



**IFC**

**International  
Finance Corporation**  
World Bank Group

# **Financier's Perspective: Financial Operation And Risk Mitigation For BOT/PPP Projects For Infrastructure**

**Mr. Rajesh Sinha  
Principal Investment Officer  
International Finance Corporation**

August 2011

# Proposed Agenda

- 1 Typical Structure of BOT/PPP Projects
- 2 IFC's Criteria for Financing BOT/PPP Projects
- 3 Fund Mobilization and Risk Mitigation Measures



# Section 1 : Typical Structure of BOT/PPP Projects

# BOT/PPP Projects - Typical Structure

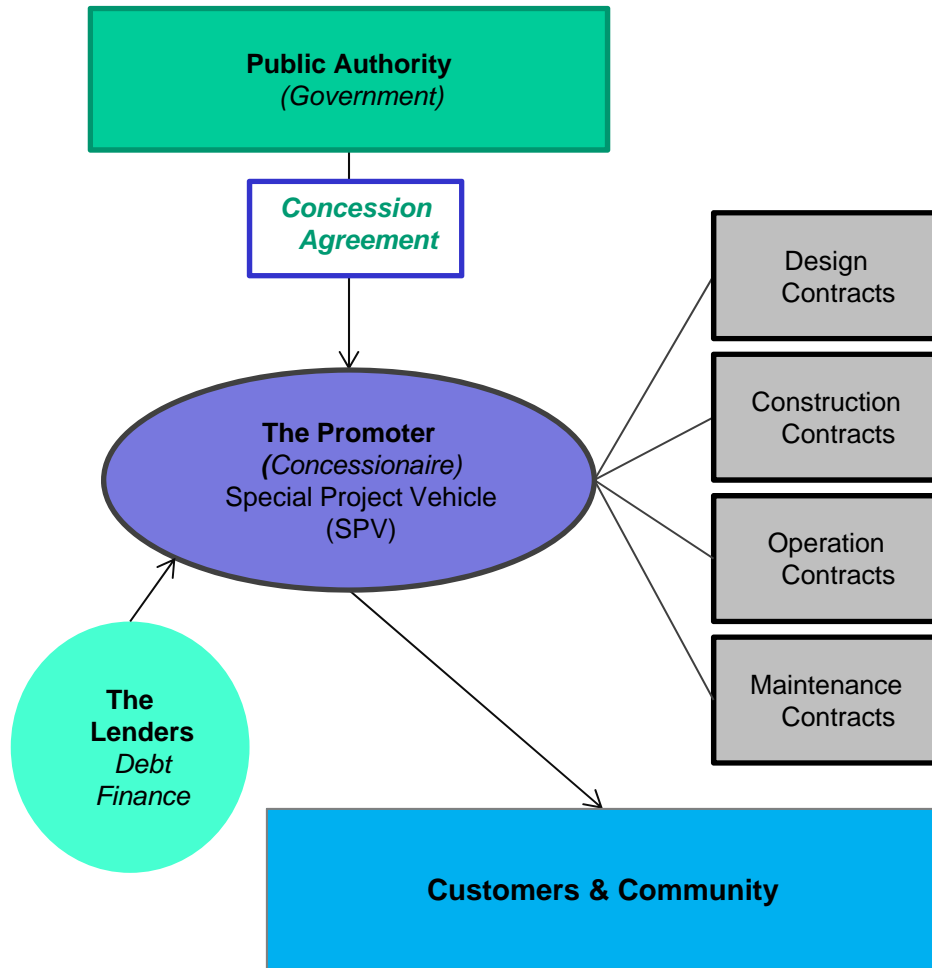
PPP

- Attractiveness of concept stems from twin difficulties many developing countries are facing in both finding **sufficient public funding for infrastructure** and in **attracting private infrastructure** investors
- There remains a major need, and opportunity, to help countries turn the “new solution” of PPPs into **increased infrastructure investment** and **improved delivery of services**
- Covers a wide range of project structures, with private and public sectors interacting in different ways. **Two key elements of all PPPs:**
  - Extent of private financing;
  - Extent of private management control;
- Developers of PPP projects need to the following key skills :
  - Ability to optimally design and build the required infrastructure
  - Ability to ensure the contract has a bankable risk-return framework;
  - Ability to get financing for the project;
  - Ability to operate and maintain the project efficiently;
  - Ability to manage public relations since infrastructure can be a politically contentious business;

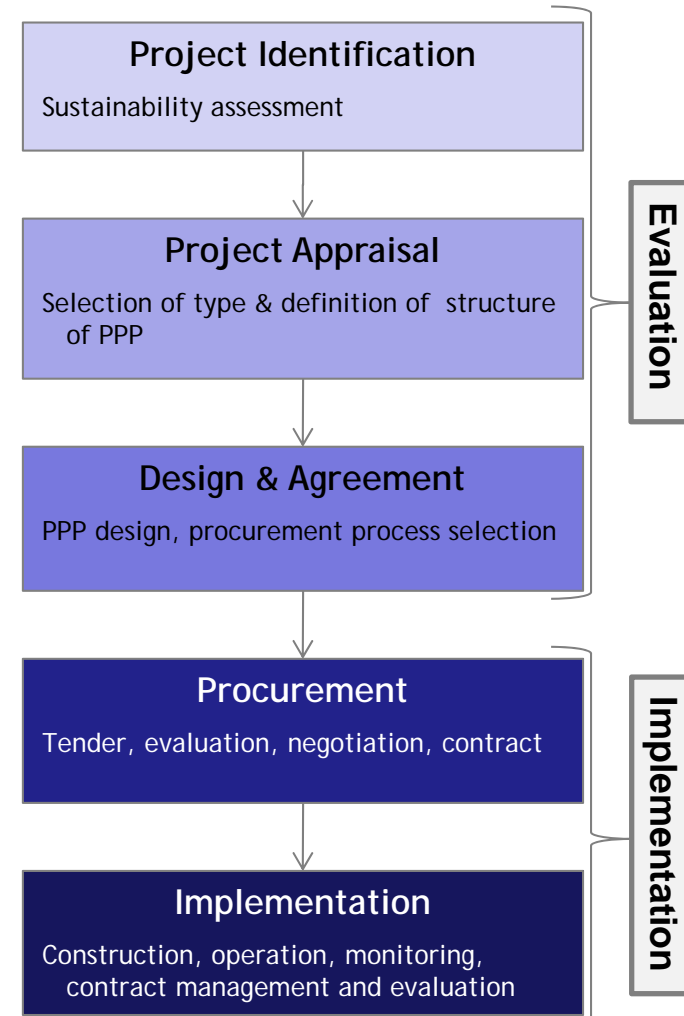
# Typical Structure of BOT/PPP

*PPP projects require careful design, effective support structures and a good understanding between partners*

## Typical Structure of Concession



## PPP Project Cycle



# IFC's BOT/PPP Projects: Manila Water Concession

*Manila's water and sanitation network was privatized in 1997 under two separate concessions.*

## Brief Terms of Concession

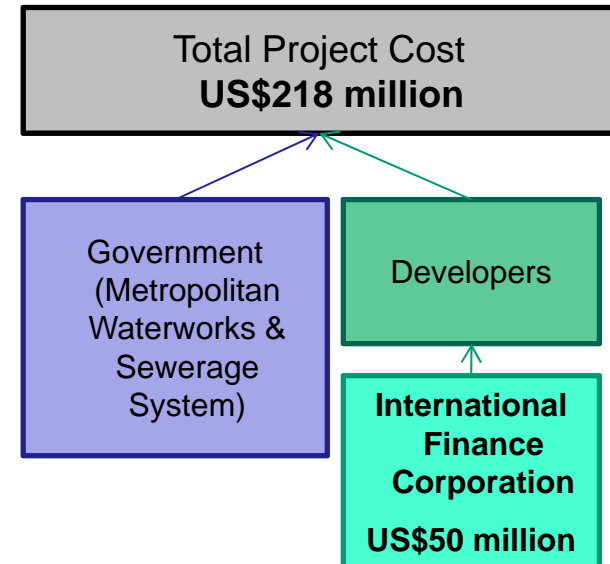
- 25-year concession agreement
- Two Zones; different concessionaires
- Competitive bidding based on tariff (4 bidders)
- Tariff adjusted by: Inflation, Extraordinary adjustments,
- **Targets for expansion, water quality, service quality and NRW**

## Before Privatization

- Coverage: 58.7% of population
- Availability: 16 hours/day
- NRW: 63%
- Tariff: PhP 8.56/m<sup>3</sup>
- Staff/1000 connections: 9.4
- Accumulated debt of about \$900 million

## After Privatization:

- Tariffs increased, but from a lower base
- Connections increased 30% in 5 years
- Reach to the poor
- Staff /1,000 connections from 9.4 to 4.1



## Conclusion

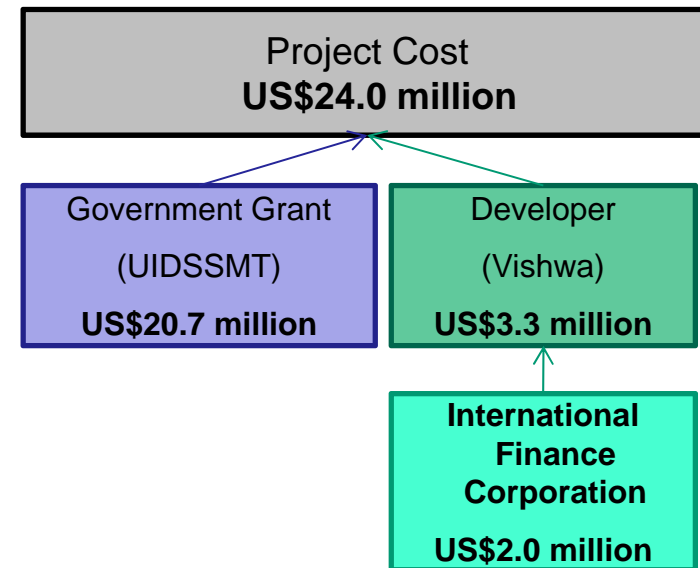
- Financial discipline
- Avoid excessive leverage (conservative D/E ratio, DSCR ratio)
- Prioritize capex(diagnosis before cure)
- Match currency of concession fee and debt with currency of revenues (local debt, swaps, bond issue)
- Controlling NRW is critical
- Arms-length subcontracting
- Track record in similar sector (i.e. power distribution, telecom)
- Leverage existing employees (tap on their experience, align interests, train)
- **Privatization can work!**

# IFC's BOT/PPP Projects: Khandwa Water Supply

## The Project

- Khandwa is located in Central India in the State of Madhya Pradesh , and has a population of 215,373 (2010 estimate)
- Concession awarded by Khandwa Municipal Corporation to Vishwa Utilities
- Among the few integrated water supply project for a City in the region, involving Construction, O&M, metering, billing and collection from the customers
- **Supply of water on 24X7 basis, provision of metered connections, billing and collection from customers**

- Operations & Maintenance to be done by Developer; Recovery of Operations & Maintenance expenses through billing to customers
- Land required for the Project to be provided by Municipality on a nominal lease basis
- Developer to meet performance standards comprising of water quality test and reporting etc



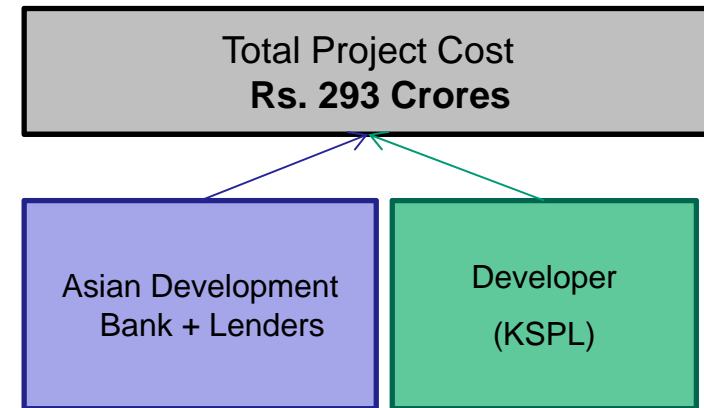
**Future augmentation of capacity to 56 MLD ~ INR 120 mm (US\$2.7 mm) to be borne by Developer**

- Concession Period – 25 Years
- Construction Period – 24 months

# BOT/PPP Projects: Kakinada Deep Water Port

## The Project

1. The Kakinada deep water port (KDWP) is a part of the Kakinada Port located on the southern part of the east coast of India in the state of Andhra Pradesh.
2. The Kakinada Port is the **second largest port** in the state after Visakhapatnam
3. KDWP was commissioned in November 1997 by GoAP before being privatized under the PPP route in 1999.
4. The PPP model adopted for this project is OMST / BOMST (Operate Maintain Share and Transfer / Build Operate Maintain Share and Transfer) with Kakinada Seaports Limited (KSPL) as the private entity operating the port
5. Despite this competition, in order to cater to the growth in traffic, and also ease some of the congestion at the port, *KSPL has planned an expansion of its capacity by constructing an additional berth with facilities for handling edible oil, other liquid and general cargo. This would increase the port capacity by approximately 3 million tonnes. The proposed capex is expected to be in the range of Rs. 150 – 200 crore and is likely to be funded in a Debt-equity ratio of 50:50.*
6. The concessionaire is performing well financially with improving margins over the years. The PAT margin has improved to 41% in 2009 from 27% in 2007; RoCE has improved to 35% from 23%



1. Phase 1 of the development, on the existing 3 berths, involved an investment of Rs. 175 crore, which had an equity contribution of Rs. 60 crore and debt funding of Rs. 115 crore. IDFC was the lead lender providing Rs. 60 crores of the debt. The loan had a tenure of 11 years
2. The post tax project IRR for Phase 1 and Phase 2 developments per the financial proposal submitted by the concessionaire was 18.46%



# Critical Factors to Success

- Stable **political environment of the project country**
- Critical **need for the project**
- The project country government **allows BOT**
- Relatively **mature legal system and enforcement**
- Project is **financially viable**
- Developer's **technical proposal is feasible and** developer experienced
- Reasonable **risk allocation through contract/structure**
- Meet international **environmental standards**
- Participants with relevant **knowledge/experience**

## **Government's supports/incentives, e.g.:**

- Tax incentives, e.g. reduced/exempted income/custom taxes
- Sovereign guarantee and foreign exchange guarantee
- Take or pay off-take contract if applicable
- Near-monopoly
- Land and facilities
- Supportive loan, equity or subordinate loan

## **Attractive financial proposal:**

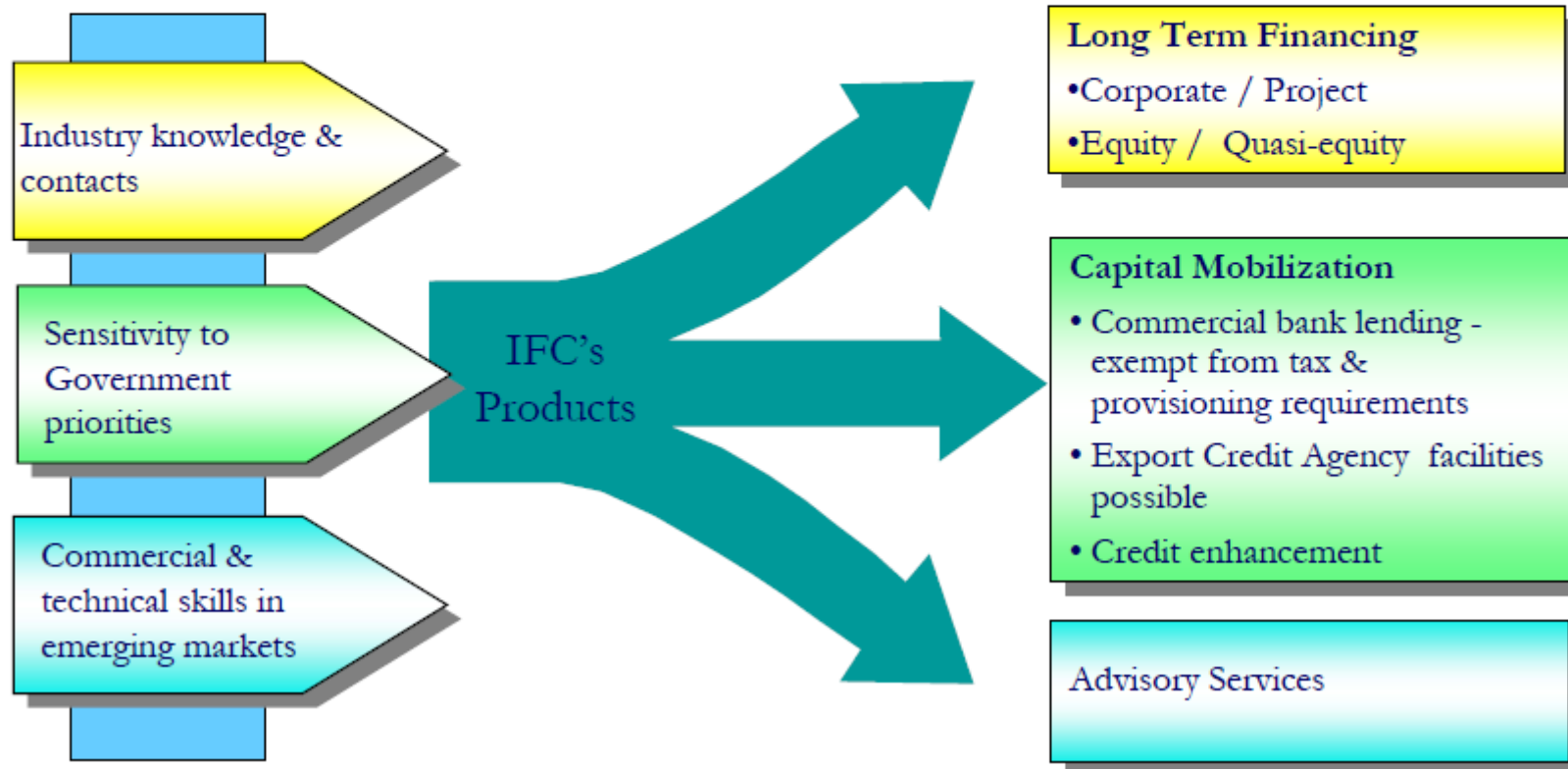
- Low construction cost
- Acceptable debt/equity ratio
- Attractive tariff (e.g. low power/water rate or toll)
- Economics developed to a **certain level – match with tariff**
- Short construction and concession periods
- Accurate forecast of demand



## Section 2 : IFC's Criteria for Financing BOT/PPP Projects

# IFC Infrastructure offers valuable expertise and flexible, long-term financing for infrastructure

IFC combines the resources of a development bank with the flexibility of a merchant bank, reassuring investors and Governments



# IFC's Financing Criteria

*As the demand for infrastructure grows, governments are increasingly looking to public private partnerships as an innovative way of financing infrastructure projects*

- IFC investments typically range from \$5 million to \$100 million, with a limited number of investments in the \$100,000 to \$5 million range. To ensure the participation of investors and lenders from the private sector, IFC typically finances no more than 25 percent of the total estimated project costs
  - For new projects the maximum is 25% of the total estimated project costs, or, on an exceptional basis, up to 35% in small projects.
  - For expansion projects, IFC may provide up to 50% of the project cost, provided its investments do not exceed 25% of the total capitalization of the project company

- **The Sponsor:** Reputation, Profitability, Track Record, access to additional capital, Resources & Skills
- **The Project:** Sector, Viability , Timing and schedule, Contract, Qualified O&M operator
- **Significant Development Impact:** Community, Environmentally safe, Socially acceptable
- **Financial:** Leverage (Debt to Equity, Debt to EBITDA), Debt Service Coverage Ratio > 1.4, payback period, Return on Equity & Investment, Project Internal Rate of Return

# IFC InfraVentures

*IFC InfraVentures can finance early stage infrastructure project development*

- Earliest stages of project life cycle –sometimes at conceptual stage
- Risk capital and human resources to move project from concept to financial close
- Project and prototype feasibility studies; pilot tests
- Financial modeling
- Economic, social, technical and environmental studies
- Negotiation of financial and legal terms
- Selection and supervision of project participants
- Negotiation of project documents
- Obtaining required permits
- Sourcing project's equity and debt financing



## Section 3 : Fund Mobilization and Risk Mitigation

# Fund Mobilization

- Apart from its direct financing, IFC also mobilizes financing for private clients in its developing member countries.
- IFC acts as a catalyst in raising debt and equity capital from foreign and domestic sources for private projects
- IFC mobilizes debt funds through: i) Syndicated "B" Loans, and ii) Coordinated and/or syndicated parallel loans,
  - The providers of funds under the B Loan Program are mainly commercial banks, and debt funds; while the providers of funds for parallel loans are mainly development finance institutions (DFIs) and international financial institutions (IFIs)
- IFC also helps mobilize equity capital through funds and through partnerships with domestic companies in emerging markets;

# Concluding Remarks

- BOT/PPP is an effective way for developing infrastructure especially in developing countries
- All parties to have common & long term objectives
- Reasonable risk allocation is important, usually
  - The Private takes financing, design, construction, procurement, operation and maintenance risks;
  - The Public takes political, change in law, foreign exchange risks;
  - Both share Force Majeure risks.
- Government's supports & commitments are important
- The structuring and contracts should take into account the country & project's characteristics
- **IFC would be keen to work with Japanese firms to help their entry into emerging market countries**



# Annexures



# NHAI Program: Background

- India has an extensive road network of 4.24 million km– the second largest in the world.
- The development of National Highways is the responsibility of the Government of India.
- National Highways Development Program (NHDP) is one of the largest road development programmes to be undertaken by a single authority in the world and involves widening, upgrading and rehabilitation of about 54,000 km, entailing an estimated investment of more than INR 3,00,000 Crore (USD 60 billion).
- The National Highways Authority of India (NHAI) is mandated to implement the NHDP - on Public Private Partnership (PPP) basis and primarily under two modes
  - through Build Operate and Transfer (BOT)-Annuity and Build Operate and Transfer (BOT)-Toll mode
- 175 projects have been awarded under BOT-Toll mode entailing project length of 13,597 kms and 66 projects under Annuity mode entailing project length of 4,322 kms.

Number of Contracts		Cost in		
		INR Crore	USD Billion	
<b>BOT Toll</b>				
Awarded	135	11,427	96,798	19.4
Completed	40	2,170	15,079	3.0
<b>BOT Annuity</b>				
Awarded	49	3,311	29,081	5.8
Completed	17	1,011	6,186	1.2

Source: NHAI

# Foreign Participation in Road Projects

- Foreign companies are executing 26 contracts exclusively and 80 contracts as joint venture partners with Indian companies.
- Foreign investors are allowed 100 per cent foreign direct investment in road sector.
- The total value of contracts with foreign participation is estimated to be more than INR 12,000 crore (USD 2.4 billion).

S. No.	Country	Contractors	
		JV	Independent
1.	China	13	2
2.	Dubai	3	-
3.	Malaysia	26	10
4.	Iran	1	-
5.	Saudi Arabia	1	-
6.	UK	4	-
7.	Indonesia	2	2
8.	Korea	9	5
9.	Spain	5	-
10.	Taiwan	-	4
11.	Thailand	3	1
12.	Turkey	2	-
13.	Philippines	1	-
14.	USA	1	-
15.	Russia	8	2
16.	Italy	1	-
	Total	80	26

Source: NHAI, 2011