companies, etc. be allowed. • For Infrastructure projects, banks/FIs be allowed to restructure (extension of repayment schedule) without attracting provisioning norms (RBI Intervention).

6

Key interventions required to enhance private sector investments

SN	Area	Recommendations
3	Non-Recourse Financing for PPP projects	<ul style="list-style-type: none"> • Specific timelines and formulae for timely compensation for Authority’s defaults, providing certainty on cash flows • Technical capacity expansion at FIs for evaluation of execution risk & due-diligence
4	Swift Dispute Resolution Mechanism	<ul style="list-style-type: none"> • Independent Engineer (IE) to be empowered to assess cost of delays • IE’s recommendations to be paid upfront & further disputes can go to arbitration • Arbitration Award to be honoured as per law; can be challenged after paying the amount

Presentation 03 Anuj Maitry, SVP, Cube Highways and Transport Assets Advisors Pvt. Ltd. (Roads)

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- PPP projects taken up by Cube Highways
- Key issues/constraints faced by private player during structuring and implementation
- Ground realities of PPP projects in Road sector
- Key interventions required to enhance private sector investments in Road sector
- Way forward for PPPs in Road sector(suggestive)



2

Cube Highways – An overview...

- 1 **300+ member Professional Team** backed by Marquee Global Investors
- 2 Attractive portfolio of **25 assets** with ~8,000 lane Kms (excludes deals under closing)
- 3 **Focused and disciplined growth** through acquisitions
- 4 **Demonstrated de-risking** post acquisition (both Operational and Financial)
- 5 Pioneer in the sector, with **several industry-first initiatives**
- 6 **Well positioned** to capture the large opportunity in the road sector



... With a differentiated approach

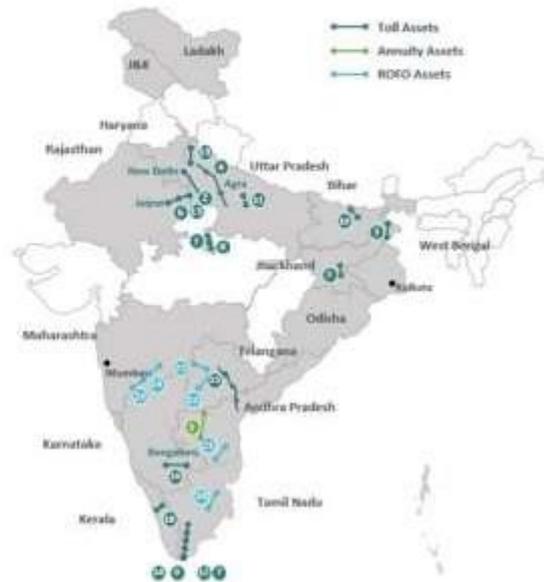
- Acquisition of controlling stakes in mature transportation assets
- Targeted aggregation of assets with sound fundamentals
- Extensive in-house capabilities for M&A, project finance, traffic and engineering
- Proactive and technology driven O&M strategy to drive efficiencies
- Focus on life-cycle maintenance costs
- Institutionalized corporate governance and adherence to high ESG standards
- Adequately funded for immediate pipeline



3

Cube Highways – An overview

- 1 c.8000 Lane Kms across 25 operating assets
- 2 100% revenue-generating
Sizeable operational portfolio ensuring robust cash generation
- 3 17.8 years average¹ balance life
High residual life providing long term visibility
- 4 6.0 years average² operating history
Well-established willingness to pay toll and on-time annuity payment track record
- 5 Optimal traffic mix
Balanced mix of commercial (62%) & passenger (38%) traffic
- 6 Projects in Geographical Clusters
Proximity lends itself to potential synergies and savings
- 7 Mix of 18 Toll and 7 Annuity/HAM assets
4 out of the existing 5 assets are toll roads; Another 8 hybrid annuity roads, 4 toll roads; and 1 annuity roads under acquisition; 9 toll roads under TOT 3 bundle
- 8 18 assets acquired through 12 transactions³
Cherry picked assets, most active roads M&A



1. Average balance life from our off date: 31 Mar 20; weighted by SPVDA
2. Average operating life from O&M up to 31 Mar 20 for operational projects; weighted by SPVDA
3. Includes assets under signing



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4

PPP projects taken up by Cube Highways in Road sector

S. No.	Project SPV	Project Type	Project Length and No of Lanes	State(s)
1.	Andhra Pradesh Expressway Limited ("APEL")	Annuity (NHAI)	74.6 kms, 4 lanes	Telangana and AP
2.	DA Toll Road Private Limited ("DATRPL")	BOT / Toll (NHAI)	179.5 kms, 6 lanes	UP and Haryana
3.	Farakka – Raiganj Highways Limited ("FRHL")	BOT / Toll (NHAI)	100.1 kms, 4 lanes	West Bengal
4.	Ghazabad Aligarh Expressway Private Limited ("GAEPVL")	BOT / Toll (NHAI)	125.2 kms, 4 lanes	Uttar Pradesh
5.	Hazaribagh Tollway Limited ("HTL")	TOT / Toll (NHAI)	79.8 kms, 4 lanes	Jharkhand
6.	Jaispur Mahua Tollway Limited ("JMTL")	BOT / Toll (NHAI)	109.0 kms, 4 lanes	Rajasthan
7.	Jhansi–Lalitpur Tollway Limited ("JLTL")	TOT / Toll (NHAI)	49.7 kms, 4 lanes	Uttar Pradesh
8.	Jhansi–Vidhansabha Tollway Limited ("JVTL")	TOT / Toll (NHAI)	49.3 kms, 4 lanes	Uttar Pradesh
9.	Kanyakumari – Ettimadai Tollway Limited ("KETL")	TOT / Toll (NHAI)	64.2 kms, 4 lanes	Tamil Nadu
10.	Konwa – Musaffarpur Tollway Limited ("KMTL")	TOT / Toll (NHAI)	80.0 kms, 4 lanes	Bihar
11.	Lucknow – Raebareilly Tollway Limited ("LRTL")	TOT / Toll (NHAI)	70.0 kms, 4 lanes	Uttar Pradesh
12.	Madurai – Kanyakumari Tollway Limited ("MKTL")	TOT / Toll (NHAI)	52.3 kms, 4 lanes	Tamil Nadu
13.	Mahua Bhojpur Expressways Limited ("MBEL")	BOT / Toll (NHAI)	57.3 kms, 4 lanes	Rajasthan
14.	Ranguneer – Kanyakumari Tollway Limited ("RNTL")	TOT / Toll (NHAI)	63.5 kms, 4 lanes	Tamil Nadu
15.	N.A.M. Expressway Limited ("NAMEL")	BOT/Toll (Telangana / AP)	222.9 kms, 4 lanes	Telangana and AP
16.	Nelamangala Devalahalli Expressway Pvt Ltd. ("NDEPL")	BOT / Toll (NHAI)	60.3 kms, 4 lanes	Karnataka
17.	Salaiputhur – Madurai Tollway Limited ("SMTL")	TOT / Toll (NHAI)	63.5 kms, 4 lanes	Tamil Nadu
18.	Walayar Vadakkanchery Expressways Pvt Ltd. ("WVPEL")	BOT / Toll (NHAI)	52.3 kms, 4 lanes	Kerala
19.	Western UP Tollway Limited ("WUPTL")	BOT / Toll (NHAI)	77.8 kms, 4 lanes	Uttar Pradesh
Total			1,636.5 kms (6,306 Lane Kms)	



1. Average balance life from our off date: 31 Mar 20; weighted by SPVDA
2. Average operating life from O&M up to 31 Mar 20 for operational projects; weighted by SPVDA
3. Includes assets under signing



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5

PPP projects taken up by Cube Highways in Road sector

S. No.	Project SPV	Project Type	Project Length and No of Lanes	State(s)
1.	DBL Borgeson Watambare Highways	HAM	52.44 kms, 4 lanes	Maharashtra
2.	DBL Mangloor Highways Private Limited	HAM	48.96 kms, 6 lanes	Karnataka
3.	DBL Mangalwedha Solapur Highways Private Limited	HAM	56.50 kms, 4 lanes	Maharashtra
4.	KNR Tirumala Infra Private Limited	HAM	61.13 kms, 6 lanes	Andhra Pradesh
5.	KNR Shankarampet Infra Private Limited	HAM	46.81 kms, 4 lanes	Telangana
6.	KNR Srirangam Infra Private Limited	HAM	38.70 kms, 4 lanes	Tamil Nadu
Total			304.5 kms (1,378 Lane Km)	



1. Average service life from cut-off date 31-Mar-20 weighted by BFDs
2. Average operating life from cut-off date 31-Mar-20 for operational projects, weighted by BFDs
3. Initial state under change



6

Key issues/constraints faced by private player during structuring and implementation

- Bid process documentation RFP, DPRs / feasibility studies, time for submission of bids
- Bidding process to be rationalized
 - Wide gap in L1 and H1, iron out the inconsistencies' e.g. Mega Project KUA, TOT-1 & 7 Bundle
 - Grant/Premium on same project
- Inconsistency in policies
- Signing state support agreements
- Availability of material or local laws as impediment for procurement of material
- Availability of encumbrance free land before signing of CA



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7

Ground realities of PPP projects in the sector

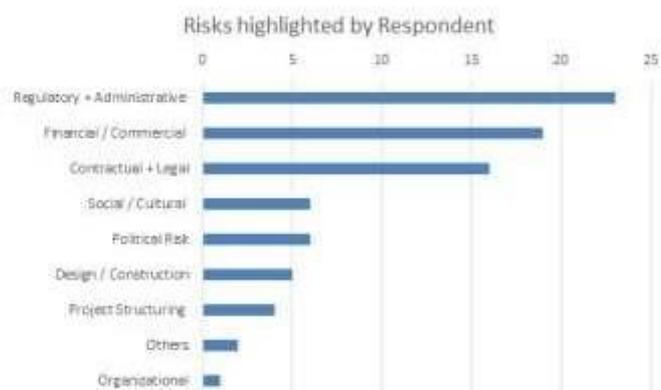
- Land acquisition related issues
 - Delays in LA
 - Continuity of available land parcels; e.g. CORR, Trichy Kallagham section
 - Support from state agencies
- Lack of support from state authorities
 - Utilities shifting
 - Land acquisition
 - Law and order
- Coordination with Authorities / Independent Engineer
- Reluctance to innovate / adopt new technologies and materials’ e.g. Blast furnace slag example from Raipur – Arang, performance based MM



8

Ground realities of PPP projects in the sector

S No.	Role in PPP Procurement	Sample Size
1	Engineering Consultant	2
2	Developer (Promoter)	4
3	Civil Contractor	1
4	SPV / O&M Contractor	3
5	Government Authority	2
6	Policy Level Consultant	2
7	Lender / Investment -Bank/ Financial Advisor	7
8	Legal Expert	2
Total		23



9

Key interventions required to enhance private sector investments in Road sector

- Rationalization of bid process
- Bigger ticket sizes and long concession periods
- Strong data based helps in better project structuring and estimating the project risk and cost
- One single toll policy for states and Center
- Protection from competing projects from different agencies
- Protection against revenue risks' e.g. Target Traffic Clause
- Single window for all kinds of NOCs, be it land, forest, utilities etc
- Removing ambiguity on taxation and stamp duty
- Flexibility on refinancing rules
- Upgrading standards and codes in line with technological advancements; e.g. performance based MM, Target Traffic issue



10

Way forward for PPPs in Road sector

- Asset monetization process needs to be fast paced with innovative models
- Nodal agency for pre-investment consultation and project structuring
- Risk minimization, higher risk demands for higher returns, leading high project cost for everyone
- Restructuring the role of regulator, need more facilitation than approval/NOC driven approach
- Robust legal and arbitration framework, existing system is too open ended with never ending timelines
- Overall project assessment needs to be done on project life cycle with following considerations:



11



Thanks!



Presentation 04 by Vinod Kumar Menon, Head-BOT Projects, IRB Infrastructure Developers Ltd. (Roads)

IRB Infrastructure Developers Ltd. – Highway Sector

Sr.	Table of Contents
1	PPP Projects taken up by IRB in Highway Sector
2	Key issues / constraints faced during structuring and implementation
3	Ground Realities & Key Interventions to enhance private sector investments
4	Way forward for PPPs in the Highway sector



Dept. of Economic Affairs – Stakeholder Engagement (Partners in Progress)

SEPTEMBER 2022

DEPT. OF ECONOMIC AFFAIRS - STAKEHOLDER ENGAGEMENT (PARTNERS IN PROGRESS) – IRB INFRASTRUCTURE DEVELOPERS

1

PPP Projects taken up by IRB in Highway Sector

Sr.	Name of Project	State	Client	Lane Kms	Project Cost (Rs. Crores)	Concession Period	Present Status
BOT Projects							
1	Ahmedabad Vadodara Six Lanes Expressway NE 1 & Ahmedabad Vadodara NH-48 Highway	Gujarat	NHAI	987	4,880	25 Years	Operational
2	Meerut Budaun Six Lanes Expressway, expandable to Eight Lanes (Part of upcoming Ganga Expressway Group 1 greenfield project).	Uttar Pradesh	UPEIDA	778	6,538	30 Years	Under construction
BOT Projects (Private InvT):							
1	Kaithal Rajasthan Four Laning project on NH 152/65	Haryana	NHAI	665	2,323	27 Years	Operational
2	Agra Etawah Six Laning project on NH 19 (Old NH 2)	Uttar Pradesh	NHAI	747	3,044	24 Years	Operational
3	Hapur Moradabad Six Laning project on NH 9 (Old NH 24)	Uttar Pradesh	NHAI	599	3,345	22 Years	Operational
4	Kishangarh Gulabpura Six Laning project on NH 79A & NH 79	Rajasthan	NHAI	540	1,526	20 Years	Operational
5	Gulabpura Chittorgarh Six Laning project on NH 79	Rajasthan	NHAI	749	2,090	20 Years	Operational
6	Udaipur Shamlaji Six Laning project on NH 48 (Old NH 8)	Rajasthan	NHAI	683	2,531	21 Years	Operational
7	Palnit Dankuni Six Laning project on NH 19	West Bengal	NHAI	378	2,403	17 Years	Under Tolling & Construction
8	Solapur Yedeshi Four Laning project on NH 211	Maharashtra	NHAI	395	1,590	29 Years	Operational
9	Yedeshi Aurangabad Four Laning project on NH 211	Maharashtra	NHAI	756	4,177	26 Years	Operational
10	Karwar Kundapura Four Laning project on NH 17	Karnataka	NHAI	758	3,447	28 Years	Operational

DEPT. OF ECONOMIC AFFAIRS - STAKEHOLDER ENGAGEMENT (PARTNERS IN PROGRESS) – IRB INFRASTRUCTURE DEVELOPERS

2

PPP Projects taken up by IRB in Highway Sector

Sr.	Name of Project	State	Client	Lane Kms	Project Cost (Rs. Crores)	Concession Period	Present Status
BOT Projects under O & M (Public Invlt):							
1	Amritsar Pathankot Four Laning project of NH 54 (Old NH 15)	Punjab	NHAI	410	1,445	20 Years	Operational
2	Jaipur Deoli Four Laning project on NH 12	Rajasthan	NHAI	595	1,733	25 Years	Operational
3	Talegaon Amaravati Four Laning project on NH 53 (Old NH 6)	Maharashtra	NHAI	267	888	22 Years	Operational
4	Tumkur Chitradurga Six Laning project on NH 48 (Old NH 4)	Karnataka	NHAI	684	1,142	26 Years	Operational
5	Omallur Salem Namakkal Four Laning project on NH 44 (Old NH 7)	Tamil Nadu	NHAI	275	308	20 Years	Operational
TOT Projects:							
1	Tolling and O&M Concession of the Mumbai Pune Expressway project along with Mumbai Pune Old Highway NH 48 (Old NH 4)	Maharashtra	MSRDC	1,014	8,875	10 Years and 2 Months	Operational
NAM Projects:							
1	Eight Lanes Vadodara Kim Package 1 stretch on upcoming Vadodara Mumbai Expressway greenfield project	Gujarat	NHAI	190	2,094	15 Years over construction period	Operational
2	Eight Lanes Gandeva Ena Package 7 stretch on upcoming Vadodara Mumbai Expressway greenfield project	Gujarat	NHAI	216	1,755	15 Years over construction period	Under construction
3	Pathankot Mandi Four Laning project on NH 154 (Old NH 20)	Himachal Pradesh	NHAI	168	828	15 Years over construction period	Under construction
4	Chittoor Thachur Six Laning project on NH 716B	Tamil Nadu	NHAI	120	909	15 Years over construction	Under construction

18 – Operational, 4 – Under Construction, 13 - Completed

DEPT. OF ECONOMIC AFFAIRS - STAKEHOLDER ENGAGEMENT (PARTNERS IN PROGRESS) – IRB INFRASTRUCTURE DEVELOPERS

3

PPP Projects taken up by IRB in Highway Sector

Sr.	Name of Project	State	Client	Lane Kms	Project Cost (Rs. Crores)	Concession Period
Completed Concessions:						
1	Bhiwandi Wada SH 35: Improvement and strengthening of the project with private financing and toll rights for concession period on BOT basis.	Maharashtra	PWD	72	9.45	10 Years & 8 Months
2	Khambatki Ghat Project NH 48 (Old NH 4): Strengthening of existing two lanes; constructing of additional two lanes and a tunnel, with toll rights for concession period on BOT basis.	Maharashtra	NHAI	34	45	10 Years & 3 Months
3	Kaman Paygaon SH 4: Strengthening of stretch with private financing and toll rights for concession period on BOT basis.	Maharashtra	PWD	44	14	15 Years
4	Kharpada Bridge NH 17: Construction of a major bridge across Patalganga River and ROB near Kharpada Village on NH-17, including approach road at both sides, with toll rights for concession period on BOT basis.	Maharashtra	MoRTH	3	32	17 Years & 9 Months
5	Nagar Karmala Tembhurni SH141: Strengthening of stretch with toll rights for concession period on BOT basis.	Maharashtra	PWD	120	60	15 Years
6	Mohol Kurul Kamti Mandrup NH 13 & SH 149: Improvement of stretch with toll rights for concession period on BOT basis.	Maharashtra	PWD	67	18	16 Years
7	Thane Bhiwandi Bypass Project: First BOT project in India to develop, operate and maintain the project with toll rights for concession period on BOT basis.	Maharashtra	MoRTH	96	104	18 Years & 6 Months
8	Pune Solapur NH 9: Develop, operate and maintain the project with toll rights for concession period on BOT basis.	Maharashtra	MoRTH	104	63	16 Years
9	Mumbai Pune Expressway & Mumbai Pune Old Highway NH 48 (Old NH 4) 1st Concession for the period 2004 – 2019 to develop, operate and maintain the two projects with toll rights for concession period.	Maharashtra	MSRDC	1,014	1,301	15 Years
10	Thane Ghodbunder Project: Develop, operate and maintain the project with toll rights for concession period.	Maharashtra	MSRDC	90	246	15 Years
11	Pune Nashik NH 50: Develop, operate and maintain the project with toll rights for concession period.	Maharashtra	MoRTH	120	73	18 Years
12	Bharuch Surat Six Laning project on NH 48 (Old NH 8)	Gujarat	NHAI	390	1,470	15 Years
13	Surat Dahisar Six Laning project on NH 48 (Old NH 8)	Gujarat & Maharashtra	NHAI	1,437	2,537	12 Years

DEPT. OF ECONOMIC AFFAIRS - STAKEHOLDER ENGAGEMENT (PARTNERS IN PROGRESS) – IRB INFRASTRUCTURE DEVELOPERS

4

Key Issues during Structuring & Implementation

Regulatory Mechanism (Delays in clearances or approvals/release of grants)

Model RFP & CA - Uniform implementation	<ul style="list-style-type: none"> Evolved at National Level but needs to be adopted by States too. There needs to be consistency in these documents across all the States.
A specific PPP Law	<ul style="list-style-type: none"> There needs to be a specific PPP Law which would ensure smooth implementation of the Projects without any hindrances from any Govt. instrumentalities or local disturbances. In case of any such hindrances which affect the financials, the Private Entity has to be assured of appropriate compensation.
Key legal and regulatory issues	<ul style="list-style-type: none"> Some of the issues : <ol style="list-style-type: none"> Delays due to land acquisitions Forest clearances Utility shifting Railway bridges approvals and clearances etc.
Approval Mechanism & Delay Compensation	<ul style="list-style-type: none"> Most projects are delayed due to delay in handing over of entire land, approvals/ clearance, utility shifting, etc. resulting in delay of Commercial Operation Date. This results in increase in interest cost / cost of construction / revenue loss. The Authority needs to proactively engage with the Private Entity for prompt compensation as per contract instead of pushing it to Arbitration and Litigation.

Key Issues during Structuring & Implementation

Inadequate and Skewed Risk Sharing

Compensation for Unforeseen Events	<ul style="list-style-type: none"> Closure of mining / construction material extraction/ restricted entry into city or similar events by Central/State Govt. adversely affect the project revenue and make project unviable. These factors are beyond the control of Concessionaire and risk assessment is not possible to foresee such events by prospective bidders during bidding process. Suggested to device a suitable compensation mechanism for the loss.
Compensation for Escalation	<ul style="list-style-type: none"> The country is witnessing the steep hike in the cost of input materials on account of inflationary pressure. In case of BOT (Toll) Concession Agreements, there is no provision for the payment of escalation on basic cost of the raw materials such as Cement, Steel, Bitumen, and Fuels (Petrol, Diesel/ Oil). Requested to incorporate a compensation mechanism to mitigate the escalation risk by fixing the Base Rates of major raw materials at the bidding stage. This will also help in timely completion of projects and in achieving Govt's ambitious target of a 5 Trln. economy
Renegotiation of contract - Lack of enabling provision in MCA	<ul style="list-style-type: none"> A prime deficiency in our system as compared to some international practices is 'lack of renegotiation of contract' in case of unusual / unanticipated events. For e.g., under a period of economic slowdown or sudden change in taxation (like recent GST amendment), renegotiation can be allowed under law.
Automatic compensation - On account of Traffic Diversion	<ul style="list-style-type: none"> Automatic Compensation without referring to any provisions of CA, when sections of roads are developed subsequently, it affects revenues of the existing concessions.

Key Issues during Structuring & Implementation

Lack of long term Finance Options

Funding & Managing Financial Risks	<ul style="list-style-type: none"> Major risk for the Lenders is Termination where Debt Due is not fully covered if NHAI TPC is lower than the Lenders assessed cost which is generally the case.
Access to finance / Funding opportunities for Public Private Partnerships - Indian Bond Market for Infra Assets with A rating	<ul style="list-style-type: none"> Special Purpose Vehicle (SPV) may also tap the foreign bond market for debt capital to reducing the finance costs but it involves significant exchange rate risk and also the refinancing risk. Indian Bond market is largely untapped for Infrastructure funding and if incentivized to fund the Infrastructure assets, it would explore a new avenue for the SPVs at large. Currently, the Bond market serves to asset with AA rating and above. If the said market is opened up for A rating and above, the infrastructure assets can also explore this for funding. With the recent geo-political uncertainty and Covid-19 pandemic, the local Bond market will be very attractive market for the Indian SPVs. PPP projects in various foreign countries have also explored and tapped the local Bond market successfully.

Other Issues

Current procurement for PPPs - BOT (Toll) model should be preferred mode	<ul style="list-style-type: none"> Majority of tenders are invited on EPC and Hybrid Annuity Model (HAM) basis. Grant (Equity Support) upto 40% of the Total Project Cost should be allowed for all projects (including 6 laning). BOT (Toll) mode would enable Govt. to utilize the treasury fund in repayment of earlier debts and annuity payments rather than expending on asset creation.
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Ground Realities & Key Interventions



Ground Realities of PPP projects in the Sector

Investor Sentiments about Sector	<ul style="list-style-type: none"> The Highway sector is the most preferred sector for attracting private investment owing to well planned and well-defined national programs, and well evolved and mature PPP framework, the earmarked outlays, and the construction targets. The Highway sector has created large opportunities for the private sector – not just Indian players, but also leading global ones. Hence the need for more investor and lenders oriented contracts.
Common Mistakes while project conceptualization and mechanisms to address the same	<ul style="list-style-type: none"> Assessment of Total Project Cost (TPC) during DPR stage has to be realistic. Major mistakes happen here. The selection of section of Highways for bidding on BOT (Toll) / HAM / EPC is very important where mistakes happen.

Ground Realities & Key Interventions



Ground Realities – Experience & Interventions

Land Acquisition:

Issue:

- Appointed Date is generally when 80% land is handed over. The balance land needs to be handed over within 90 days which seldom happens resulting in time and cost overruns.
- The main reason is insufficient staff with NHAI and no accountability assigned for handing over the balance land.
- This delay in handing over of land impacts completion of the project and ultimately revenue loss to the concessionaire and inability to service interest on debt, resulting in NPAs.
- Thus, all the stake holders are affected, viz; the Authority, the concessionaire, the Lenders and more importantly, the road users.

Suggestion:

- In BOT (toll) projects, 90% land at 3H stage (disbursement to land owners) may be made available on Appointed Date and tolling on PCOD upon 75% completion of the project.
- In new six laning contracts, 75% tolling is allowed till scheduled date of completion, but if 'entire project' is not completed within this date, tolling has to be stopped till such completion. Concessionaire loses revenue for reasons not attributable to him and debt servicing also becomes difficult.
- As soon as the concessionaire completes all work on land handed over within 90 days of Appointed Date, tolling at 100% rate may be allowed.

TPC - Termination Payment:

Issue:

- Historically, NHAI TPC has been the bone of contention for developers in securing finance for the project. Difference in NHAI TPC visa-vis developer's cost assessment leads to reluctance by lenders in funding these projects. The main reason for this is unrealistic evaluation by DPR consultants for NHAI and also deliberate reduction of TPC by NHAI to make projects viable on paper.

Suggestion:

- To delink NHAI TPC with termination payment once the asset is operational and link it to NPV of unexpired cash flow similar to termination payment defined in TOT.
- This reform will not cost the Authority as tolling on the corridor can be continued by NHAI to recover the termination payment.
- In case of termination during construction phase, NHAI TPC linked termination payment provisions can prevail.

Ground Realities & Key Interventions



Ground Realities – Experience & Interventions

Competing Road/Additional Tollway

Issue:

- New Expressways/ Highways are being proposed & developed leading to emergence of many alternate routes.
- Thus, the long term viability of Concessions which are under operation has come under jeopardy and is a concern for Private sector/ lenders.
- NHAI, instead of taking empathic stance in such cases, come out with their own convenient interpretations to reject these rightful compensations.
- Many states have not signed the "State Support Agreement" but have not honored their commitments of not developing any competing road or compensating the existing concessionaire for the same.

Suggestion:

- The provision of 'Competing Road' or 'Additional Tollway' in the Model Concession Agreement neither comprehensively protect the Concessionaires nor is practical enough to capture the nuances happening due to diversion of traffic on account of new development in the vicinity of the Project.
- The definitions of "Competing Road" and 'Additional Tollway' should be practical enough to accommodate the nuances as stated above and to device an adequate mechanism for compensating the Concessionaires in such scenarios.

Change in Law/Policy:

Issue:

- Events like closure of mining / construction material extraction / restricted entry of commercial vehicles in the cities / increase in load carrying capacity of commercial vehicles or similar events by Central/State Govt. or Govt. instrumentality impacts toll revenue severely.

Suggestion:

- Protection to the concessionaire for loss in revenue on account of policy changes by Central/State Govt. or Govt. instrumentality.
- Compensate Concessionaire for all these eventualities under "Change in Law".

Ground Realities & Key Interventions



Ground Realities – Experience & Interventions

Problems at Toll Plazas:

Issue:

- Resistance of local traffic to pay toll, circumvention of toll plazas via local city / village roads to avoid toll, users resorting to violence and resistance of payment of penalty by overweight vehicle are some of the major issues faced by the concessionaires.

Suggestion:

- NHAI to act as a PPP partner and do everything possible to engage police / administration in enforcing law and order at the Toll Plazas. If this fails, then compensation should be paid to the concessionaire.
- To deal with circumvention of traffic, as per CA the Concessionaires can establish temporary booths to tackle this situation with permission from NHAI. But, more often than not, such permissions are not granted to the Concessionaire resulting into huge revenue losses. Hence, we suggest that NHAI should be directed to give such permissions.

Shifting of Obstructing Utilities:

Issue:

- Approval process for utility shifting estimate is very tedious and time consuming. Multilayer approvals from respective utility department / PD / RO / HO even after submission of rates from utility agencies leads to delayed handing over of clear Right of Way and increase in inflation & construction cost of the project and hence dispute arises.

Suggestion:

- Approval of utility shifting should be in time bound manner with single window clearance. Also, concessionaire should get compensated against such delay by way of extension in concession period or toll revenue loss for period on account of above delay.

Ground Realities & Key Interventions



Ground Realities – Experience & Interventions

Change in Ownership

Issue:

- Change in ownership is restricted to six months post COD for the projects on HAM basis and 12 months post COD for the projects on BOT(Toll) basis.
- Many foreign investors are interested in buying stakes in running projects which would go a long way in unlocking equity investment of the Developers who can in turn utilize these funds in new projects. However, there is undue delay by NHAI in providing approvals to these proposals which cause these foreign investors to back out.

Suggestion:

- Change in ownership shall be allowed as 100% any time after COD. At the same time, proposals of sale of stakes exceeding 15% but less than 50 % by the existing Promoters to a domestic / foreign entity should be approved exigently in a time bound manner. As per contract, NHAI need to look at these proposals from National Security point of view only.

Release of Performance Security

Issue:

- Authority takes 3-4 months for release of Performance Security after due date of release. A continuous follow up is required for release of Performance Security. Due of this delay concessionaire has to bear commission charges and interests on margin money unnecessarily.
- Moreover, under the current scenario with limited BG limits, it becomes difficult for the developers to bid for new projects on account of such delays by NHAI in releasing Performance security BGs.

Suggestion:

- Authority should release Performance Security on due date promptly and if it gets delayed they should compensate to the concessionaire for losses.

Ground Realities & Key Interventions



Ground Realities – Experience & Interventions

Declaration of Commercial Operation Date (COD / PCOD)

Issue:

- As per provisions in Concession Agreement, Independent Engineer has to independently assess and declare Commercial Operation Date. However, Authority delays approval of COD / PCOD even after IE's certification. There is continuous follow up required for COD / PCOD approval and concessionaire has to run from pillar to post. Moreover, Concessionaires have to give undertaking of no claim under duress against issuance of PCOD / COD.

Suggestion:

- Authority should declare / approve PCOD / COD in time bound manner (within 7 days) from IE's certification. NHAI should also not compel the concessionaires to give undertakings of no claims.

Independent Engineer's Fees and Expenses

Issue:

- Concession Agreement is very clearly defines Fees and Expenses of Independent Engineer (IE) shall be 2% of Total Project Cost (TPC) and shall be borne equally by the Authority and the Concessionaire. Payment in excess of 2% shall be borne entirely by the Authority. Even after above clauses in Concession Agreement, Authority demands fees and expenses with interest from the concessionaire exceeding 2% of TPC.

Suggestion:

- Demand from the Authority is totally unjustifiable and beyond Concession Agreement. NHAI may be directed to avoid raising such unjust demands.

Ground Realities & Key Interventions



Ground Realities – Experience & Interventions

Change of Scope (COS) approval and release of payment

Issue:

- Even after clear definition of process of Change of Scope in detail, NHAI delays in notifying / in principal approval for change of scope work impacting completion schedule and losses to concessionaire.
- Even after completion and certification from IE, authority do not release change of scope payment and concessionaire has to continuously follow up with authority resulting in cashflow mismatch and disputes to arise.

Suggestion:

- NHAI may be directed to notify / provide in principal approval for COS work within 15 days and release the payments as prescribed in the contract in time bound manner.

Release of Grant / Payment of Premium

Issue:

- There have been delays in release of Grant even after completion of project milestone and NHAI does not even pay interest on delayed period of Grant. On other hand a single day delay in payment of Premium prompts NHAI to immediately send notice and demands for interest.

Suggestion:

- Authority to release Grant payment immediately after completion of milestone. For any delay for release in delay concessionaire should get compensated with interest for delayed period.

Ground Realities & Key Interventions



Ground Realities – Experience & Interventions

Force Majeure Event

Issue:

- Approval and reimbursement of compensation amount for Force Majeure event takes huge time and has to pass through multilayer approval (IE/PD/RO/HO and back).
- Also there is delay in signing of supplementary agreement for extension in concession period on account of such events. E.g. Demonetization Force Majeure event compensation not yet fully approved / released by NHAI even after 6 years of event occurrence. Not a single supplementary Agreement has been signed for extension of Concession Period on account of Demonitisation.

Suggestion:

- NHAI may be directed to arrange for single window approval for such Force Majeure event compensations. This will expedite the process of approval and release of compensation amount.
- Also, IE should examine claim within provision of CA clauses and avoid delay in recommendation / approvals.

Dispute Resolution Process

Issue:

- There is no definite timelines for the conciliation process in the matter of disputes. NHAI does not act on the dispute matters and unduly delays the process. This impacts concessionaire’s financial health / cash flow and they suffer.

Suggestion:

- To have timelines for dispute resolution process in stages (Conciliation, Arbitration) and NHAI to adhere to timeline for quick resolution of disputes.

Way forward for PPPs in the Highway Sector

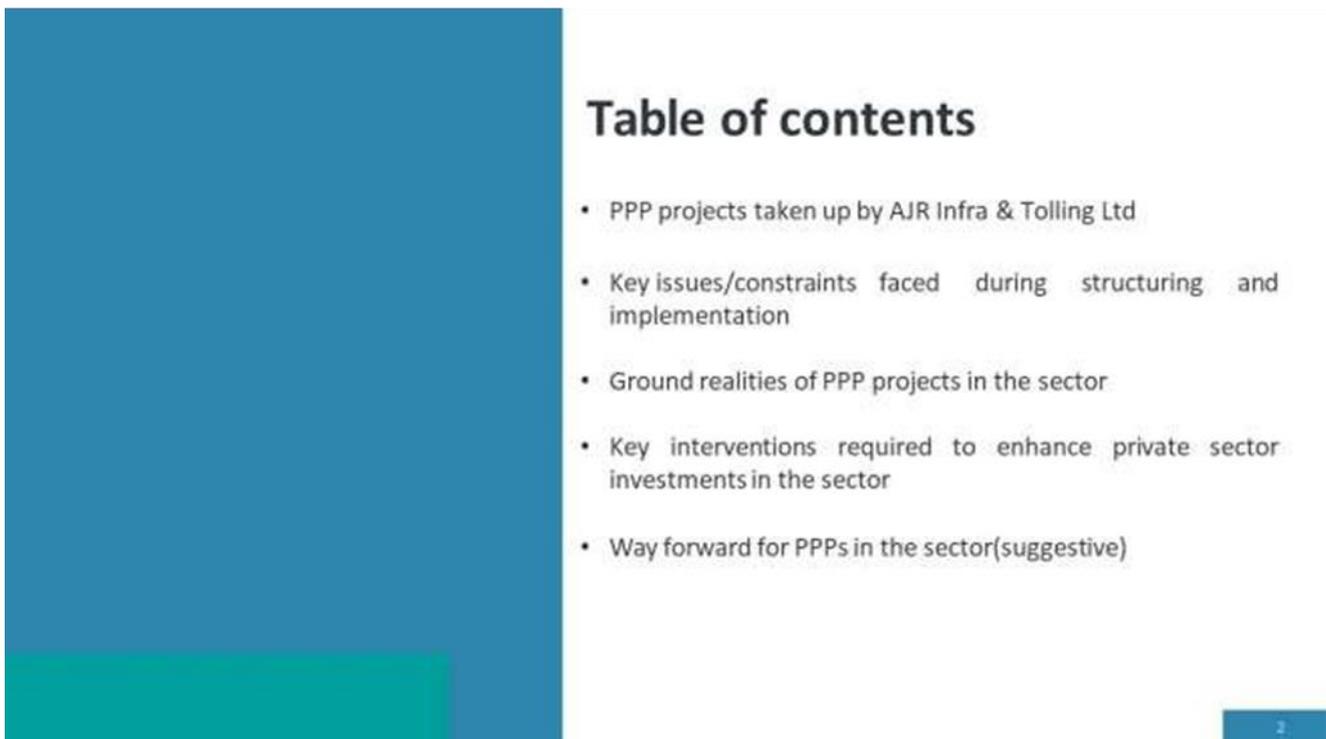


Way forward for PPPs in the Highway Sector

- Invite more projects on BOT (Toll) mode.
- Engage with Private Sector for identifying prospective projects for bidding.
- Engage with the States for strict implementation of State Support Agreements especially with respect to Competing Facilities.
- Modify the ‘Change in Ownership’ and ‘Termination Payment’ clauses of MCA suitably to attract investment and also provide comfort to Lenders.

THANK YOU

Presentation 05 by Asish Gupta, Advisor, Gammon India (Roads)



PPP projects taken up by private players in that sector

- Name of the Project: Patna - Muzaffarpur Road Project
(63.15kms on NH-77 on BOT annuity basis)
- Total Project Cost : Rs.940crs
- Current Status : Completed
- Project Status : Operational by New Player after obtaining PCOD by concessionaire & commencement of Annuity

3

Key issues/constraints faced by private player during structuring and implementation

- Insistence on financial closure before acquiring substantial clearance for the land.
- The time overrun and its cost implications recorded and cleared by Independent Engineer not settled by Employer.
- The tripartite Escrow agreement between Banks, SPV and NHAI not honoured by the banks withholding annuity payments.
- NHAI stopped the further annuity after four annuity retain by banks and forcing SPV to complete the balance work with own fund.
- The resolution plan under 12A submitted by AJRITL (GIPL) for principal amount of loan Rs. 1026 Cr. with up front refund of Rs. 300 Cr. was rejected.
- The lenders (6 lenders out of 7) assign debt to Pheonix ARC Pvt. Ltd. between Feb'2019 to Mar'2020 @ less than 50% of the value.
- Banks appointed RP and consultant I Value Advisor Pvt. Ltd. with the huge fees.

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Ground realities of PPP projects in the sector

- Lenders defaulted by not honoring Escrow agreement which in turn prompted NHAI to stop annuities.
- NHAI too defaulted in delay on land acquisition followed by delay in release of annuity and then stopping the same.
- Despite own default of lenders they enjoyed privilege of declaring company’s loan as NPA and dragging it to insolvency under IBC.
- Lenders had the option of continuing with tripartite agreement and was surely in position to recover entire debt by honoring Escrow agreement or even terminate the agreement and get 90 % of its debt from NHAI (As being done on other Projects). Option was never explored.
- Even during Resolution process in IBC, COC (Majority by ARC) opted proposal of Silver Points Luxembourg was accepted with Rs. 930 Cr. without any infusion of funds as against AJRITL proposal (Under 12A) of Rs. 300 Cr. up front and overall for more than 1026 Cr.
- NHAI has reversed their earlier stand and started releasing annuity to ARC dominated COC.

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Key interventions required to enhance private sector investments in the sector

1. An Indian Entrepreneur who invested Equity, Time and Management, ultimately losing the Company due to clear default of NHAI, Lenders who did not abide by the terms of agreements.
2. The MD of Silver Point Luxembourg, Mr. Karim Moolani is a Pakistani born USA citizen, which is a major concern.
3. The SPV formed to take up the Government initiative (BOT) suffered substantial loss in the Project having even after obtaining PCOD and deprived all benefits of BOT in the process.
4. Lenders default resulted in to stoppage of Annuity and in turn NPA of the company. When Company was taken to IBC, the balance Annuity more than 2100 Cr. with debt less than 1000 Cr. balance work of 150 Cr.
5. Lenders (Public Sector/Private Banks of India) lost 50% of debt (Rs. 500 Cr.) due to own default and wrongly initiating IBC provision.
6. Acquisition done by ARC (Foreign Investors) is likely to earn Rs. 500 Cr. in no time with Company (another foreign Company) presently shortlisted by COC/RP/IBC likely to further earn Rs. 1026 Cr. without any investment.

6

Way forward for PPPs in the sector

1. Infrastructure Projects in PPP mode require specific performance by all stakeholders therefore SOP for curing such default/compensation to be factored in the agreements.
2. A defaulted party/stakeholders need to be barred in using acts like IBC/SARFACI/DRT.
3. Necessary amendments in IBC acts are require to stop accepting a corporate debtor/Company insolvency if revenues are visible/ available.
4. IBC must look into the reasons for defaults and fix responsibility on the actual defaulter.
5. All 3 parties are part of Project assessment, hence they should be equally responsible for Project cost as well as revenue assessments.
6. Further absolute rights of committee of creditors in IBC should not be given and the Company transfer/ acquisition should not be without the permission of the Employer.

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Presentation 07 by Nitu Samra, Chief Financial Officer, Noida International Airport Ltd. (Airports)



PUBLIC PRIVATE PARTNERSHIP

Ministry of Finance

September 14, 2022



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2. Inputs – Key Issues/constraints faced
3. Ground realities of PPP projects in airport sector
4. Key interventions required to enhance private sector investments in airport sector
5. Way forward for PPPs in airport sector

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OUR PROMOTER

Zurich Airport Ltd

Public Company	Canton of Zurich 33.3% City of Zurich 5% Publicly Traded 61.7%
Over 70 Years of Experience	Operating Zurich Airport since 1948
Successful Business	USD 1.2 billion turnover * USD 4.8 billion market cap

* 2019 figures

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GLOBAL PRESENCE

Ten Airports In Europe, Latin America and India



Sept 2022

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PPP Projects in India

Key Terms	Noida International Airport	Bangalore International Airport
Initial ownership	100%	17% ²
Concession awarded	2019	2001
Concession period	2021 – 2061	2004 – 2064 ³
Project nature	Greenfield	Greenfield
Construction period (Phase 1)	2022 – 2024 ¹	2005 – 2008
Initial design capacity	12m passengers p.a.	4.5m passengers p.a. (increased to 11.4m during construction)
Concession fee	Per passenger starting in 6 th year of operations	Gross revenue share
Total Project Cost	Phase 1: INR 5730 crore	Initial Phase: INR 2470 crore ⁴

¹ expected ² divested fully in 2017 ³ Assumes initial 30 years + extension option 30 years ⁴ AERA (includes project extension works)

Sept 2022

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INDIA @ 2047

Constraints faced during structuring

Item	Observation	Recommendation
Bid Process and Timelines	Investors typically require a longer duration for due diligence when many airports are bid out together.	Well defined timelines for the bid preparation and submission leading to the award of the concession will help the investors in completing the due diligence in a timely manner.
Regulatory Approval - Land and Environmental Clearance	Land acquisition, environmental clearances and various other approvals required before construction of airport leads to temporal and financial impact on the project	Availability of environmental clearance and 100% of site land prior to tendering concessions will give comfort to infrastructure investors.
Information Asymmetry	Foreign investors at a disadvantage in terms of local knowledge/issues and nuances which might lead to erroneous quantification of expected return on investment	Establish frameworks to evaluate a prospective airport on certain benchmarks and factors which are pertinent to the interests of all stakeholders. Data rooms including all orders/notices/market information can be created to support bidders
Connectivity / Utilities	Road and rail connectivity as well as provision of water, power and other utilities are crucial for long-term airport development.	Clarity on rail and road access as well as provision of utilities before tendering new greenfield / brownfield concessions will allow investors to better plan and value future airport development.
Term of the concession	While airport concessions in India range between 40-70 years, this duration is typically not long enough to recover investments over land monetization.	The ability to concession real estate beyond the duration of the airport concession will provide the necessary clarity in land monetization and improving the overall economic viability of the project

May 2022

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Ground Realities - PPP Projects in Airport Sector

Issue	Recommendation
Risk Sharing <ul style="list-style-type: none"> Unforeseen and uncontrollable risk related to land acquisition, connectivity, availability of utilities cause challenges 	<ul style="list-style-type: none"> Greater clarity on risks beyond investors control before bidding. Extensive support via dedicated cell created for such matters
Mismatch of revenue versus cost of reserved Services <ul style="list-style-type: none"> Revenue in initial years of a greenfield airport could be strenuous Fixed costs including cost of various reserved services to be borne by the airport operator causes additional pressure 	<ul style="list-style-type: none"> Consider waiving or deferring cost recovery for reserved services for greenfield airports or new brownfield projects. AERA regulation should clearly call out that costs of reserved services may be recovered through aeronautical tariffs.
Regulatory challenges <ul style="list-style-type: none"> Current regulations either by AERA or Civil Aviation doesn't take into consideration the dual airport system RCS exemptions available to airlines may put additional financial pressure on greenfield airports in initial years 	<ul style="list-style-type: none"> Consider a policy to determine air space procedures / availability of air space/ tariff regulations in multi-airport city systems. Waiver to greenfield airports from RCS airports and allow them to levy airport charges on such flights
Tax incentives <ul style="list-style-type: none"> Different central and state taxes, duties, cess and other levies further add to the overall cost of the airport Lacunae such as input tax credit (ITC) restriction on works contract and construction services continue to be issues Project import benefits available earlier restricted recently 	<ul style="list-style-type: none"> Since most states have industrial incentives, it is important to create a common process to determine and access incentives that may be applicable Additionally, GST input tax credit on construction can help avoiding double taxation and reduced tariff

Sept 2022

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Key interventions required to enhance PPP investments in airport sector

Investment Promotion

- GST input tax credit for construction, along with other industrial incentives should be made available for airport developers
- Tax incentives /capital subsidies may be provided to greenfield airports and mechanism to avail tax incentives and capital incentives should be clearly defined
- Project import benefits available at the time of bid should continue to be available

Financial Support

- Incorporate a provision in concession agreement for financial re-balancing mechanism, say once every 10 years, for extraordinary unforeseen situations that can arise with a fair and transparent process of evaluation through the Regulator;
- Government may consider extending soft loans to make airport clusters financially viable for private investors. Mandatory capex requirement should also be kept at a minimal level.

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Way Forward for PPPs in airport sector

India Market Potential

With a large domestic traffic base and 380 million strong middle class, India is expected to witness a rapid recovery in traffic. Zurich Airport as an investor certainly sees an immense potential in Indian aviation sector

To make the overall environment better few suggestions to make PPP model more attractive

1. Expedited approvals for setting up greenfield facilities. Land/environment clearances may be obtained by government prior to tendering concession
2. Dedicated and integrated cell for providing last mile connectivity to greenfield airports. This should be part of the bid document
3. Ensure the appropriate autonomy of the private investor in running the airport viz structuring of commercial concessions etc.
4. Ensure that concession agreement are flexible enough to deal with severe unforeseen events
5. Review the allocation of risks in PPP contracts between concessionaire and grantor -Commercial risks should be assigned to the private sector; other risks may be assigned according to which party is able to mitigate the risks.
6. Civil aviation policy/AERA guidelines may be updated to set a fair rule based regime for multi-airport systems, which are a recent development in the sector.

Sept 2022

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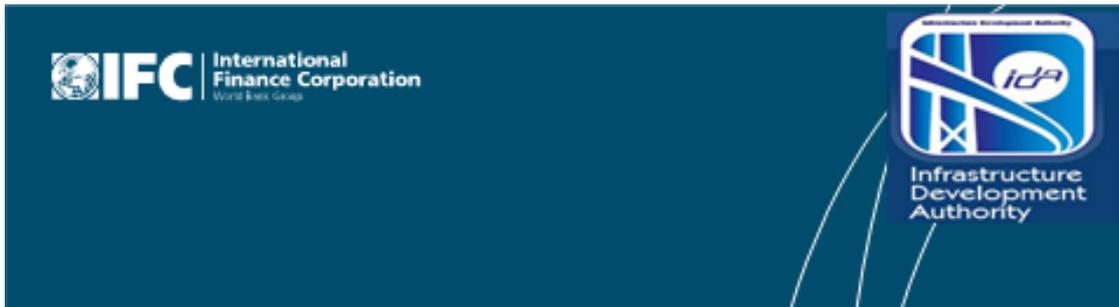
Appendix D. - Presentations by Authorities



Session 01- Health, Education and Sports Infrastructure



Presentation by Mr. Pankaj Sinha, Senior Investment Officer, International Finance Corporation on behalf of IDA Bihar on Jayaprabha Hospital on PPP mode



*Development of a Super Specialty Hospital in Patna
under Public Private Partnership*

**Presentation to DEA
September 2022**

Super Specialty Hospital in Patna: Project Summary



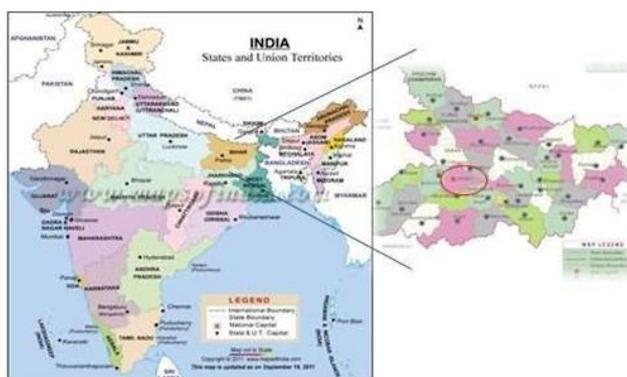
- *A greenfield, super-specialty hospital developed in Bihar on PPP mode*
- *Mobilized INR 500 cr in private investment*
- *Full-service PPP awarded to Medanta in 2015 based on a competitive bid process*

2



Project Context

- Bihar, a low-income state located in Eastern India, has a population of 119.5 million
- Healthcare services constrained due to lack of health infrastructure, especially super specialty/tertiary care & qualified manpower for example:
 - total hospital beds of only 0.26 per 1000 against national average of 1.5;
 - Infant Mortality Ratio in Bihar is 46.8 vs. National average of 35.2- NFHS-V)



OBJECTIVE

- *Development of a Super Specialty hospital in Patna under public private partnership (PPP) such that the people of the state have access to advanced, affordable and quality healthcare.*
- *Infrastructure Development Authority(Bihar) mandated IFC as lead transaction advisor in May 2013 to structure and implement the PPP transaction*

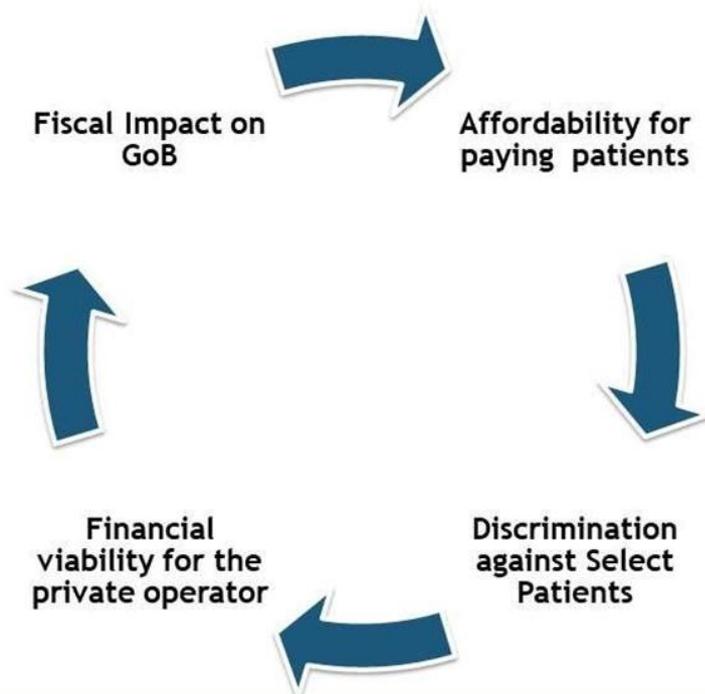
Location & Site Details

- **Location:** Kankarbagh, Patna
 - 2 km from Patna Junction Station (Railway Station)
 - 8 km from Lok Nayak Jayaprakash Narayan International Airport
 - Good site accessibility
- **Site Details:**
 - Total land area of 7 acres



- *The hospital site was located in the heart of the city and easily accessible*
- *Due diligence indicated that the land was free from illegal encumbrances and there are no encroachments on land*
- *Land was already transferred to Department of Health (Concession Authority)*

Key factors driving project structuring



Project Structure - Scope of Work

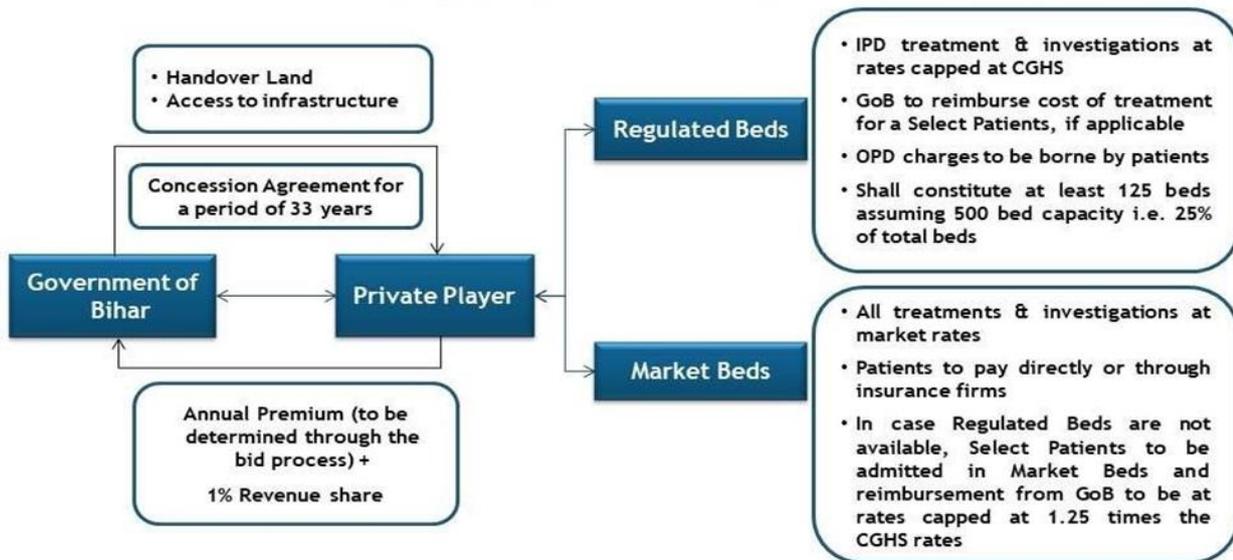
Private Sector

- **Design, develop, equip (Medical, Non-Medical Machinery), finance and operate & maintain the hospital**
 - Undertake civil & infrastructure works
 - Equip as per NABH or other relevant international standards
 - Operate & Maintain while ensuring quality of both clinical and non-clinical services by meeting NABH standards & agreed KPIs
 - Develop super-specialties including those specified in the Concession Agreement (CA)
 - Provide parking facilities
- **Recruit/Staff all required human resources** without taking any serving employees of the government
- **Ensure a robust MIS**, including:
 - Providing periodic performance reports for performance monitoring

Government of Bihar

- Handover land under a concession framework to the identified developer to build and operate the hospital
- Facilitate obtaining of the requisite approvals/clearances by the private developer
- Provide access to water, power supply, and sewerage network facility near the Project Site
- Monitor KPIs defined in the agreement

Implementation Structure



- All OPD consultation charges to be paid directly by patients
- All OPD diagnostics rates, capped at CGHS rates, to be paid by Patients
- All OPD medicines to be paid by patients at actuals

Proposed Mandatory Specialties

Phase-I	Phase-II
<ul style="list-style-type: none"> • General Medicine • General Surgery • OPD • Diagnostics • Orthopedic <ul style="list-style-type: none"> ○ Joint Replacement surgeries ○ High end Trauma surgeries • Emergency & Trauma and critical care • Anesthesiology • Pharmacy • Physiotherapy & Rehabilitation • Minimal invasive & day care 	<ul style="list-style-type: none"> • Cardiac Sciences <ul style="list-style-type: none"> ○ Interventional Cardiology: All Cath Lab Procedures including PTCA and other procedures involving Coronary Artery and Carotid Artery Angioplasty and Stenting, catheter/ percutaneous based cardiac valve repair ○ Cardiac Surgery (Thoracic & Vascular Surgery): Coronary Artery Bypass Graft (CABG), Cardiac Valve replacement/ repair surgeries, repair of Congenital Heart Defects • Neuro Science <ul style="list-style-type: none"> ○ Skull base Neuro surgery, Surgeries for Brain Tumors, Frameless Sterotomy ○ High end spinal surgery ○ Neurosurgical interventions related to traumatic brain injuries, spinal cord injuries, Stroke, aneurysms, Cancers of the brain and spinal cord, vascular diseases of the brain and spinal cord. • Renal Science <ul style="list-style-type: none"> ○ Urology: including Kidney Transplant Surgery ○ Nephrology including Dialysis • Endocrinology & Diabetes • Gastroenterology & Hepatology <ul style="list-style-type: none"> ○ Liver transplantation ○ G I Bleed • Pulmonology & Respiratory Medicine • Diagnostics: Cardio Diagnostics

KPIs

KPI	Threshold Value	Penalty
NABH Accreditation within 5 years of Appointed Date or 12 months from COD of Phase II Continuous validity till the end of Concession Period	<ul style="list-style-type: none"> Regular NABH renewal certification to be submitted by hospital operator to GoB 	<ul style="list-style-type: none"> The penalty shall be 0.5% of the PG for every month or part thereof of default subject to cap of 10% of PG The annual penalty shall increase by 6.5%
Patients occupying regulated beds	<ul style="list-style-type: none"> Phase I - Minimum 3000 bed days Phase II - Minimum 10,000 bed days Subsequently, for addition of every 100 beds, 3000 bed days shall be added to the previous threshold value 	<ul style="list-style-type: none"> For every bed-day shortfall in IPD, Rs. 5,000 shall be the penalty The annual penalty shall increase by 6.5%,
Fee charged to Regulated Bed Patients at variance with contract provisions	<ul style="list-style-type: none"> Zero cases violating contractual provisions 	<ul style="list-style-type: none"> The Damage shall be calculated in an amount equal to 0.05 % of the Performance Guarantee for every default (measured quarterly) The annual Damage shall increase by 6.5%.
Select Patients - Assuming GoB refers “A” patients to the hospital (applicable only if GoB decides to reimburse Select Patients)	<ul style="list-style-type: none"> Four (4) times the total number of Select Patients referred by GoB in a financial year multiplied i.e. 4 X “A” bed days (minimum) However, the threshold values shall apply only if the requisite funding is maintained in the ESCROW account by GoB 	<ul style="list-style-type: none"> For every bed-day shortfall in IPD, Rs. 5,000 shall be the penalty The annual penalty shall increase by 6.5%

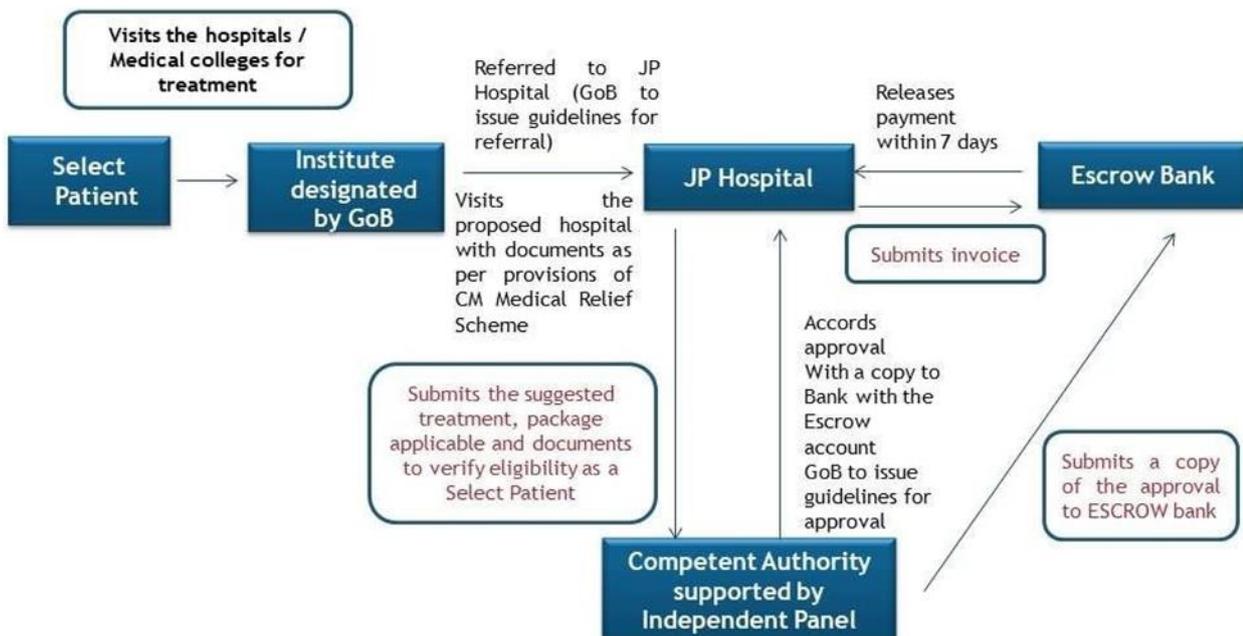
Monitoring & Evaluation - Independent Panel

- **Constitution:** An Independent panel of experts (doctors, hospital management and hospital engineer and other expert relevant to the project) from a panel of experts mutually constituted by Authority and Concessionaire
- **Remuneration & Expenses:** To be paid by Authority, half of which will be reimbursed by Concessionaire
- **Role of Independent Panel: During Operations Phase**
 - Conduct inspection and review the KPIs periodically
 - Check for availability of key staff and equipment
 - Review, inspect and monitor operations and maintenance functions
 - Monitoring compliance of the provisions of the concession agreement related to safety requirements, quality of healthcare services, environment and social risk management, equipment and human resources and recommend changes, if required
 - Random checks on the operational capacity as per the minimum requirements
 - Assistance in dispute resolution
- **GoB shall retain the right to appoint its experts for inspection and provide inputs**
- **A Joint Coordination committee of authority and developer shall be formed to provide advice on day to day operational matters**

Selection Criteria, Concession Fee & Revenue Share

Selection Criteria	<ul style="list-style-type: none"> Subject to eligibility, the bidder quoting the highest premium in the first year shall be awarded the project
Concession Fee	<ul style="list-style-type: none"> First premium is payable upon handover of Site by the Government and subsequently on every Anniversary of the Effective Date Escalated @ 6.5% each year
Revenue Share	<ul style="list-style-type: none"> After the COD of Phase- I, at the beginning of each Financial Year an amount equal to the higher of: <ul style="list-style-type: none"> (A) $(N \times \text{the last Premium amount paid or required to be paid by the Concessionaire})$ <i>where</i> $N = \frac{\text{Weighted average of the number of Beds for which COD has been achieved}}{300}$ <i>Weight is the number of days elapsed in a Financial Year since achieving COD for such Beds.</i> <i>In case $N > 1$, then N shall be deemed to be 1</i> (B) 1% of the Revenues earned in such Financial Year by undertaking all Project related activities Paid within 5 (five) months from the date of commencement of such Financial Year.

Process of treatment for Select Patients



Applicable if, GoB intends to reimburse the cost of treatment for Select Patients

Progress Update

1. GHPL (Medanta) won the bid and signed the concession - August 2015
2. Financial Closure -2016 (US\$ 75 million)
3. Building Construction and OPD Inauguration- October 2020
4. Full services inauguration- October 2021 (~ 300 beds)
5. Over 125 specialists already appointed
6. Over 3000 surgeries done and over 230000 investigations completed

Session 02 - Waste, Wastewater and Solid Waste Management



Presentation by Dr. Levinson J. Martins, Senior Scale Officer, Goa Waste Management Corporation on Solid Waste management facility in Panaji



Dr. Levinson Martins
Managing Director- GWMC



Responsibility of Waste Management

As per Solid Waste Management Rules 2016, the responsibility of waste collection and treatment is given to the local body i.e. the Village Panchayat / Municipal Council / Municipal Corporation.

Are they well equipped scientifically and technologically to manage day to day waste generated?

Management of waste doesn't mean collection and disposal in some land outskirts of the village/ city. Nor does it mean dumping the waste somewhere and burning it.



Goa Scenario

The Goa Government understood the importance of waste management way back in 1996 and enacted the Goa Non-biodegradable Garbage Control Act 1996 when there was no precedent legislation for waste management in the country.

The Goa Non-biodegradable Garbage Control Act 1996 has provision of segregation of waste and also penalty/ fines for open dumping/ burning of waste for residents as well as commercial establishments.

Goa Government further established a Solid Waste Management Cell which was later converted into a full fledged Corporation i.e. Goa Waste Management Corporation.



Goa Waste Management Corporation

The Goa Waste Management Corporation (GWMC) is a special purpose vehicle of the Government under the aegis of Department of Science, Technology & Waste Management by Goa Waste Management Act 2016 which is entrusted to look after the overall management of all types of wastes in the State of Goa and more specifically setting up of centralized waste treatment facilities in the State.

GWMC also aims to provide guidance and assistance to local bodies and organizations in terms of technology and methodology for safe and scientific disposal of waste.

GWMC is first such SPV of the Government formed for scientific management of waste in the Country.



GWMC Facilities & Initiatives

- 1) 250 TPD Integrated Solid Waste Management Facility, Saligao, North Goa
- 2) 100 TPD Integrated Solid Waste Management Facility, Cacora, South Goa
- 3) Common Biomedical Waste Treatment Facility at Kundaim, Goa
- 4) Common Hazardous Waste Treatment Storage Disposal Facility, Pissurlem, Goa
- 5) Proposed E-waste Dismantling Facility, Pissurlem, Goa (work in progress)
- 6) Additional SWMF’s, Construction & Demolition Waste facility etc are at various stages



Overview

Sr. No.	Particulars	Unit	Estimated Waste Generation (2018)		
			State	North Goa District	South Goa District
1	Population	Nos.	1,5,80,507	880,995	699,553
2	Total Quantum of Waste Generated	TPD	766	468	298
2a	Residential (HHs)	TPD	465	261	204
2b	Non-residential (Commercial and Institutional)	TPD	269	190	79
2c	Street Sweeping	TPD	31	16	16
3	Per Capita Generation	Kg	0.484	0.530	0.427

Waste Generation Quantity in the State & Districts

Source: Primary Survey Analysis from Waste Quantification & Characterisation Report - March -19

Draft SWM Policy for the state of Goa by GWMC



S. No.	Administrative division	Population (2018)	Waste Generation (TPD)	Wet Waste (TPD)	Dry Waste (TPD)	Domestic Hazardous (TPD)
1	Goa State	1,580,507	765.64	401.13	344.77	19.71
2	North Goa District	880,995	467.26	246.23	207.63	13.40
3	South Goa District	699,553	298.38	154.90	137.15	6.31

Waste Quantification Analysis for the State



Source: Analysis from Waste Quantification & Characterisation Report - March -19
Draft SWM Policy for the state of Goa by GWMC

Split of Waste Streams in the State & Districts





250 TPD Integrated Solid Waste Management Facility – Saligao



Integrated Solid Waste Management Facility – Saligao 250 TPD (+20%)



- Land- 1,13,000 square meter
- 100 TPD Commenced in August 2016
- Expansion to 250 TPD works commenced on 29th August 2020 and completed in December 2021
- 250 TPD Plant inaugurated on 20th December 2021.
- Facility has treated approx of **3,01,600 Tons** from August 2016 to 10th Sep 2022
- **1,81,00,000 units** of power generated from the facility from Aug 2016 to 10th Sep 2022

Integrated Solid Waste Management Facility – Saligao



Model of Establishment

- RFP was issued to qualified bidders for bidding with 25 % : 75 % of equity- debt ratio with ROI to be quoted.
- The LoA was awarded at Rs. 145.95 Crore with 25% : 75% equity-debt ratio with quoted ROI at 17% and 13% respectively. (CAPEX)
- Gross Annual Operation Support Grant of Rs. 70 Crore for 10 years operation period. (OPEX)
- Monitoring Committee was constituted to oversee monthly operations of the facility and for recommendation for payment of OPEX.
- A separate budget head for CAPEX repayment and OPEX payment was created in DST.
- Land, Approach Road, Power and Water supply provided upto battery point.

Integrated Solid Waste Management Facility – Saligao



Google Earth Image 2014

Google Earth Image 2022



Challenges

- Non- availability of land for setting up such facility
- No successfully operational precedent in the Country
- No support from Financial Insitutions way back in 2014
- Municipal Solid Waste Rules 2000 had no provision for segregation
- High Tourist/ Floating population in Goa with extreme variation in waste quantum and characterisation
- Opposition from locals to setup the facility- NIMBY (Not In My Backyard) Syndrome





Overcoming Challenges

- Remediated 70,000 Metric Ton dump in 45 days and recovered land for setting up the facility in 2014.
- With provision of bidders equity upto 25%, we received bids from serious parties
- Provided a comfort letter to financial institutions with guarantee to park 3 Quarter Capex and commitment of repayment of CAPEX over 10 years period through Escrow Account.
- After the comfort letter, a consortium of Bank of Baroda and Axis Bank funded the bidder for the 75% debt portion.
- Designed the facility for Mixed Waste receipt but separate treatment for dry and wet waste.
- Kept a 25% buffer provision in treatment capacity beyond design capacity at no additional cost



Overcoming Challenges

- Formed Expert Committee under Padma Shri Dr. Sharad Kale and members from NEERI, IIT- Bombay and BITS- Goa for vetting of technology
- The land recovered was declared as Industrial Estate so that all approvals can be granted under single window i.e. Industrial Development Corporation.
- Kept a provision in the Agreement for refinancing in cheaper funds available with Government at later stage of the project
- The land was recovered as against capping where it would have been lost forever with 30 years of monitoring as additional burden



Success Story

- The facility generated employment to ragpickers on the existing dump
- They are provided with meals, EPF, Insurance, Travel and periodic medical checkup
- During Covid-19 lockdown, the facility was operational without stoppage due to parking of funds in Escrow Account
- Refinanced the project with closure of 75% debt portion which had ROI of 13% with 7% rate of interest funding which resulted in saving of ~29 Crore over 4 years for the Government
- As told earlier, treated approx 3,01,600 metric tons of garbage scientifically and generated 1,81,00,000 units of electricity.
- The facility is hub for industrial visits from India as well as abroad. The facility has restored natural greenery with various birds and butterflies visiting throughout the year.
- The facility has been subjected thorough scrutiny by Hon'ble National Green Tribunal, Chairperson Bench, New Delhi and is a recommended technology by them.



100 TPD Integrated Solid Waste Management Facility – Cacora



Model of Establishment

- The land identified was old legacy dumpsite which was remediated and recovered.
- The bidders has to invest 25% equity whereas the 75% project with upfront payment with finances from NABARD at 2.75% Rate of Interest as against earliers rate of 13%
- From RA Bills, upon certification only 75% payment is released.
- 25% is the bidders equity which will be paid over 10 years as Annual Capital Grant as per quoted ROI.
- Additional payment as OPEX - Gross Annual Operational Support Grant on basis of treatment of waste.
- New SWMF's will also follow similar model with 25% bidders equity and 75% funding from Government through financial institutions like NABARD, HUDCO etc.

Common Bio-medical Waste Treatment Facility- Kundaim



Common Bio-medical Waste Treatment Facility- Kundaim



Model of Establishment

- Build Own Operate and Transfer (BOOT)
- The bidders has to provide for 100% of the project finances
- The design is vetted by GWMC committee consisting of experts and consultant.
- The bidder collects fees from hospitals, clinics, pathology labs etc for a period of 15 years.
- Only land, approach road, Power and Water supplied to the battery point
- Land identified in Industrial Development Corporation Area



Important Points to Note

- Identification of Land preferably legacy dumping site- A Brownfield Project
- Declaring the land as Industrial Estate for single window clearances
- In Solid Waste Management Facilities, Operation support grant is compulsory as local bodies don't have enough funds to pay tipping fees.
- Tipping fee model works in other waste categories such as Bio-medical Waste, Hazardous Waste etc.



*Thank
you*

A close-up image of a fountain pen nib, showing the gold-colored metal and the black barrel. The nib is positioned at the end of the word 'you' in the 'Thank you' message.

Get in touch at
md.gwmc@zerowastegoa.com
contact@zerowastegoa.com

Presentation by Dr. Bhakta Kabi Das, Chief Engineer-cum-Addl. Secretary, Department of H&UD, Odisha on Bhubaneswar Water Supply



**BULK WATER SUPPLY PROJECT FOR IIT-
BHUBANESWAR, NISER, INFOCITY-II, AND
ADJOINING AREAS
ON
PUBLIC-PRIVATE PARTNERSHIP (PPP) MODE
ON
DESIGN, BUILD, FINANCE, OPERATE AND
TRANSFER (DBFOT) BASIS**

MEIL (BHUBANESWAR) BULK WATER PROJECTS PVT. LTD..



PROJECT STAKE HOLDERS

AUTHORITY	: PUBLIC HEALTH ENGINEERING ORGANIZATION, ODISHA ,BHUBANESWAR
CONCESSIONAIRE	: MEIL (BHUBANESWAR) BULK WATER PROJECTS PRIVATE LIMITED
BENEFICIARIES	: IIT – BHUBANESWAR NISER IDCO PHEO – KHORDA MUNICIPALITY – JATNI MUNICIPALITY



PROJECT HIGHLIGHTS

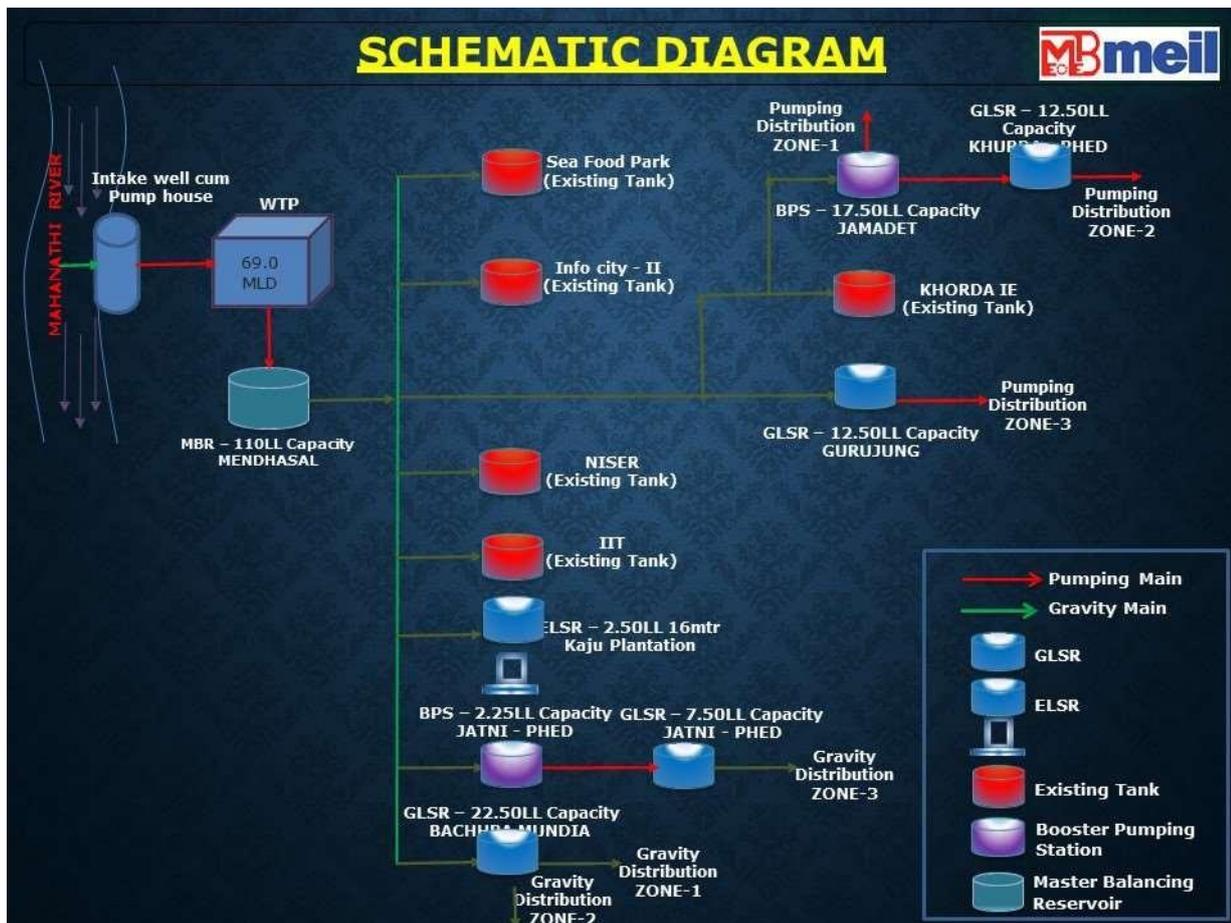
- INDIA'S FIRST PPP MODE PROJECT IN DRINKING WATER SUPPLY.
- STATE OF ART INFRASTRUCTURE DEVELOPED FOR SUPPLYING POTABLE WATER WITH ULTIMATE DEMAND OF 83MLD.
- 'COD' OBTAINED ON 12-06-2018.
- PROJECT DEDICATED TO STATE BY HON. CHIEF MINISTER OF ODISHA ON 24-11-2018
- BENEFICIARY DETAILS

Beneficiary Name	Water Requirement in MLD	
		Agmt qty
BULK USERS		
	NISER	4.55
	IIT BHUBANESWAR	5.00
	IDCO	13.19
		22.74
MUNICIPALITY USERS (PHEO of Govt. of Odisha)		
	KHORDA	8.91
	JATNI	13.10
		22.01
	Total	44.75

SALIENT FEATURES



➤ Mode of Implementation	Public Private Partnership (DBFOT)
➤ Name of Concessionaire	MEIL-Bhubaneswar Bulk Water Project Pvt. Ltd
➤ Project Start Date	16.12.2015 (Appointed date)
➤ Project End Date	15.12.2017
➤ Concession Period	25 Years
➤ Funding Pattern	Total Project cost – 187.71 Cr. MBWPPL Equity contribution- 97.71 Cr. OUIDF(Loan) - 40.00 Cr. Viability Gap funding – Rs 50 Cr. (GoI Share – Rs 37.54 Cr and GoO share Rs 12.46 Cr)
➤ Project Beneficiaries	<ul style="list-style-type: none"> ▪ IDCO (Sea food park, Infocity II and Khorda Industrial area) ▪ NISER ▪ IIT Bhubaneswar ▪ PHEO (Khordha – Municipality, Jatni – Municipality)
➤ Name of Independent Engineer	AECOM



DESIGN FEATURES

Item	Details
➤ Bulk Users	1.IDCO : (Sea food Park, Infocity-II, Khorda Industrial Estate) 2. NISER 3.IIT ,Bhubaneswar 4.PHEO : (Jatni Municipality, Khorda Municipality)
➤ Bulk Users Water Demand (2041)	28.937 MLD
➤ Adjoining Areas Water Demand (2041)	31.063 MLD
➤ Total Water Demand (2041)	60.00 MLD
➤ Per Capita Water Supply Considered	135 LPCD
➤ Raw Water Requirement (Ultimate)	70.00 MLD
➤ Pumping Hours	20 Hours
➤ Pure water Discharge (incl.10% Losses)	0.916 Cum/sec (For the Year 2041)
➤ Raw water Discharge (incl.15% Losses)	0.958 Cum/sec (For the Year 2041)

CONSUMER WATER DEMAND

Water Users	Present Demand as per Agreement with Concessionaire(MLD)	Proposed Demand 2041 (MLD)
IDCO	13.19	19.39
Sea food park	3.19	5.39
Infocity-II	5.00	5.00
Khorda Industrial Estate	5.00	9.00
NISER	4.55	4.55
IIT Bhubaneswar	5.00	5.00
Khorda – Municipality	8.91	12.15
Jamadei	1.96	2.73
PHD Store area	4.54	6.19
Gurujung	2.41	3.23
Jatni – Municipality	13.10	18.91
Kaju plantation	1.57	2.36
Bachara mundia	6.94	9.88
PHD Store	4.59	6.67
Total water supply	44.75	60.00



**INAUGURATION OF
“BHUBANESWAR BULK WATER SUPPLY PROJECT”
BY
HON’BLE CHIEF MINISTER OF ODISHA
SHRI NAVEEN PATNAIK**

24 -11-2018



83MLD WTP INAUGURATED BY HON. CHIEF MINISTER OF ODISHA



Project Performance

Sl No	Bulk Users	Water Requirement		Water Supplied (MLD)				
		MLD	ML Per Year	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
A	IDCO	13.19	4814.35	2347.82	4814.35	4814.35	4814.35	1609.18
	IDCO ADDITIONAL	2.80	1022	289.2	1022	1022	1022	341.60
B	IIT	5.00	1825.00	IIT not availed water supply from the date of COD				
C	NISER	4.55	1660.75	NISER not availed water supply from the date of COD				
D	PHEO	22.01	8033.65	3323.51	8033.65	8033.65	8942.50	2989.00



USER'S FINANCIAL STATUS AS ON JULY 2022

Sl No	Bulk Users	Invoice Amount	Payment Received	Balance payment to be received	Approx Interest	Balance Payable Amount incl. Interest	Remarks
1	IIT	186,781,900		186,781,900	54,890,061	241,671,961	<u>UNDER ARBITRATION</u>
2	NISER	169,971,534		169,971,534	50,014,108	219,985,642	<u>UNDER ARBITRATION</u>
3	IDCO	455,120,652	455,120,952		46,560,777	46,560,777	<u>UNDER ARBITRATION</u>
4	PHEO	159,467,108	146,928,022	10,591,822		10,591,822	
Total Amount:		971,341,194	602,048,974	367,345,256	151,464,946	518,810,202	

ACHIEVEMENTS



Uninterrupted water supply from project during combat Covid-19 Lockdown Period.



INTAKE WELL & INTAKE WELL CUM PUMP HOUSE



INTAKE WELL CUM PUMP HOUSE



RAW WATER CHANNEL, FLASH MIXERS & CLARIFLOCCULATOR



CHLORINATION UNIT WTP



FILTER HOUSE CHANNEL & FILTER BEDS



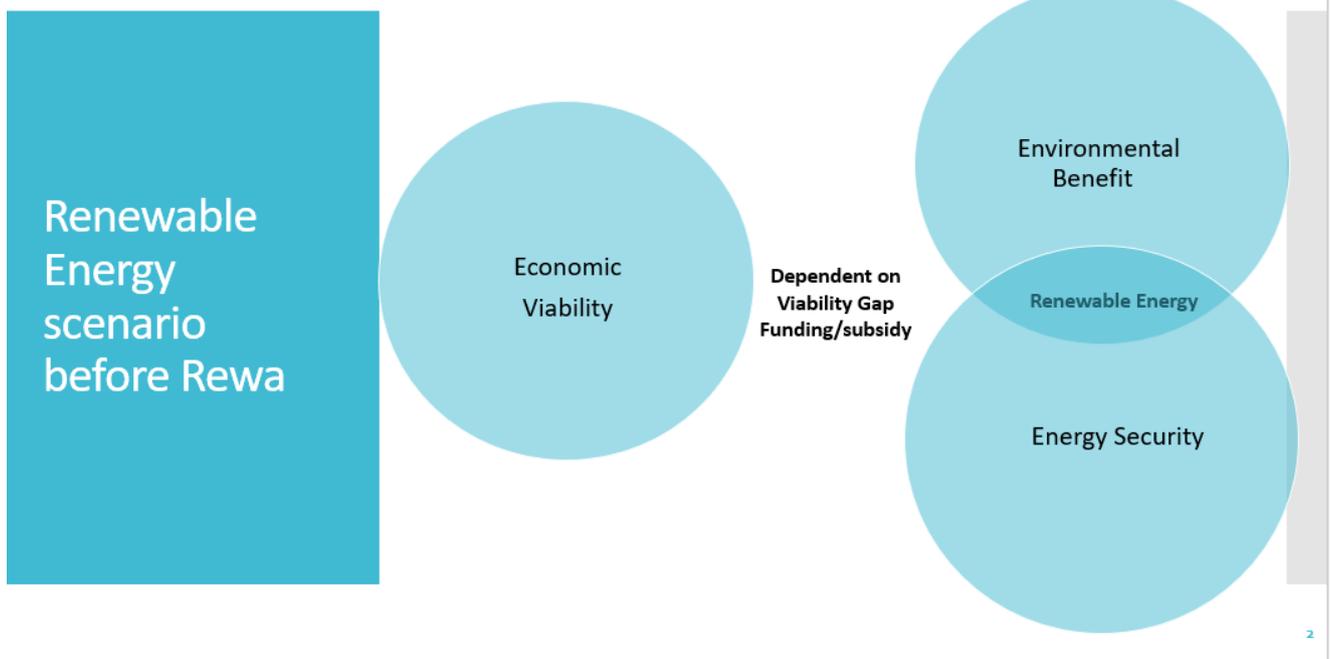
ELSR & GLSR's



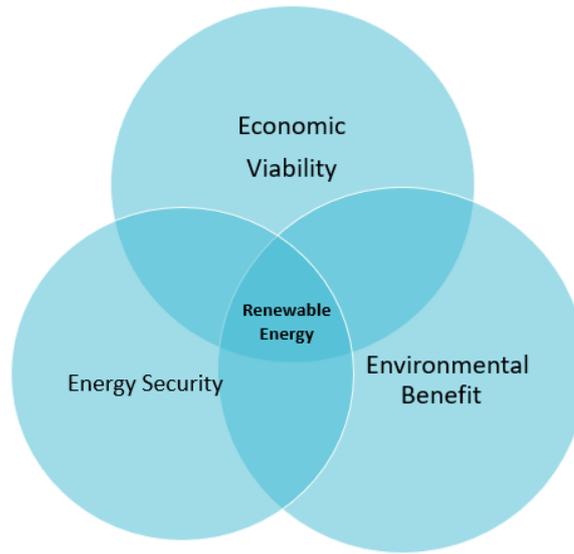
Session 3 - Urban Transport



Presentation by **Mr. Manu Srivastav, Principal Secretary, Government of Madhya Pradesh** on 'REWA Project'



Impact of Rewa in India



3

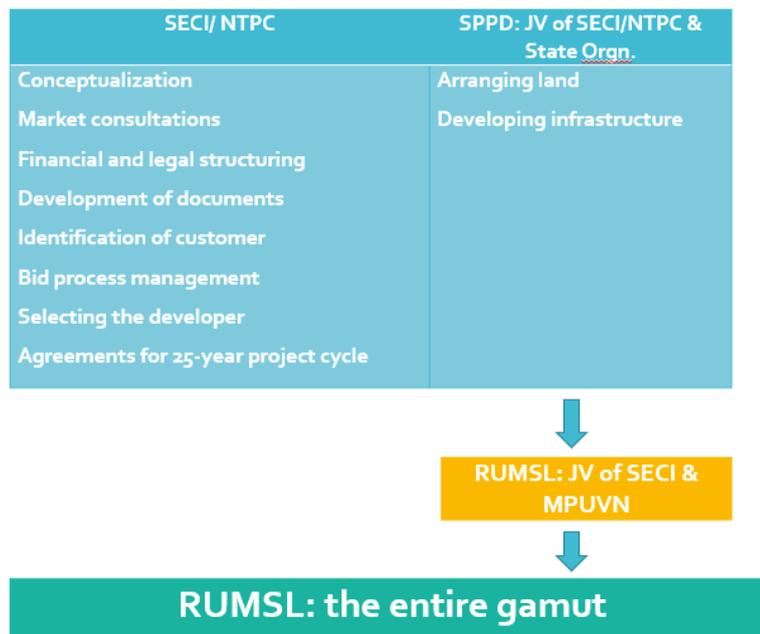
Fall in solar costs because of:

- Technology
- Efficient supply chain
- Rising comfort of financiers
- Vigour and initiative of private sector
- Economies of scale
- Growing developer experience
- Favourable policy & regulations framed by governments

Success of Rewa highlights role of:

Project structuring & risk mitigation

4



5

Solar Projects before Rewa: based on VGF/subsidy

SECI

State and Project	Project Capacity (MW)	Fixed Tariff (Rs./kWh)	Lowest VGF
Uttar Pradesh - UP Solar Park	440	Rs. 4.43/kWh	VGF – Rs. 74.99 lakhs/MW (DCR)
Andhra Pradesh - Anantapuramu Solar Park	500	Rs. 4.43/kWh	VGF – Rs. 44.50 lakhs/MW
Gujarat – Charanka Solar Pak	250	Rs. 4.43/kWh	VGF – Rs. 69.75 lakhs/MW
UP – Solar Park	315	Rs. 4.43/kWh	VGF – Rs. 99.95 lakhs/MW

NTPC

State and Project	Project Capacity (MW)	Lowest Tariff Discovered
Andhra Pradesh – Gani Solar Park	500	Rs. 4.63/kWh
Rajasthan – Bhadla Solar Park	420	Rs. 4.34/kWh
Karnataka – Pavagada Solar Park	500	Rs. 4.78/kWh
Karnataka – Pavagada Solar Park	100	Rs. 4.84/kWh

6

REWA result

Unit	Winner	First Year Tariff INR/kWh
1	Mahindra <u>Susten</u>	2.979
2	Acme Solar	2.970
3	<u>Solenergi</u> (<u>Arinsun</u>)	2.974

Levelized Tariff = 3.30/kWh

Lower than coal-based power.
No reliance on VGF/CFA. Rates achieved by effective mitigation of risks & robust project preparation process.

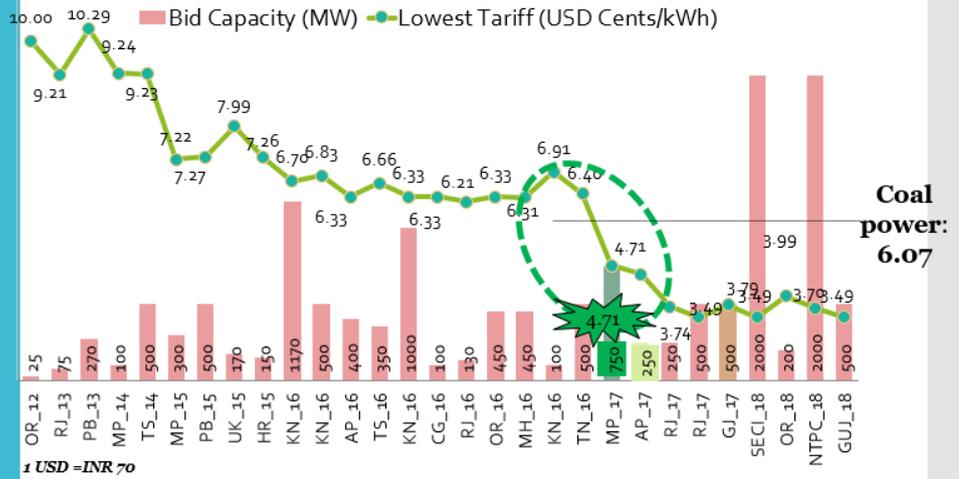
7

List of Bidders: 20 responses totalling 7500 MW

Foreign Companies	Indian Multinational Companies
SB <u>Cleantech</u> Seven Ltd. (Soft Bank, Japan)	Azure Power <u>Thirty Four</u> Pvt. Ltd.
GDF Suez Energy India (<u>Engie</u> , France)	<u>Shapoorji Pallonji</u> Infrastructure Pvt Ltd
<u>Enel</u> Green Power Development S.R.L. (Italy)	Aditya Birla Renewables
Green Infra Wind Energy Ltd. (<u>Sembcorp</u> , Singapore)	<u>ReNew</u> Power Ventures Pvt. Ltd.
<u>Solenergi</u> Power (Mauritius, a company of <u>Ostro</u> Energy)	Hero Solar Energy Private Limited
Canadian Solar Energy Holding Singapore 3 Pte Limited	Acme Solar Holdings Private Ltd.
	Mahindra <u>Susten</u> Pvt. Ltd.
	Torrent Power
	AMPL <u>Cleantech</u> Pvt. Ltd.
	Orange Renewable Power Private Limited
	ACB (India) Ltd.
	Narmada Hydropower Development Company
	Rose Petal Solar Energy Pvt. Ltd. (Adani)
	Rattan India Solar 5 Limited

8

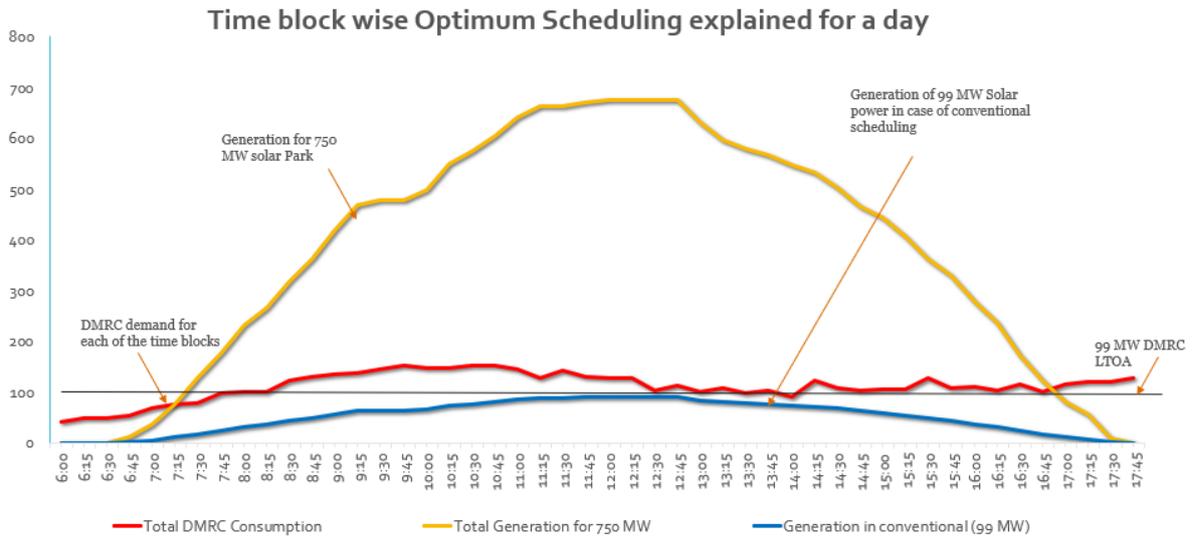
Impact of Rewa—
Cheaper than coal based power



Only solar project in India supplying to institutional customer

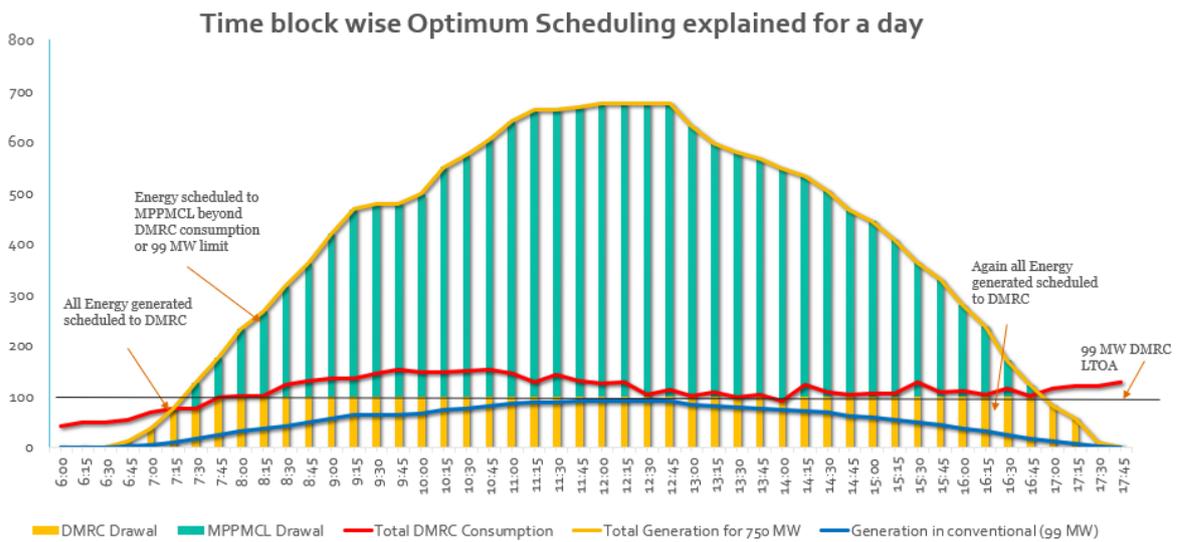
- Delhi Metro running on Rewa Project
- Meets 60% of day-time demand of Delhi Metro
- Annual saving of Rs 100 crore to DMRC
- Fixed supply of 99MW throughout the day, and not the usual solar curve

Power procurement through Optimum Scheduling



11

Power procurement through Optimum Scheduling



12

Environmental benefit

- Led to avoidance of CO₂ generation of 1.54 million tonnes per year.
- This environmentally positive impact could have been accomplished by planting as many as 26 million adult trees.

13

Rewa – changed how solar projects are structured in India

- All tenders of SECI & NTPC were withdrawn

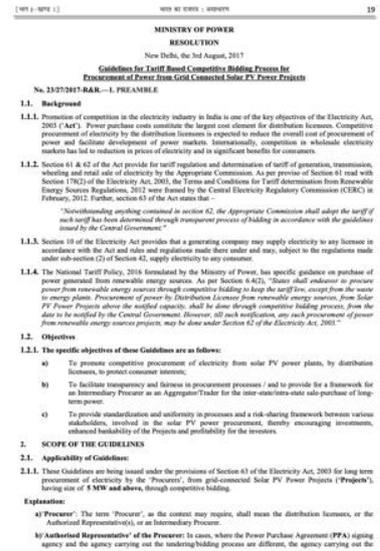
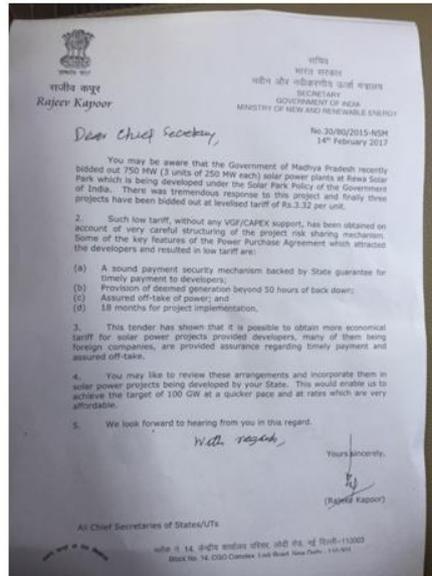


PPA signing of Rewa Solar Project

14

Rewa – changed how solar projects are structured in India

Standard Bidding Guidelines issued by Government of India on Rewa's principles



15

Rewa- Inaugurated by Hon'ble PM



Narendra Modi @narendramodi

Glimpses from the solar power project that was inaugurated in Rewa, Madhya Pradesh, this morning.



1:56 pm - 10 Jul 2020 - Twitter Web App

Prime Minister's Office
PM to dedicate to the nation the 750 MW Rewa Solar Project

Rewa project will reduce carbon emission equivalent to approx. 15 lakh ton of CO2 per year

The Project exemplifies India's commitment to attain the target of 175 GW of installed renewable energy capacity by 2022

Posted On: 09 JUL 2020 4:11PM by PIB Delhi

16

International recognition

World Bank Group President's Award for innovation and excellence

Global Infrastructure Facility (GIF), initiative of G20 & the World Bank, in its Annual Advisory Council meeting recognised Rewa as an ideal project to attract international investment in Emerging Economies by suitably addressing all risks.

World Bank India @WorldBankIndia

The @WorldBank and @IFC_org-supported Rewa Ultra Mega Solar Park aims to help #India quadruple its renewable energy capacity to 175 gigawatts by 2022, including 100 GW of #solarpower. Watch our video for more: [youtube.com/watch?v=nTDXDH ...](https://youtube.com/watch?v=nTDXDH...) @RajKSinghIndia



World Bank @WorldBank

Over 25 years, the use of solar power from the @WorldBank and @IFC_org-supported @RewaSolar will reduce emissions by a million tons every year. That's equivalent to savings from using 25 million LED bulbs. Watch our video for more: wrlid.bg/W99p50Eoni4 @OfficialDMRC @RewaSolar @WBG_Energy



Academic recognition

Store

Collections Books Tools Case Studies Articles Magazine Issues Search by Subject HBR Home

Home > Case Studies > Strategy & Execution

Case Study

Rewa Solar India: PPP Innovation Unleashed

by Sock-Fong Phang, Lipika Bhattacharya, Flory Joseph

\$8.95

Format: Hardcover Hardcover (HAR)

Language:

Quantity: This is a copyrighted PDF. Add copies before sharing with your team.

Are you an educator?

Product Description

Publication Date: April 18, 2021
Industry: Energy & Natural Resources
Source: Singapore Management University

Set in July 2020, this case talks about a solar park public-private partnership (PPP) project in Madhya Pradesh, India. Manu Srivastava, Chairman of Rewa Ultra-Mega Solar Limited (RUMSL), and his team had decided to go ahead with the project without the support of viability gap funding (VGF). However, the project faced a setback when the central government lowered the solar VGF tariff by 10%, forcing RUMSL to look for innovative ways of attracting lower bids. After consultations with solar developers and potential financiers, Srivastava and his team introduced many de-risking measures like payment security mechanisms, land availability guarantee, project termination and grid availability compensation and low-change risk coverage clauses in the power purchase agreement. The team also implemented innovative features like an optimum scheduling mechanism to attract a high credit off-taker and a data room with updates on land and internal execution infrastructure availability before the start of the bidding process. The overall strategy was to avoid the 'Goldilocks syndrome' and create a perfect balance between risks being transferred and known risks being accommodated. An reverse auction was used for the bidding process. The final tariff achieved was 47% less than the VGF tariff. RUMSL's role and bid's approach of process innovation motivated the central government to shift its focus from VGF to scalable market-based financing models. A "Standard Bidding Guidelines" for solar projects was introduced by the government, incorporating many features of the Rewa project.

Product #: 386307 PDF-ENG
Pages: 19
Related Topics: Implementing strategy, Risk management, Infrastructure, Environmental sustainability, Negotiation, Public-private partnerships

Project structuring & risk mitigation in Rewa

- Efficient transaction structure
- Robust project preparation
- Contractual provisions
- Parking of risk

19

Efficient Transaction Structure

- Plug & play
- Having procurers before bidding
- Land to be provided
- Evacuation infrastructure using concessional finance, but maintenance by developers
- Nearby delivery point
- Payment in local currency, not in USD

20

Robust Project Preparation

- 97% land available before bidding
- Infrastructure development
- Providing information about land & infrastructure development
- Evacuation infrastructure before project completion
- Providing information about development of evacuation infrastructure

21

Contractual provisions

Payment Security Mechanism

1. Letter of Credit
2. Payment Security Fund
3. State Government Guarantee

22

Contractual provisions

- Guaranteed Energy Contract
- Termination compensation
- Day zero for developer commitments
- Why PBG?
- No equity infusion requirement
- Encashed PBG returned on fulfilment of final target

23

Parking of risk

- Change in law and regulations
- Taxation
- Delivery point
- Deemed generation

24

COVID shutdown

- Delhi Metro (taking 24% energy) was shut down
- Principles of energy contracts & optimum scheduling allowed for flexibility in quantity of energy supplied to Delhi Metro & MP
- Project continued to function without asking the developers to curtail production or invoking force majeure clauses
- Established the wider point that careful project structuring stands the test of time even in unexpected situations.

25

Philosophy

- Willingness to improve
- Don't just hear, listen
- Knowledge doesn't flow from position
- Govt as contractual party, not just sovereign
- David can do better than Goliath

26

Aiming for the sun & saving our earth

....needs continuous innovation

27

Presentation by Ms. Rinaj Pathan, Superintending Engineer, PMRDA on
'Pune Metro Rail Project'

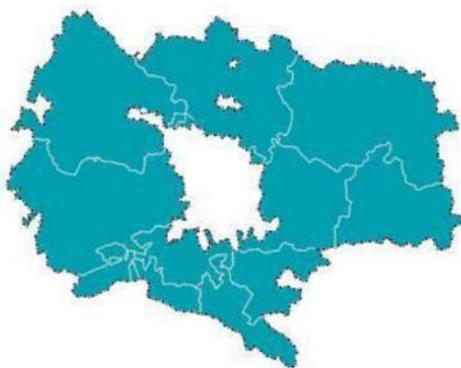


Pune Metropolitan Region Development Authority

Brief Presentation on PPP Structuring and case study of Pune Metro Line-3 Project



The Authority was established on March 31, 2015



Area

6914 Sq. Km



Population

7.32 Million (2011)

Geographical Area Constitution

Municipal Corporation:
Pune and Pimpri
Chinchwad

7 municipalities

3 Military Camp Circles

Special Planning Authority:
MADC, MIDC

9 Talukas

816 villages



Why PPP?

- ❖ Modern, sustainable, and reliable infrastructure is critical for meeting the rising aspirations of new India
- ❖ PPPs - Middle Ground between Public and Private
- ❖ Access to Private Sector Finance
- ❖ Tapping Higher Efficiency and Technological Innovations in the Private Sector
- ❖ Risk Transfer
- ❖ Plan for Economic as well as Financial Goals (neither fully social nor fully commercialized)
- ❖ Gives freedom to the Govt. to focus more on social sector policies and initiatives



Metro Projects and PPP



New Metro Rail Policy, 2017



1. Focus on private participation and Public Private Partnership (PPP)
2. Grant from Central Govt and State Govt
3. Comprehensive Mobility Plan is mandatory prerequisite for planning metro rail in city
4. Guidelines laid down requiring state to ensure last mile connectivity which is inadequate or lacking at present
5. Economic IRR for metro rail projects shall be 14% or above for investment approval
6. State Govt commitment to provide support financial support during operations.
7. Fare Fixation for PPP projects as per the Agreement and agreed formula
8. States to strive to generate maximum non-fare revenue through lease of space, advertisement Transit oriented development etc. to ensure financial viability of the projects



Various Models of Development and Financing As per New Metro Rail Policy, 2017



Model	Examples
50:50 Joint Venture model between State & Center	Delhi Metro, Mumbai Line-3, Chennai, Bangalore, Nagpur, Lucknow, Kochi and Ahmedabad
Complete Funding by the Central Government	Kolkata by Indian Railways
Complete Funding by the State Government	Metro Rail in Jaipur and Monorail in Mumbai
Public Private Partnership (PPP)	Mumbai Metro Line-1, Hyderabad Metro Rail, Pune Metro Line 3



Need of the Project



- ❖ Pune - Oxford of the East, Automobile Hub and IT Giant
- ❖ Rajiv Gandhi IT Park – over 1000 acres, surrounded by lush green mountains and natural habitat became a beacon of IT revolution, more than 1000 companies and workforce of 5 lakh plus
- ❖ Traffic Snarls
- ❖ Companies even started shifting outside RJITP



पुणे महानगर

Early Development

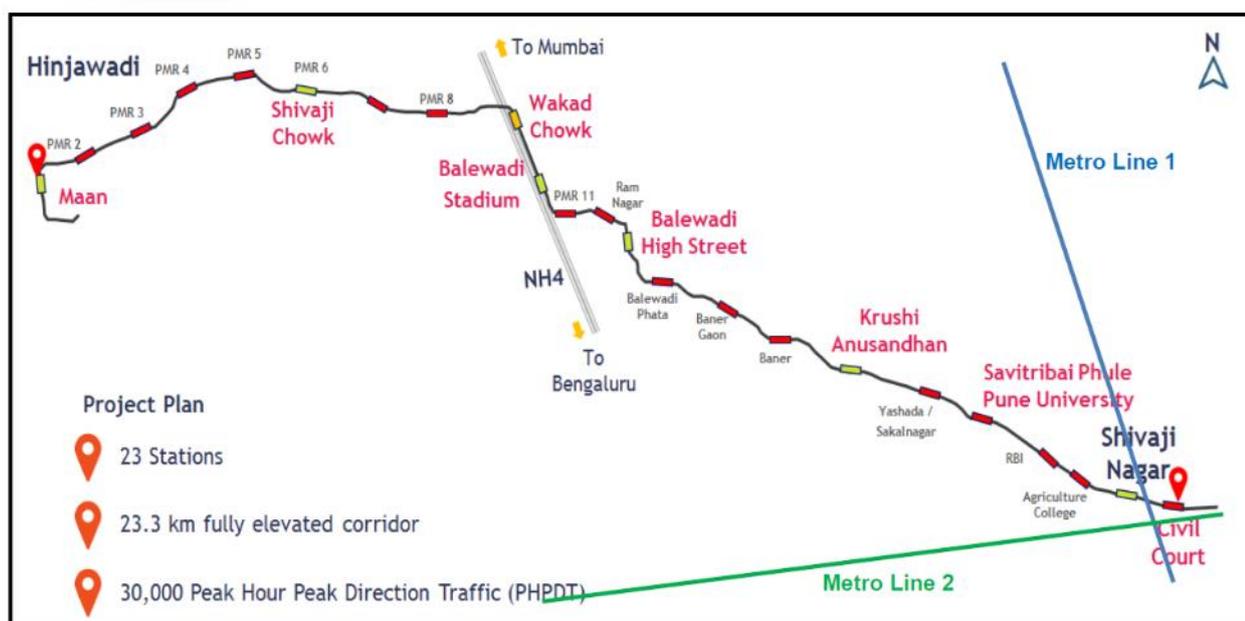


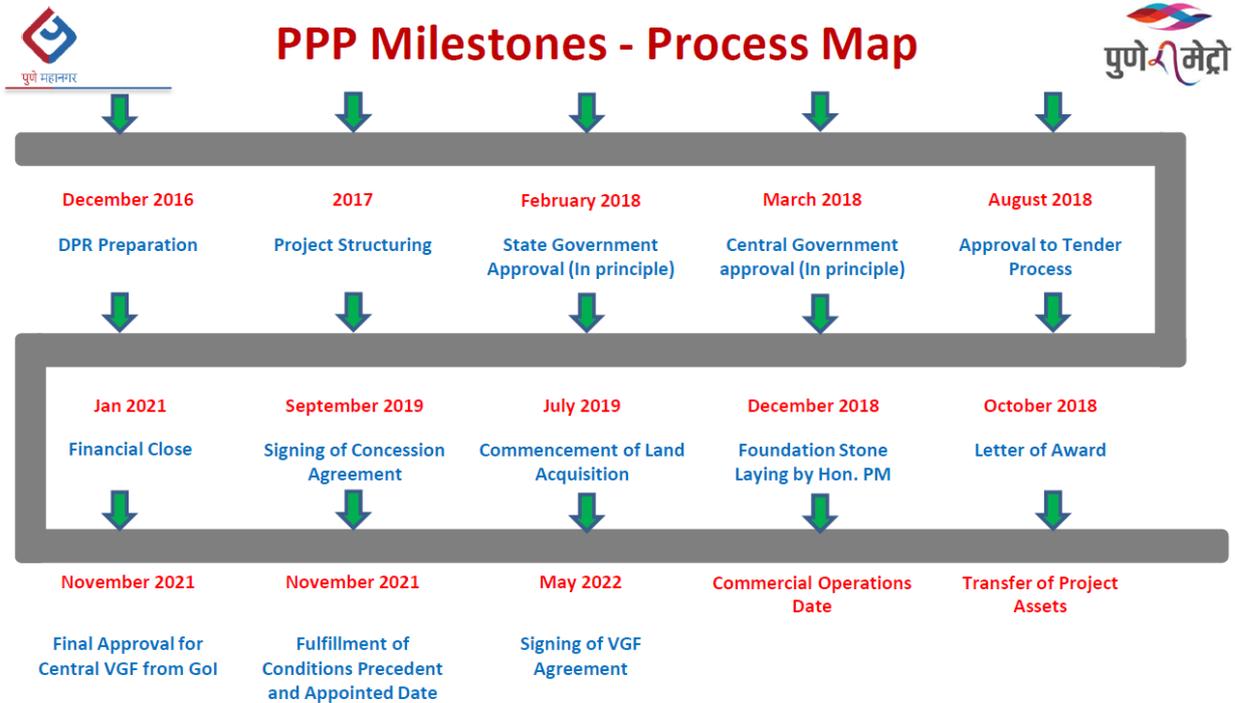
- ❖ PMRDA established in 2015
- ❖ GoM formed Maharashtra Metro Rail Limited for Nagpur and Pune in 2016
- ❖ Representation received from HIA for a Metro
- ❖ PMRDA being a new entity, the Government tasked PMRDA with the possibility of developing Hinjawadi Metro on PPP
- ❖ PMRDA appointed DMRC for preparation of DPR and engaged with IT companies, public representatives etc. to incorporate their ideas/ suggestions
- ❖ Preliminary cost and other analysis undertaken by DMRC and report submitted
- ❖ PMRDA appointed Deloitte Touche Tomatsu India LLP as Transaction Advisor
- ❖ Visit to Hyderabad Metro - CA referred and learnings incorporated
- ❖ GoM then accorded approval to undertake the Project on PPP – DBFOT model



पुणे महानगर

Pune Metro Line 3







पुणे महानगर

Pune Metro Line 3

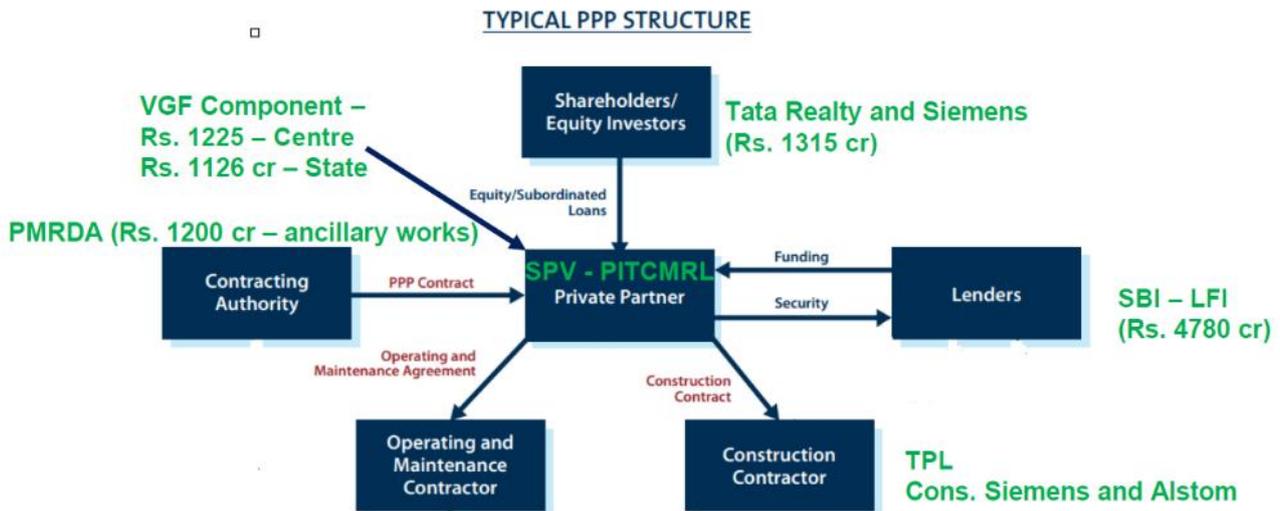


<p>₹ Project cost</p> <p>Total Cost – Rs. 8313 cr Put to Tender (DPR) - Rs. 6124 cr Financial Close - Rs. 7420 cr</p>	<p>+ Passengers per day</p> <p>3.33 Lakh (2024 – LIE)</p>	<p>🔄 PPP element</p> <p>Design, Build, Finance, Operate and Transfer (DBFOT)</p>
<p>🤝 Technology</p> <p>Advanced CBTC GoA2</p>	<p>💰 Viability Gap Funding</p> <p>Rs. 1224.8 crore – Central Govt. Rs. 1126 crore - State Govt.</p>	<p>🕒 Concession Period</p> <p>35 years + 25 years</p>
<p>▶ Commercial Operation Date</p> <p>April 2025</p>	<p>🚶 Double Decker Flyover (EPC)</p> <p>Savitribai Phule Pune University</p>	<p>📊 Right of Way</p> <p>97.2% Before AD - Nov'21 RoW as on 31.07.2022 – 99.5%</p>



पुणे महानगर

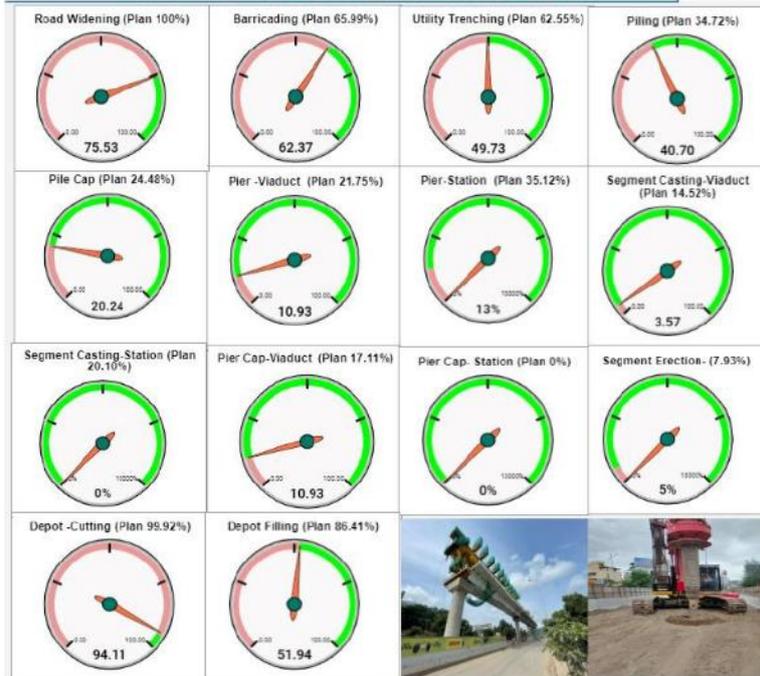
Typical PPP Structure





**PUNE METRO LINE - III
HINJEWADI TO SHIVAJINAGAR
REAL TIME PHYSICAL PROGRESS DASHBOARD**

12-Sep-22



Pink
Indicates
Completion



Progress as on 12.09.2022



Sr. No	Element	Unit	Total Scope	Actuals as on Date
				(Cumulative)
1	Utility Trenching	Nos	929	462
2	Piling	Nos	3862	1572
3	Pile Cap & Foundation	Nos	929	188
4	Pier (Viaduct)	Nos	686	75
5	Piercap	Nos	769	21
6	Viaduct Segment Casting	Nos	7376	263
7	Segment Erection	Spans	929	4
8	Pier - upto Concourse Level Station	Nos	243	11
9	Station Element Casting	Nos	1013	0
10	Station CL Pier Arm Casting	Nos	159	3



Site Progress Photos – Casting Yard



Gantry Bay



Labour Residence



Site Progress Photos



Piling Works



Pier Casting Works

Post Pier Casting





Site Progress Photos



Pier-cap Works in Progress



LG Erection in Progress



220 KV HT line Shifting - Overhead to Underground



MDN Tower Erection Works

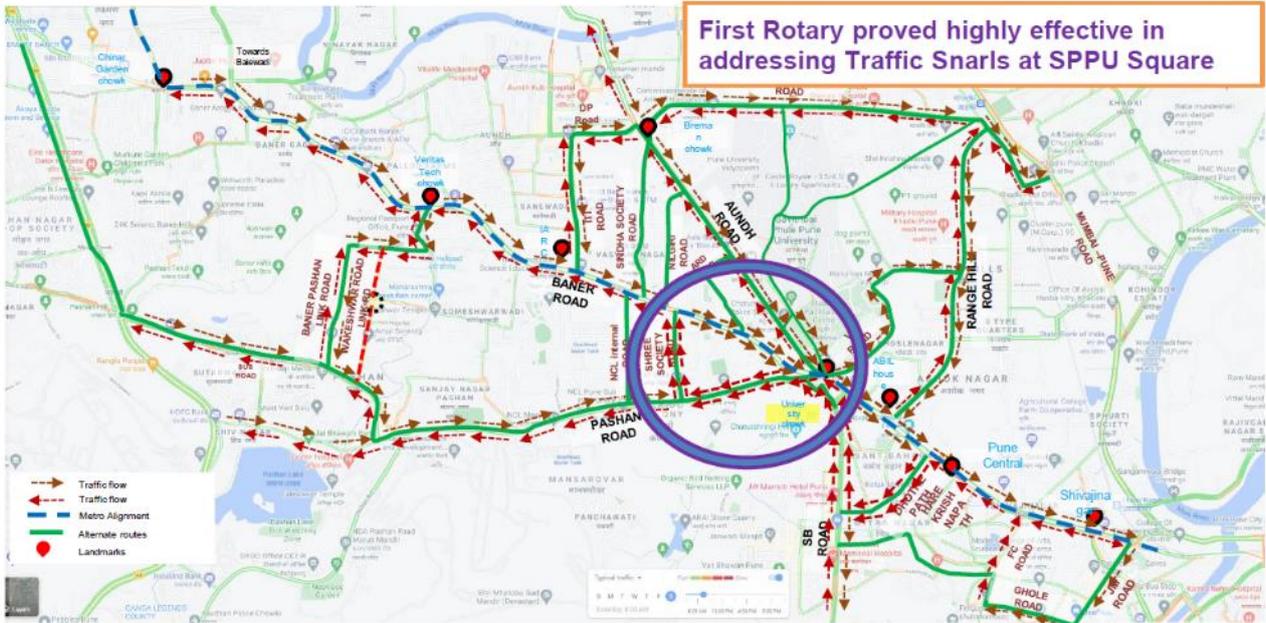
Hard Rock Excavation



Procurement Hard Rock Excavation



Traffic Diversion Plan



Integrated Double-Decker Flyover





Integrated Double-Decker Flyover



PML3 Success Story



- ❖ Stakeholder interaction – continuous process
- ❖ Project Structuring - clear segregation of obligations and risk to a substantial extent
- ❖ Detailed Viability Study – Grant of VGF and award of land for commercial exploitation
- ❖ Risk Reward Framework
- ❖ Transparent Tendering Process – develops confidence about the Contracting Agency
- ❖ Committed 100% Land Acquisition before Appointed Date – PML3 - 97.2% (first project in the country)
- ❖ Car Depot – 13.2 Ha land acquired in record 9 months (handed over 6 months before AD)
- ❖ Integration of newly proposed Double Decker Flyover through Supplementary Agreement
- ❖ Collaborative approach and Balanced Regulatory Environment



पुणे महानगर

Areas of Improvement



पुणे मेट्रो

- ❖ Speedy Land Acquisition particularly for lands available with State/ Central Government entities – implementation of existing State/ Central Govt. policies in letter and spirit (K-14011/S0/2014-MRTS-1II issued by the MoHUA, GoI and similar GR by GoM)
- ❖ Training and Courses – PPPs (interactive platform - active round the year to discuss/ brainstorm real-world problems)
- ❖ Last Mile Connectivity through PPPs
- ❖ Centre of Excellence (PPP)



पुणे महानगर



पुणे मेट्रो

Thank You

resentation by Dr. Deval Mishra, Senior Program Associate, Indore Municipal Corporation on Indore Public Transport on PPP mode



Indore Before 2006

- Modes of Public Transport
 - 550 private old Mini buses
 - 350 old Tempos & old Autos
- Rapid growth of city: Congestion, accidents, pollution
- Lack of effective public transport (PT) system
- No concept of bus stops and time schedules
- No route information to citizens
- No transit awareness in private operators
- Rapid rise of 2 wheelers
- No study or scientific approach towards PT

AICTSL, Indore



Indore Before 2006



AICTSL, Indore

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3

Formation of SPV – Special Purpose Vehicle

- "Indore City Transport Services Ltd" incorporated in December 2005 to operate and manage the public transport system
- Six members on Board of Directors.
- Focus on Public Private Partnership Model.
- An ISO 9001:2008 company.

AICTSL, Indore

4

SPV Objectives

Improve quality and cost effectiveness of public/urban transport.

Improve access to PT, traffic safety and passenger security.

Improve quality of public spaces and promote equity.

Increase opportunity for sustainable mobility business.

Enhance Integrated Multimodal PT System.

Promote PT Safety and protect Environment.

AICTSL, Indore

5

Promoting Public Private Partnership

To inculcate market expertise in city bus operations under govt. control.

Minimize govt. expenditure in the PT operations and associated infrastructure.

AICTSL, Indore

6

Services Offered

- Bus Rapid Transit System, *iBUS*
- Sutra Sewa
- Electric Bus
- Electric Charging Infrastructure
- Sky Bus – Intercity/ Interstate services
- EV Charging Infrastructure
- Upcoming Services

AICTSL, Indore



Adoption of Different PPP Financial models

Net Cost model: AICTSL receives premium – intercity/interstate buses.

Gross Cost model: AICTSL needs to pay per Km cost to operator.

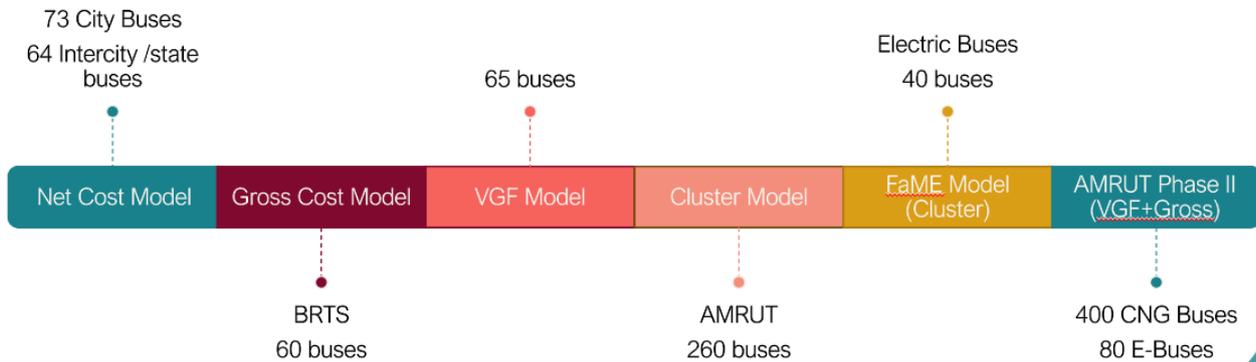
VGF Model: AICTSL pay per month VGF quoted to the operator.

Cluster Model: Combination of intercity & intracity under AMRUT scheme.

AICTSL, Indore

8

AICTSL PPP Models



AICTSL, Indore

12 October 2022

Innovation

Formation of City DUTF & State DUTF



City DUTF

Parking fee collected by Indore Municipal Corporation



State DUTF

Dedicated funds from state's budget
5 Bus depots constructed using State DUTF including 1 e-Bus depot

AICTSL, Indore

Innovation: Cross Subsidizing



Utilizing DUTF funds.



BRTS corridor
advertisement rights
allotment



Cross subsidizing intra-
city services with intercity
& interstate services



Intracity bus stops
allotment to AICTSL –
800 no. of stops

AICTSL, Indore

11

First to End mile connectivity Planning

- Public Bicycle system.
 - Operated on PPP
 - 1000+ bicycles have been deployed and 4.46 lakh km serviced since March 2022.
- E-rickshaw.
 - Operated on PPP
 - 100 no. of electric rickshaws operated by females under Govt. Subsidy.
- Tele-Rickshaw.
 - An organized system has been provided for the Auto – rickshaws.



AICTSL, Indore

12

Waste to Wealth concept



SEGREGATED WET WASTE
PROCESSED IN
BIOMETHANATION PLANT
RUN ON PPP



3 PLANTS OF CAPACITY
500 TPD, 100 TPD AND, 50
TPD



BIO-CNG IS CREATED



SOLD TO IMC @ ₹5/L
DISCOUNT



USED TO OPERATE
INTRACITY BUSES



AICTSL, Indore

13

Electric Bus & Charging Infra

- FaME I : 40 no. of electric buses.
- FaME II:
 - 37 REIL EV charging stations on Revenue sharing model
 - 2 open for public on trial basis
 - 76 EV charging stations on PPP by AICTSL
 - Contract Allotted
 - 3 EV charging station operational by EESL
- 16 e-Cars for Govt. officials on lease

AICTSL, Indore



14

Utilization of AMRUT Subsidy - Innovative way

- Operated on PPP
- 40% capital subsidy for 80 buses (50 intracity + 30 BRT)
- Intracity bus : Net Cost Model
- BRTS bus : Gross Cost Model
- Premium from intracity bus cross-subsidize BRT operations

AICTSL, Indore

15

Result- Impact of PPP adoption and Implemented Financial Strategies



Total Ridership

2012 : 40,000 per day
2022 : 2.5 lakh per day



Number of operator increased



Induced mode shift



Introduced alternate fuelled buses

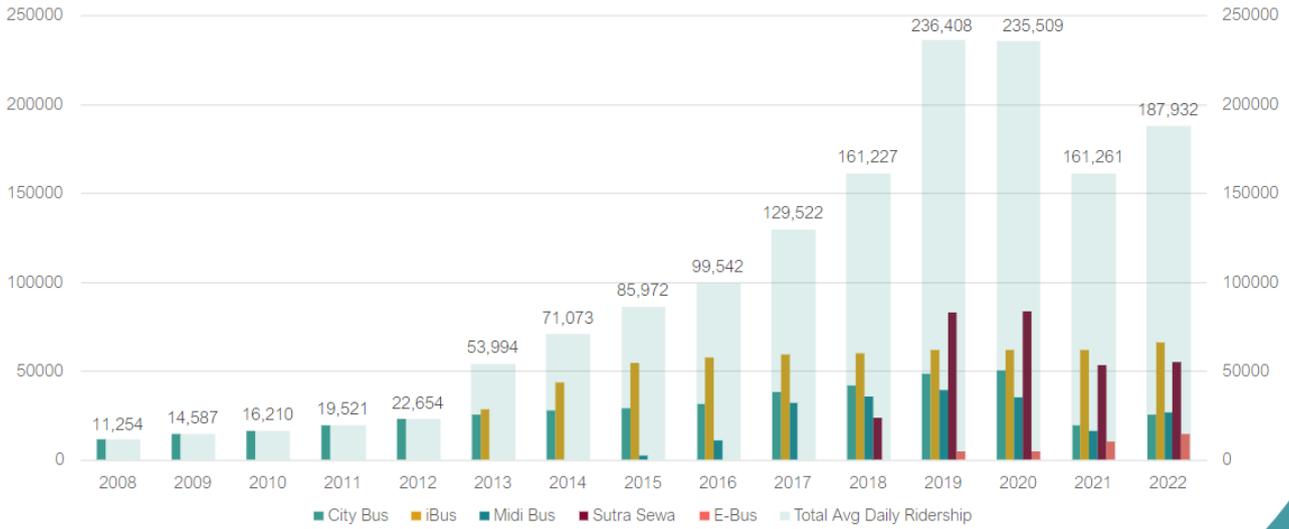


Electric infrastructure strengthened

AICTSL, Indore

16

Intracity Bus Average Daily Ridership

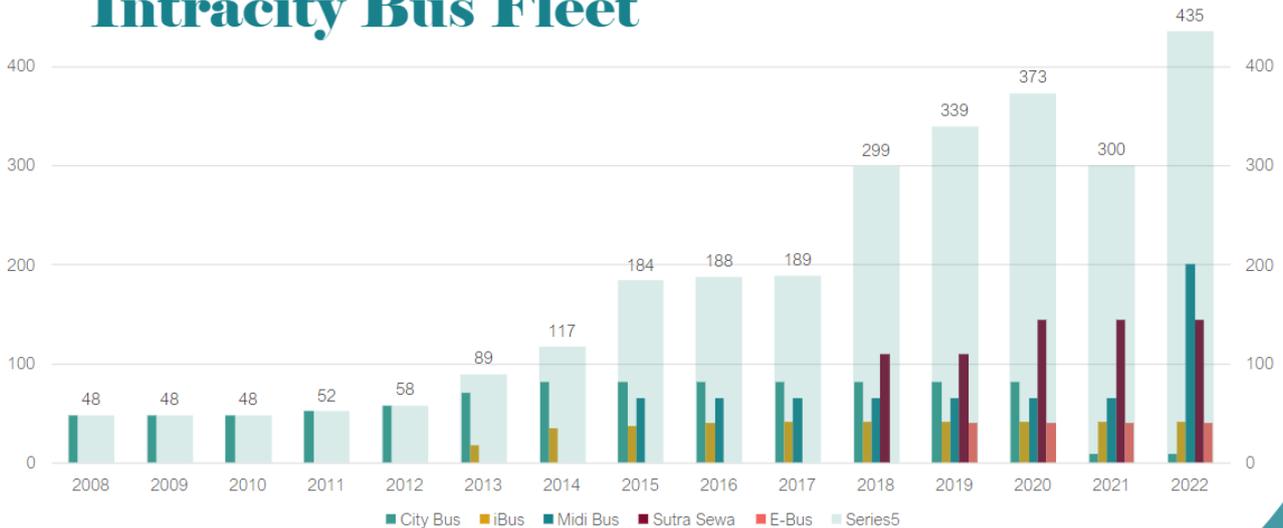


AICTSL, Indore

12 October 2022

17

Intracity Bus Fleet



AICTSL, Indore

12 October 2022

18



AICTSL, Indore

Thank You

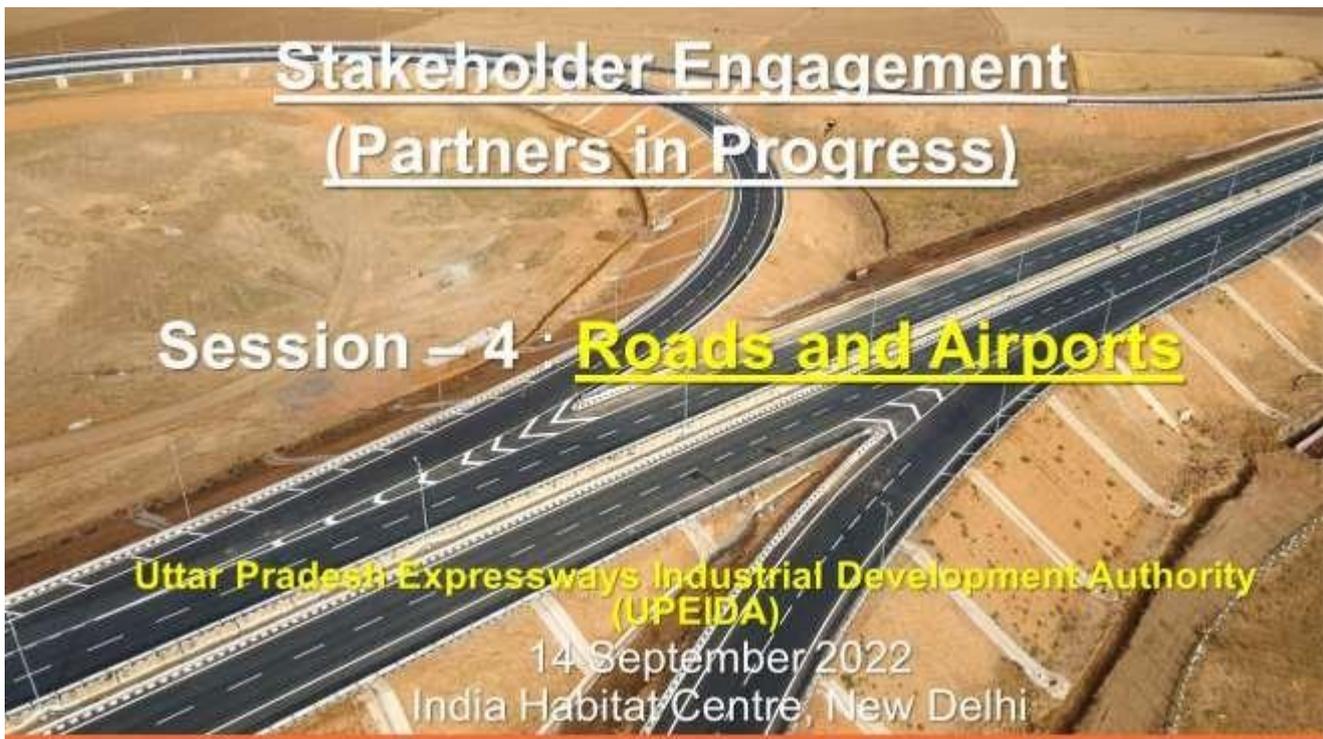
12 October 2022

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Session 04 – Roads and Airports



Presentation by Mr. KK Gupta, Senior Financial Advisor, Uttar Pradesh Expressways Industrial Development Authority



Uttar Pradesh Expressways Industrial Development Authority
(UPEIDA)

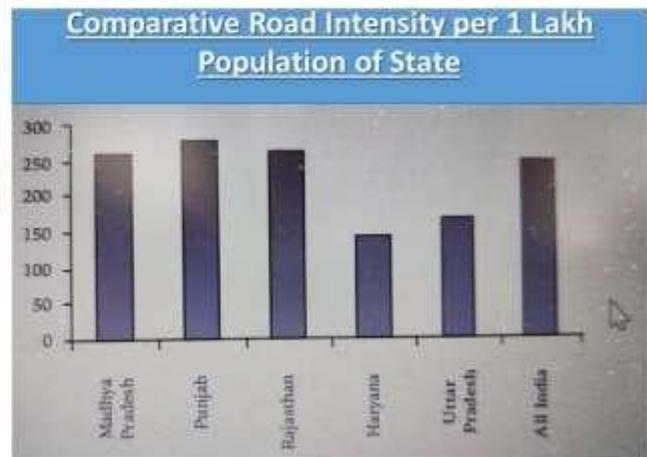
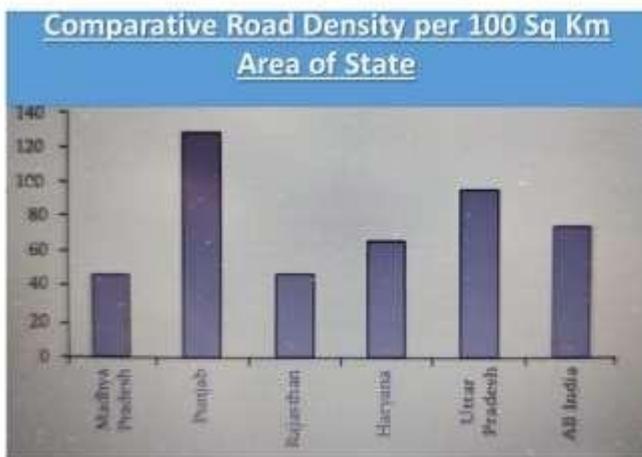
- **A statutory Authority created by the State Government under Uttar Pradesh Industrial Area Development Act, 1976**
- **UPEIDA is the Nodal Agency of the State Government for development and management of Expressways in the State along with the creation of Economic Corridors along the Expressways in the State**

Bird's Eye-View of the Status of Road Sector in Uttar Pradesh

Road Type	Number	Length (km)
Expressways	5	1131
National Highways	42	11590
State Highways	83	10901
Major District Roads		6749
Other District Roads		54244
Rural Roads under PWD		204148
Other Rural Roads		175090
Total		463853

Road Length in Uttar Pradesh during the period of FY 2003 to FY 2018





- **Total No. of Vehicles registered in Uttar Pradesh as of 31 March 2020 was around 361.75 lakhs which constitutes around 10.50% of the all-India figure.**
- **CAGR of number of registered vehicles in Uttar Pradesh during last decade has been around 11.20% as against 10.40% average for all-India. This calls for a greater number and wider roads in the State in near future.**
- **The length of all types of roads under the control of UPPWD increased by 46778 km. during the period of four years from 240854 km as on 01 April 2018 to 287632 km as on 31 March 2022.**
- **The budgeted capital outlay for the FY 2021 was about Rs 32310 crore that is 06.30% as against 04.20% average for other States. This emphasizes the focus on road connectivity and its improvement in Uttar Pradesh.**

Uttar Pradesh : Expressways Pradesh

- Noida – Greater Noida Expressway (23 Km.) : NOIDA Authority
- Yamuna Expressway (169 Km.) : Yamuna Expressway Authority
- Agra – Lucknow expressway (302 Km) : UPEIDA
- Purvanchal Expressway (341 Km.) : UPEIDA
- Bundelkhand Expressway (296 Km.) : UPEIDA
- Ganga Expressway (594 Km) : UPEIDA
- Gorakhpur Link Expressway (91 Km) : UPEIDA
- Lucknow - Kanpur Expressway (63 Km) : NHAI
- Ballia Link Expressway (32 Km) : NHAI with support of UPEIDA
- Chitrakoot – Allahabad Expressway : Under consideration of Govt
- Ghaziabad – Kanpur Expressway : Under consideration of Govt
- Shamli – Gorakhpur Terai Expressway : Under consideration of Govt



Issues & Experiences of UPEIDA under Expressway Projects

All the three Completed Expressway Projects of UPEIDA under EPC Mode have been commissioned much before the Scheduled Completion Dates

Issues	Approach of UPEIDA
Government Approvals	Government Approvals for Project Conceptualisation, Alignment, DPR, RFQ-RFP, Bid Finalisation, Financial Support etc. obtained expeditiously due to high priority of State Government
Land Acquisition	More than 90% of the land necessary for Appointed Date have been purchased and handed over to the successful bidders in about 06 months' time
Bid Value	Bids for all EPC Projects finalised much below the tender cost
Project Viability	Concession Period in PPP Project Ganga Expressway extended to 30 years
Utility Shifting	Close coordination with the concerned agencies / Govt Departments so as to complete it before Appointed Date
Forest & Environment Clearances	Services of Retired Senior Executives of Forest and Environment Departments taken for guiding for expeditious clearances

Issues	
Rail-Over Bridges	Approvals from the Railway Authorities expedited by way of close coordination by the Advisors with the background of Railways.
Finance	15 year loans of Rs 26700 crore raised from Public Sector Banks for part-financing of Civil Construction work and Rs 6800 from HUDCO for part-financing of purchase of land; the balance amount of Project Cost being borne by State Government. These borrowings are at very concessional terms due to State Government Guarantee
Material Procurement by Contractors	Arrangements for necessary approvals of concerned State Government Departments and physical support for material procurement managed through
Statutory Clearances needed by the Contractors	Coordination on behalf of Contractors with concerned State Government Departments for expeditious clearances
Covid – 19 Period Management	In line with the guidelines of MoRTH; Payments to the Contractors ensured with a time limit set by UPEIDA for itself

Projects under VGF of Gol from Uttar Pradesh

Agency	Road Name	Length (km)	Project Cost (cr)	Total VGF Amount (cr)
UPSHA	Bareilly – Almora Road	53.568	355.00	69.95
UPSHA	Varanasi-Shaktinagar Road	113.440	1211.96	241.92
UPSHA	Muzaffarnagar – Saharanpur Road	52.887	752.88	301.15
UPSHA	Pukhrayan-Ghatampur-Bindki Road	82.530	1136.45	363.664
UPEIDA	Ganga Expressway (Under Consideration)	593.947	22125.00	7742.00

Ganga Expressway Project in PPP / DBFOT Mode

- Access Controlled Six-Lane (expandable to 8-Lane) Greenfield Expressway
- Main Carriageway Length : 594 Km.
- Starting from vil. Bijoli (Meerut Dist.) to vil. Judapur Dando (Prayagraj Dist.)
- Covering land area of 7453 hectare; 95%+ acquired and given to Concessionaire
- Approximate Project Cost : Rs 36,230 crore
- DPR prepared by the Consultant in 12 Packages of approx. 50 Km each in EPC mode; however, these Packages were re-grouped into 04 Groups covering approx. 150 Km each as the State Government decided to have this Project under PPP in DBFOT mode
- Open tenders invited on State Government e-tender Portal
- Each Group of Packages treated as separate Project
- Four Projects awarded to the successful bidders and Concession Agreements executed with the SPV floated by the respective bidders
- Financial Close achieved for all of these Projects
- Appointed date to be finalised soon

Process

- State Government approvals for the alignment of the Project, approval of DPR Consultant & other broad contours of the Project including **PPP mode**
- State Government approvals for the DPR, the technical aspects, the financials, the RFQ – RFP and other tender-related documents as also ‘**the maximum premium / minimum grant as VGF**’ as the financial bid-evaluation criteria among the bidders qualifying after the technical bid-evaluation
- Floatation of Tenders on e-tender portal of the State Government
- Technical and Financial Evaluation of bids by the Bid-Evaluation Committee supported by the DPR Consultant as also a **Financial Advisor specially appointed for second stage vetting of the Evaluation**
- Appraisal of the Evaluation Reports by the Committee of Secretaries
- State Government Cabinet Decision on successful bidder(s), amount of Grant required for each Project and mode of funding of the Grant; **it was at this stage that the State Government decided for seeking VGF support of Gol**

The Stage Setting

Project No.	Length (Km.)	Project Cost (Rs Cr) (EPC+ GST)	VGF Grant (Rs Cr) (Committed)	Concessionaire Project Cost (EPC Contract)	Approved Bidder	S.P.V.
I	129.700	5039.85	1746.00	6538.00	IRB Infrastructure Developers Ltd.	Meerut Budaun Expressway Ltd
II	151.700	5647.71	1720.00	6076.33	Adani Enterprises Ltd.	Budaun Hardoi Road Pvt. Limited
III	155.700	5810.99	2177.00	6293.13	Adani Enterprises Ltd.	Hardoi Unnao Road Pvt. Limited
IV	156.847	5,626.46	2099.00	6509.46	Adani Enterprises Ltd.	Unnao Prayagraj Road Pvt. Limited
Total	593.947	22125.01	7742.00	25416.92		

Viability Gap Funding (VGF) under Gol Scheme

- **State Government approval for seeking VGF support of Gol under the Scheme for Financial Support to Public Private Partnership in Infrastructure with the provision that the balance amount of requisite VGF Grant would be borne by the State Government**
- **Requisite proposal for consideration of the Empowered Committee submitted to DEA along with the information including that in the formats in Annexures IV, IX and X of the Scheme Guidelines, DPR, RFQ-cum-RFP, Draft Concession Agreement, Draft Financial Agreements, Financial Model, Toll Rules Notification, Project Agreements & various State Government Orders**
- **Comments of NITI AAYOG, Law Ministry, Department of Expenditure, DEA and MoRTH received and the response of UPEIDA thereupon submitted and replies on further comments also furnished**
- **The proposal is under active consideration of the Gol and the meeting of the Empowered Committee is expected soon.**

A few Reflections on VGF Scheme & Process

- **Need for waiving the requirement of prior in-principle approval of Empowered Committee for proposals of State Entities**
- **Empowered Committee to consider the Total Project Cost as finalized by the Lead Financial Institution for the purposes of determining the amount of VGF (not exceeding 20% of Project Cost)**
- **A clear undertaking to be furnished to the Empowered Committee by the State Entity for meeting the balance amount by the State Government / Applicant Entity**
- **A need for State Entity to be a full-fledged party along with the PPP Concessionaire, Lead Financial Institution and the Empowered Committee in the VGF Agreement instead it being a mere Confirming Party, in case of it is also bearing a part of VGF Grant. The format of such Agreement to be flexible for this purpose**

- **Regular monitoring and periodic evaluation of project compliance with agreed milestones and performance levels already a part of Concession Agreement. Assigning this responsibility to Lead Financial Institution is an apparent duplication of work involving substantial costs**
- **The Sponsoring Authority / State Entity to evolve its own Standard Operating Procedure (SOP) for release of its share of the Grant Funds to the PPP Concessionaire in line with the proposed VGF Agreement so as to have a coordinated approach for release of Grant Funds both by Gol and Sponsoring Authority / State Entity**
- **Need for examining by the concerned authorities (MoRTH and NHA in case of Road Sector) as also the Lead Financial Institutions the Corporate Ethics and Governance Issues in adopting the system of the Sponsor of the SPV, Manager of SPV and the EPC Contractor being the same entity or same Group Company. An arm's-length distance relationship need being maintained between the ownership and the EPC Contractor**

Thank You

Comments / Queries Are Welcome

upeida.finance@gmail.com

Presentation by Mr. Vinayak Rai, Member – Finance, Airport Authority of India

Leasing of airports on PPP Mode

Presentation by
Airports Authority of India
14.09.2022



Background

- PPP initiative started in the civil aviation sector in India in early 2000s
- AAI Act amended in 2003 enabling lease of airports
- The first PPP projects taken up were Delhi and Mumbai : both brownfield airports
- Bidder selection- from pre-qualified bidders based on % of revenue to be shared with AAI + upfront payment of Rs.150 cr
- Selected bidder to form JV with AAI, wherein AAI to hold 26% equity



Background

- Both contracts were signed in April 2006
- Both have a number of agreements
- Operations Management and Development Agreement (OMDA)
- State Support Agreement
- State Govt. Support Agreement
- Shareholders Agreement
- CNS&ATM Agreement
- Lease deed
- Airport Operator Agreement



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- Airport Operator Agreement



AAI's experience in implementation

- There are restrictions in the AAI Act, 1994 on land use
- Provisions on Master planning are open ended in OMDA
- Differences in interpretation of land use, planning authority, especially in case of Non-Transfer Assets
- Expectations and business plan of the private partner
- In case of DIAL certain permissions were granted by AAI modifying Schedule relating to Non Transfer Assets
- Criticism of CAG, Parliamentary committees



Deficiencies in contract

- Lack of clarity, provisions on a given subject scattered across the document
- This leaves ample room for different interpretation, and scope for arbitration
- Examples : "Revenue", and "Force Majeure" in DIAL and MIAL contracts.
- Revenue: Use of many terms instead of a simple illustration for clarity
- Force majeure: *each party entitled to suspend or excuse performance of respective obligations to the extent it is unable to render such performance*
- How to determine inability? Extent of such inability?



Dual role of Public partner (AAI)

Role as shareholder	Role as lessor owned by Gol
<ul style="list-style-type: none"> Expected to solely focus on maximizing profits 	<ul style="list-style-type: none"> Ensure that AAI gets its due share of revenue and its interests are protected Ensure that no windfall gains to concessionaire either during implementation of concession agreement or due to post tender changes in the agreement Ensure transparency in high value bids Role of Directors is subject to scrutiny by CAG, CVC, CBI, etc.



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Constraints due to long contract period

- 30+30 years
- Impossible to find solutions to all kinds of situations that may arise during the contract period within the rigid framework of Concession Agreement
- Omnibus clause permitting "changes / amendments with mutual agreement" does not work in reality due to post decision scrutiny by 3Cs.
- It acts as deterrent for public servants in taking decision making at appropriate time



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Policy changes during the currency of contract

- Policy decisions such as liberalization of statutory provisions leading to additional gain for the private partner
- Should the Public partner get enhancement in its revenue share on account of such changes?
- If so, then how to determine this incremental increase reasonably?
- Lack of a Third party having mandate for such functions
- Under the present set up it cannot be left to be decided by mutual agreement which can always be questioned at a later date.



The way out

- There need for an in-built mechanism for appropriate decision making especially for changes in the agreements
- Resolution can be entrusted to a Third party, where members have no conflict of interest, and enjoy adequate protection in taking decisions.
- Having sector specific Third party agencies would speed up decision making



The way out

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- Resolution can be entrusted to a Third party, where members have no conflict of interest, and enjoy adequate protection in taking decisions.
- Having sector specific Third party agencies would speed up decision making



The way out

- While designing a PPP contract it needs to be decided as to what should be the level of involvement of Public partner in taking business decisions,
- A structure that brings control (such as through equity holding) has not been found to be easy for smooth running of contract
- Should there be no control?
- This has its own implications in terms of public perception, protection of interests of stakeholders(mainly consumers), fear of development of monopolies
- The challenge is to bring in the right balance.



Next round of PPP contracts

- With its past experience of the revenue sharing contracts with equity participation, AAI has gone in for sharing revenue in the form of "per passenger fee"
- 6 airports have been awarded
- Clarity in definition of Revenue share; formula for escalation linked to published indices and well defined
- There is no equity participation
- No participation in business decision making
- No extendable term (fixed term of 50 years)
- It is proposed to go ahead with next round of PPP contracts on this model



Thank you

