



# PUBLIC PRIVATE PARTNERSHIP

INVESTMENT IN INFRASTRUCTURE



# CONTENT

---

- Introduction.....3
- Description of Sample PPP Structures.....13
- Sampled PPP Cases.....25

# Introduction

# PPP-AN OVERVIEW

1

Public-Private Partnerships (P3 or PPP) are characterized by a **public entity transferring or sharing** ownership, financing responsibility, or operations of a public facility or asset with a private company. The private company commits to a combination of constructing, financing, or operating responsibilities in relation to the public facility of asset, eliminating or reducing the responsibility of the public sector.

2

In exchange for incurring the responsibility of construction / financing / operating the asset, the **private sector partner collects fees or other revenues** that would otherwise go to the public treasury.

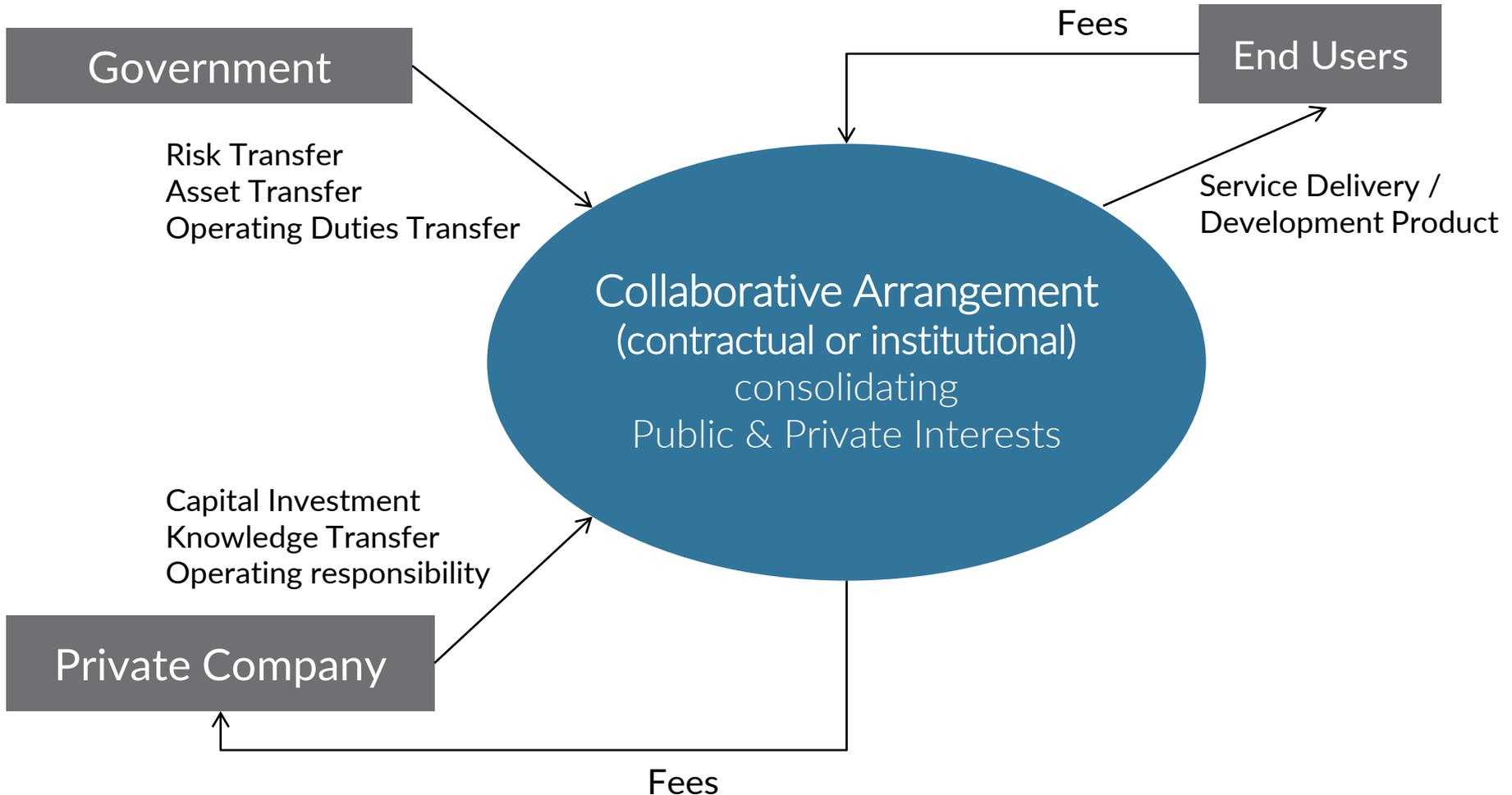
3

In theory, the private sector benefits by earning a profit on the capital improvement and/or operation of the asset, while the **public sector benefits from avoidance of upfront capital and/or operational costs**, as well as efficiencies in construction and service delivery

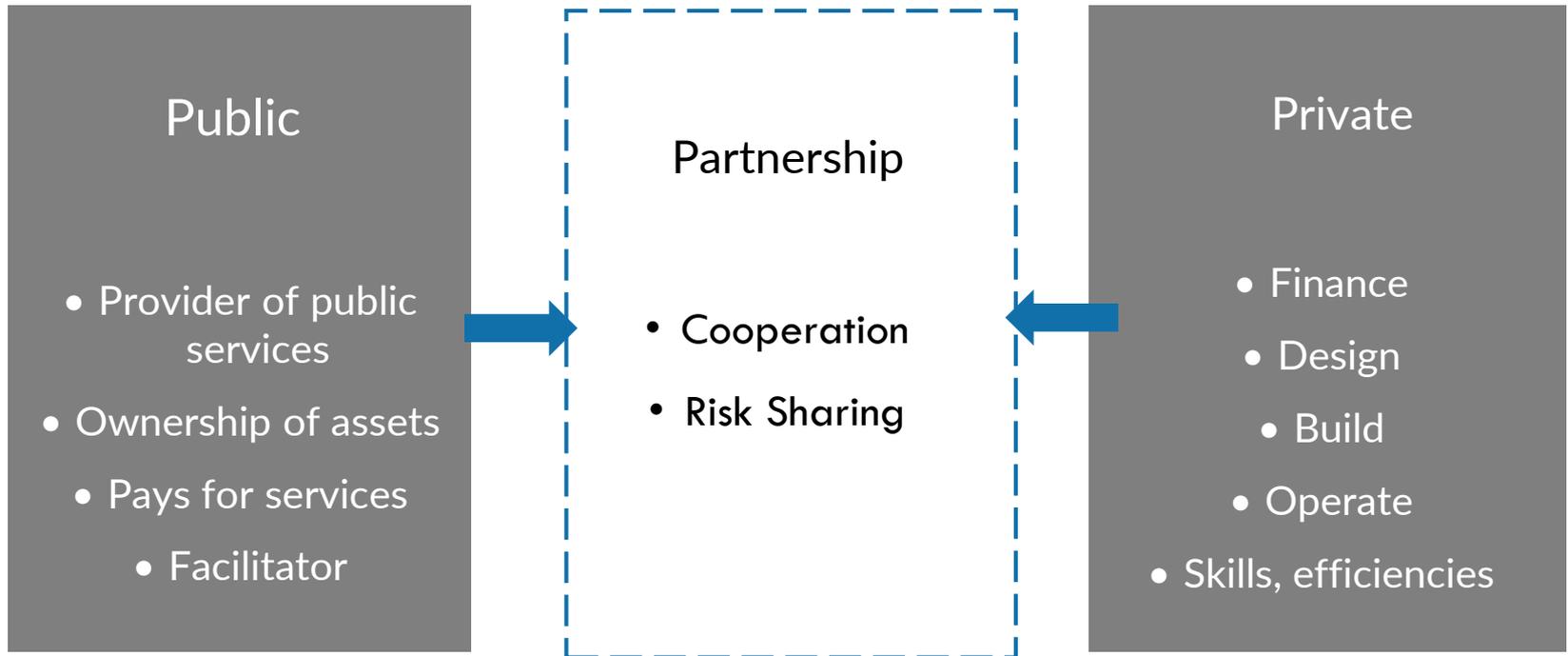
4

The P3 arrangement is typically governed through a **formal partnership agreement** that stipulates how the costs, risks and rewards of the transaction are shared, what each party must guarantee, and what remedies can be used in the event of nonperformance or default

# PPP-PRINCIPLE STRUCTURE



# PPP-THREE ELEMENTS



So, any transaction structure involving both private and public parties working together towards a common goal may be referred to as a P3

# PPP-MAIN FEATURES (1)

- **Long-term** contractual or institutional arrangement between a public authority and a private party, e.g.:
  - A concession for services (example: Private sector management of toll roads or utility services provision)
  - A long-term lease structure (Example: Transit agency leases air rights to developer over metro station)
  - A formal joint venture (Example: Government creates housing authority and shares equity with private investors for developing affordable housing)
  - A general agreement for cost, revenue and risk sharing (Example: contracting a private partner to build and operate a municipal asset)
  - The private party provides a public service and/or builds public infrastructure
  - There is well defined allocation of risk between the private sector and the public entity and the private entity complies with pre-determined performance standard

## PPP-MAIN FEATURES (2)

- Participation of the private sector in managing and improving public facilities can take the following **principal forms**:
  - Operating an existing public facility, or
  - Building a new public facility, or
  - Refurbishing / upgrading an existing asset to improve public service, or
  - Pursuing a combination of either of above.
- The overarching **objective of engaging a private partner is to generate efficiencies** in delivery and/or operation of public assets by leveraging the private management and access to capital while retaining public control
- **Public sector defines service requirement** (“outputs”) and monitors implementation (penalty regime)
  - Transaction structuring involves making **tradeoffs between control of an asset, realizing reward from an operation, and assumption of risk**
  - Transaction timeframe (contract term, SPV mandate) is linked to **economic life of the underlying asset**

# PPP-VARIOUS LEVELS OF CHALLENGES

P3 can mean a formal joint-venture structured between the Public and Private sectors (institutional arrangement), or simply having the private sector engage (on reciprocal contract) to maximize utilization of public assets

Complex



- Joint Ventures, Build-Operate-Transfer arrangements
- Development Right Sharing, Ground Lease Participation
- Concessions
- Outsourcing operations, Operating and Maintenance contracts

Simple

# PPP COMMON CHALLENGES

## P3 are not

- Source of “free” money
- Way of financing unaffordable projects
- Means of implementing non-bankable projects

P3 always face increased scrutiny for the following reasons:

The private sector has a higher cost of finance;

P3 are long-term relatively inflexible structures;

The procurement can be lengthy and costly;

P3 imply a loss of management control by the public sector

# PPP-KEY SUCCESS FACTORS

- Large-scale investment
- Private partner has the expertise to design and implement complex projects
- Public sector capable of defining its service needs
- Good understanding of long-term lifetime cost of assets
- Risk allocation among public and private sectors
- Technological aspects of the project reasonably stable

# PPP-ISSUES IN RAISING COMMERCIAL FINANCING

## Bankability

- ✓ Key requirements for bankability vary by market and industry
- ✓ Not all capital costs involved in a project can be financed by private sector unless supplemental commercial revenue/ upside is involved

## Affordability

- ✓ Projects tend to be over-designed and over-capacity, which represents a serious threat to ultimate viability
- ✓ Demand may not be sufficient to support efficient capacity and design
- ✓ Projects are subject to political/social pressures and unpredictable change of tariffs (revenue base)

## Government support

- ✓ Government Guarantee
- ✓ Viability Gap Funding
- ✓ Availability Payments or Demand Guarantee (minimum revenue guarantee)

# Description of sampled P3 structures

---

- Ground Lease
- Concession
- Design-Build-Transfer arrangement

# I. GROUND LEASES-OVERVIEW



leasing rights to the private sector to develop or manage;  
Public sector retains long-term control



99 years

The lease term should be long enough to recoup investment and use as a security for financing

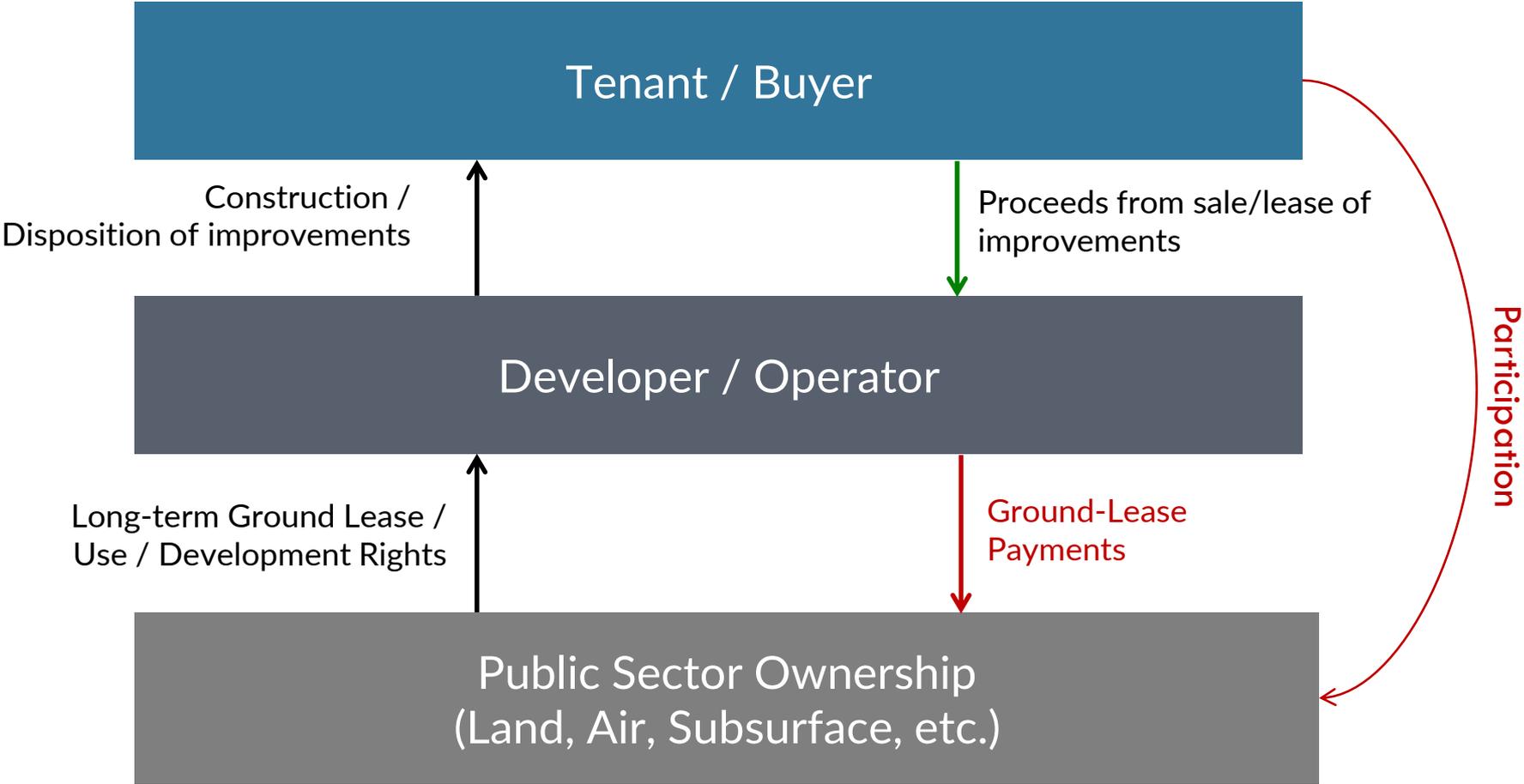


typically include regular fixed  
payments to the public entity



may or may not have clauses for  
participation

# I. GROUND LEASES-GRANTING LEASE RIGHTS WITH PARTICIPATION

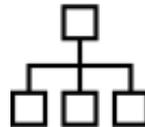


# I. GROUND LEASES-TRANSACTION CONSIDERATIONS

Ground lease transaction should **balance private sector risk and reward with risk and value from surrendering control over asset by the public sector**. Some transaction terms for consideration are:



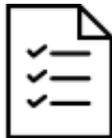
Lease term length



Structure and Schedule of Lease payment



Lessor participation in development output – requires Lessor audit rights



“Lookbacks”, where the lease payments are reviewed on a set term basis in order to adjust lease rates to market value, preventing “windfall” profits by the Lessee



“Promotes”, where additional rights are granted to lessee upon reaching certain performance of financial return thresholds



Rescission rights, whereby the lease may be terminated if the Lessee does not use the property in accordance with the Master Lease

# I. GROUND LEASES-STRENGTHS AND WEAKNESSES

## Strengths

### *Less time and effort in transaction origination and management from the part of the public sector*

- Municipality activates productive use of idling/underutilized assets with limited knowledge/financing capacity required
- Structuring and oversight requires minimum effort by the public sector
- Leases can be structured so that delivery of public facilities on/off-site can be part of private sector's consideration for lease rights

### *Offloading financing responsibility to private partner*

- Municipality offloads capital expenditures and long-term operational responsibilities
- Leases can be structured to shift all development and operating risk to the private sector, diminishing financial cost to the public sector

### *Flexibility in controlling the asset use*

- Cities can use the ground lease as a governing tool, and the lease can be as prescriptive or permissive as is necessary.

## Weaknesses

### *Evident opportunity cost – ground lease brings much lower returns than successful full-cycle development*

- Generally, the public sector foregoes riskier and efforts of financing and developing a project in exchange for a guaranteed lease payment by the private sector. The private sector benefits from subsequent upside to full-cycle development. Depending on the complexity of the transaction or the market challenges, the public sector may elect to completely foregoing participation in the upside, or utilize participation in order to capture some upside if the transaction can sustain this.

### *Limited market interest*

- Private partners may find ground-lease structure highly inferior to fee simple ownership or a JV with land-equity contribution. This is particularly the case in less mature markets where insecurity of ground lease rights – versus fee simple – may inhibit raising financing for development.

## II. CONCESSIONS-OVERVIEW

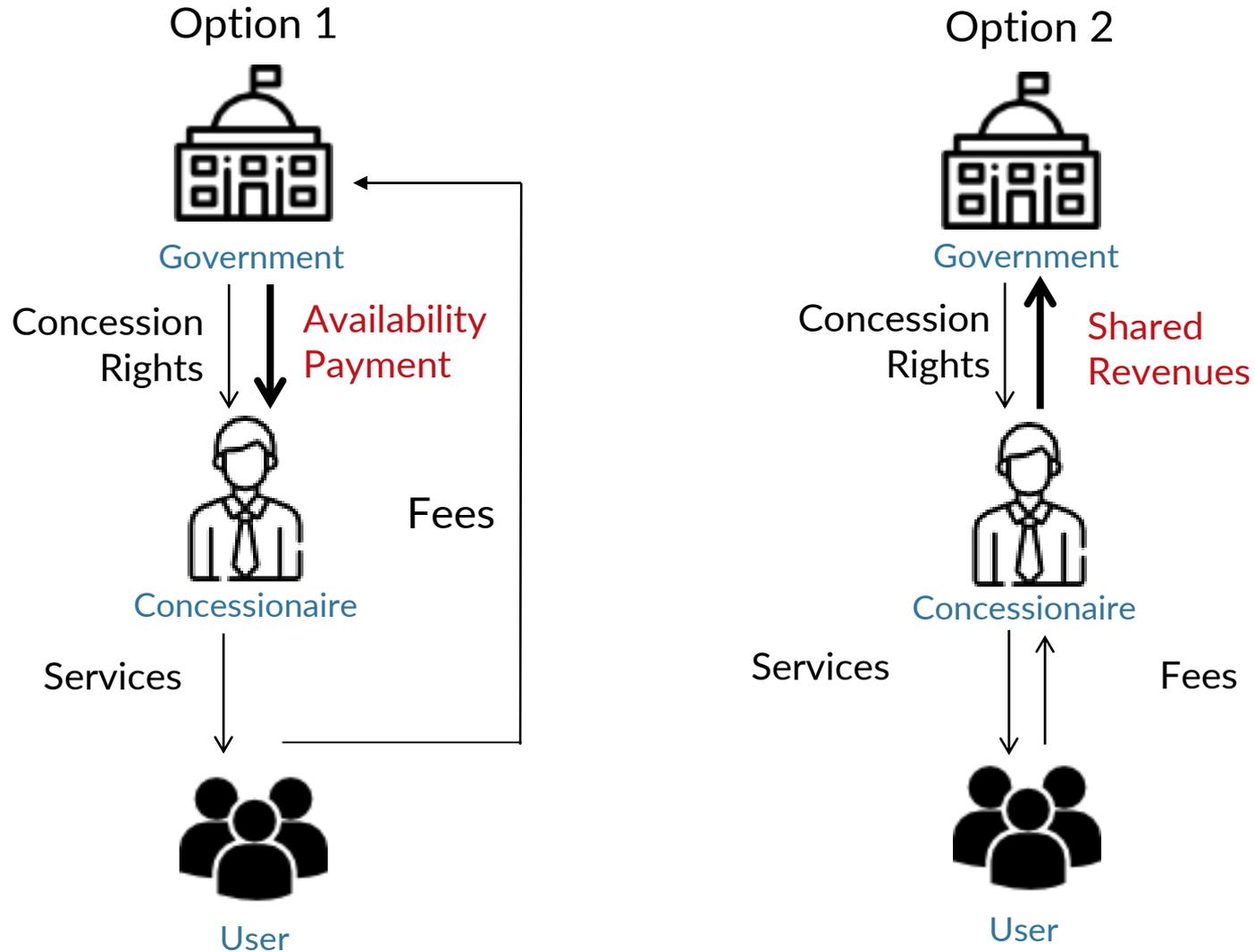
- In a concession arrangement a government agency typically allows *user payments to go to a 3<sup>rd</sup> party provider in exchange for a commitment to operate public assets* on a long-term basis.
- This arrangement might include construction or financing commitments from the 3<sup>rd</sup> party as well (however, those commitments would typically relate to improvement/refurbishment of an existing assets that is transferred to the operator under concession agreement)



## II. CONCESSIONS-KEY IS GUARANTEEING STABILITY OF REVENUE STREAM

- Negotiation of a concession arrangement will trade more or less stable cash-flow from public services (user fees) for concessionaire's operating capacities (including investment in service set up and in further facility maintenance).
- Concessionaire will seek rights to additional user fees without sharing with the public sector.
- The public sector will seek to collect main portion of the user fees generated by the public facility, but should expect to provide a guarantee to the concessionaire for these rights.
- Such guarantee comes either in the form of a *minimum revenue guarantee*, or an *availability payment* (payment of fixed amount to a concessionaire irrespective of demand while user fee are still administered and collected by the public entity), or allowing for a *greater portion of the upside user payments* to be retained by concessionaire

## II. CONCESSIONS-SAMPLED FUNDING STREAMS



## II. CONCESSIONS-STRENGTHS AND WEAKNESSES

### Strengths

#### *Immediate positive impacts to budget*

- Municipality outsources labor and/or capital intensive operations
- Impacts to budget and operational costs can be immediate.

#### *Reducing financial risk by offloading long-term operating costs and sometimes capital requirements*

- Concession structuring can ensure that private operators in addition to operating responsibilities can bear risk of capital upgrades.

### Weaknesses

#### *Limited participation in revenue upsides*

- Concession agreements typically imply that most operations are outsourced, allowing for concessionaires to collect excess revenues. This is appropriate, given that concessionaire takes on full operating risk
- Concession agreements must balance city risk of outsourcing critical municipal operations with potential benefits.

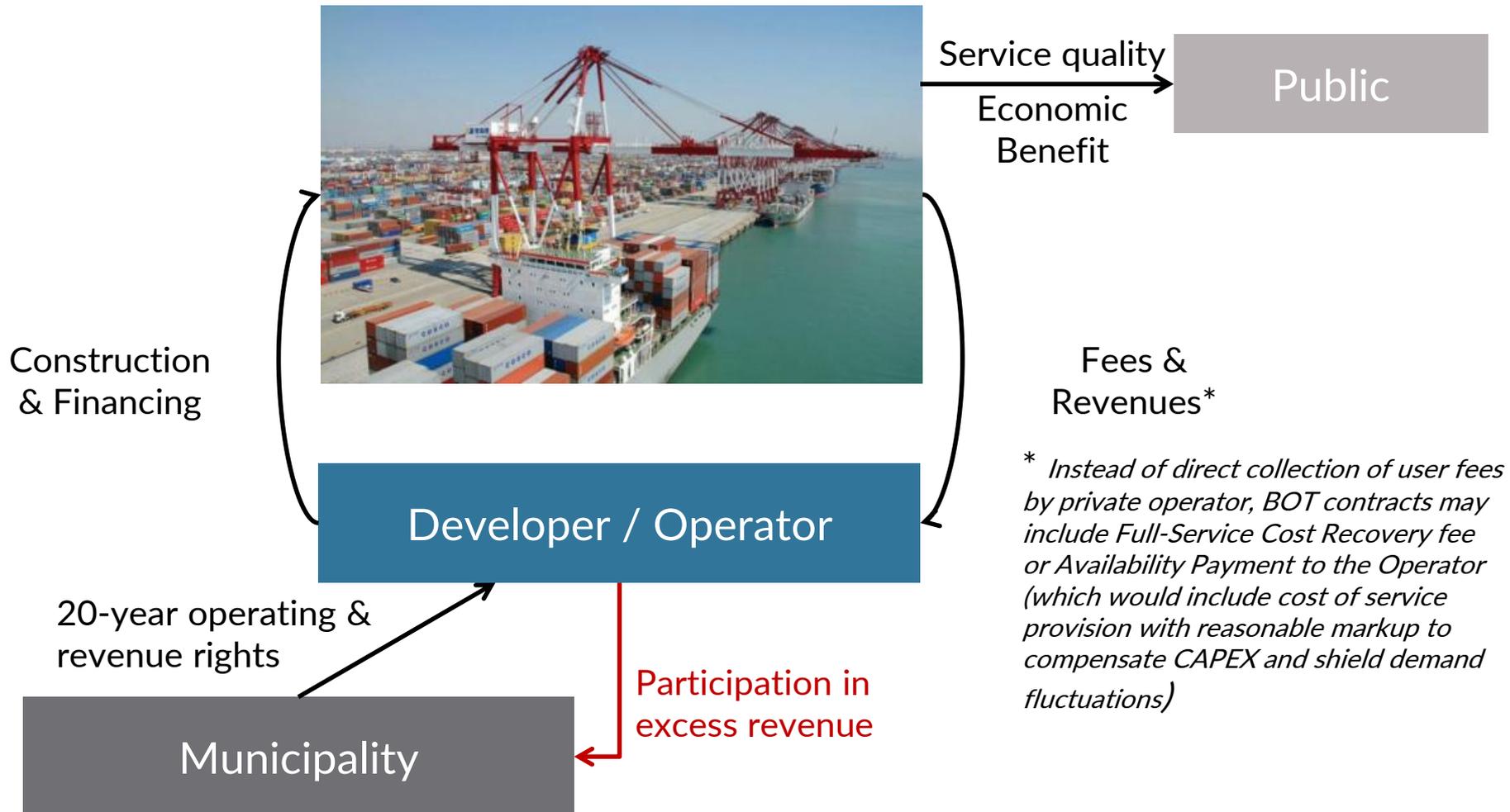
#### *Incomplete project control*

- Cities can govern via concession agreements, determining when default or other non-performance metrics have been triggered. However cities forego political and economic opportunities by not controlling these services directly.

## II. BUILD OPERATE TRANSFER (BOT) ARRANGEMENTS

- The public sector often seeks to build new public serving infrastructure, but doesn't have the means to finance and/or construct the improvements. Such public infrastructure might include transportation hubs, wastewater treatment facilities, toll roads, etc.
- As infrastructure of this type has a revenue component associated with it, private sector developers and operators will be interested in securing rights to this revenue. In exchange, developers and operators will construct and/or operate the infrastructure for a fixed period of time, after which ownership and control will revert to the public sector.
- Such arrangements are called “Build Operate Transfer”, as the private sector provides financing and construction for the infrastructure, then operates the facility for a fixed period in which they receive either all or a portion of the operating income. At the end of the contract term, the private operator cedes the infrastructure back to the public sector, at no cost to the public.

## II. BUILD OPERATE TRANSFER (BOT)-PRINCIPLE STRUCTURE



## II. BUILD OPERATE TRANSFER (BOT)-Strengths and weaknesses

### Strengths

#### *Offloading of upfront capital and long-term operating responsibilities*

- While structuring the BOT contract can be time consuming and difficult, the ultimate output is highly encouraging for the city. The city offloads (to a large degree) capital and operating cost of infrastructure provision to the private partner, retaining control over use rights and operational performance

#### *Minimizing financial risk and avoiding public borrowing*

- City minimizes exposure to borrowing
- Financial risks to the public sector are largely related to viability gap funding (if so designed in the transaction) and compliance with covenants not to compete in the areas affecting BOT operations.
- The risk also remain in the event that the Operator does not deliver and the municipality faces the need to intervene and/or fulfill development or operating functions.

### Weaknesses

#### *None or very limited cash-flow for municipalities, economic effects are either indirect or in in-kind form*

- For an investor, maximizing returns for a typical BOT requires that the Operator earns back not only its own investment but also a return on capital over the life of the contract. Therefore BOT rights typically do not return a direct payment to municipalities, however they do contribute to economic development overall, which is how BOT contracts should be evaluated.

#### *Limited project control in construction & implementation*

- City effectively cedes control of any decision making regarding the daily operations of the asset. While the city can keep the governing role through a master contract, there is effectively little that will alter the nature of the long-term contract

#### *Offloading capital and financing responsibility to private sector comes at cost*

- Transfer of most risks to private sector comes with a cost in the form of a higher equity return required by investor

# SAMPLED PPP CASE STUDIES

---

1. Kigali Bulk Water Supply
2. Bucharest Water and Sanitation
3. New Cairo Wastewater Plant
4. West Bank & Gaza Solid Waste Management
5. Urban Solid Waste Management in Minas Gerais
6. Berhampur Solid Waste Management (*not operative*)

# Kigali Bulk Water Supply Project (Rwanda)

- **Project description:** the Government of Rwanda decided to partner with the private sector to diversify and improve water supply for the nation's fast growing capital city through a public-private partnership. The future plant will have the capacity to supply up to 500,000 people in Kigali, providing 40 million liters of fresh, clean water a day.
- **Private sector partner(s):** Metito, a global provider for intelligent water management solutions.
- **Public sector contracting party:** The sole off-taker for the project is the national water utility, Water and Sanitation Corporation (WASAC), while the Ministry of Infrastructure (MININFRA) will be the grantor of the project on behalf of the Government.
- **Delivery structure:** Build, Operate and Transfer (BOT) structure. Kigali Water Limited (KWL), a fully owned subsidiary of Metito, will design, build, maintain and operate the treatment plant and will then sell potable water to the Water and Sanitation Corporation of Rwanda (WASAC) under the 27- year PPP Agreement.
- **Investment size:** US\$60.8 million
- **Funding structure:** The Emerging Africa Infrastructure Fund (EAIF) and The African Development Bank (AFDB) are covering US\$40.6 million of the capital cost of the project; US\$38 million of Senior Debt and US\$2.6 million of Junior Debt with all loans on 18-year terms. The balance will be provided by Metito as equity finance. The project also benefits from a US\$6.25 million grant from the Private Infrastructure Development Group (PIDG).
- **IFIs involvement:** African Development Bank (lending) and the World Bank/IFC (due diligence, competitive selection of investors, and funding from the Public-Private Infrastructure Advisory Facility (PPIAF) to support capacity building for the water utility and the water sector reform process.)
- **Status:** The project's financial close was announced in November, 2017. The large-scale water treatment plant is due for completion in 2020. When complete, the facility will provide around one third of Kigali's water.
- **Comments:** This is the first competitively tendered Water Build Operate Transfer Concession in Sub-Saharan Africa (outside of South Africa).



# Bucharest Water and Sanitation (Romania)

- **Project description:** Prior to 2000, water infrastructure of Bucharest had been poorly managed by municipal operator Regia Generala de Apa București (RGAB). Because of leaks in the distribution network, water losses were nearly 50 percent, which together with an inadequate metering system resulted in low revenues for the municipality. As part of the project, RGAB was transformed into a joint stock company (Apa Nova București) and 83.69% of its stakes obtained by French Veolia Environnement S.A. following an open competitive tender.
- **Private sector partner(s):** Veolia Environnement S.A., a France-based transnational utility company with focus on water and waste management operations
- **Public sector party:** Bucharest Municipality
- **Delivery structure:** 25-year build-rehabilitate-operate-transfer concession for the city's water and wastewater services to the water management firm Apa Nova București (Joint venture concessionaire between Bucharest Municipality and Veolia Environnement S.A.). The concession covers the treatment and distribution of potable water and sanitation services. Tariffs are set from bid values (with indexation: ordinary adjustments), levels of services attainment and periodic and extraordinary adjustments. The municipality retains ownership of all infrastructure and also retains the power of veto on certain decisions.
- **Investment size:** As of 2010, Veolia had invested more than US\$250 million in upgrading and servicing the system.
- **IFIs involvement:** World Bank Group (IFC) conducted prequalification of bidders and drafted concession contract (no lending) The project has benefited from generous funding in the form of loans from the European Bank for Reconstruction and Development (EBRD).
- **Status:** The transaction was completed in March 2000. Water quality has improved since then: in 2000, 69 percent of samples complied with the standard for residual free chlorine; in 2009, 100 percent of water samples met or exceeded Romanian and E.U. quality standards.
- **Comments:** The Bucharest concession was Romania's first public-private partnership in the water and sanitation sector and one of the first such transactions in the sector in Europe.



# New Cairo wastewater plant (Egypt)

- **Project description:** The project consisted of the design, finance, construction, operation, and maintenance of a new wastewater treatment plant with a capacity of 250,000m<sup>3</sup> per day in New Cairo City, a satellite town of greater Cairo. The city is being promoted as a new destination to alleviate overcrowding in the center of Cairo. New Cairo's population of 550,000 is expected to increase to approximately three million by 2029.
- **Private sector partner(s):** Consortium of Egyptian firm Orascom Construction Industries (OCI) and Spanish firm Aqualia.
- **Public sector contracting party:** New Urban Communities Authority
- **Delivery structure:** DBFMOT. Orasqualia, as the consortium is known, is responsible for the transfer of the ownership back to government at the concession expiry date (20 years term).
- **Investment size:** The deal mobilized US\$150 to US\$200 million in private investment.
- **Funding structure:** Orasqualia financed the project fully; they are investors themselves with 30 percent equity and 70 percent debt. They also have the building and maintenance contract with its member companies. A total of four banks are lenders to the project. The government is to pay a sewage treatment charge that includes a fixed portion to recover the investor's fixed costs (including debt service and return on equity) and a variable portion based on the actual volume of treated sewage, to cover the investor's operating costs. In addition, electricity costs will be paid by the New Urban Communities Authority (the off-taker) as a pass-through item. The credit of the New Urban Communities Authority is underpinned by the Ministry of Finance.
- **IFIs involvement:** The transaction structuring was supported by IFC. The project was also implemented with the financial support of DevCo, a multi-donor facility affiliated with the Private Infrastructure Development Group (PIDG).
- **Status:** The consortium was awarded the contract in 2009. The new plant, completed in March 2012, is now operational.
- **Comments:** This was the first successful transaction under the government's PPP program and a model for future PPPs in Egypt.



## West Bank & Gaza Solid Waste Management (West Bank & Gaza)

- **Project description:** Decades of conflict and political instability have meant that municipalities in the West Bank and Gaza have been unable to invest sufficiently in solid waste management (SWM) infrastructure or services. The volume of solid waste, 500 tons daily in 2013, was rapidly growing, exacerbating the problem and posing growing health and environmental risks affecting nearly one million people. To address this problem, the Joint Services Council for Hebron and Bethlehem (JSC-H&B) was established to focus on improving solid waste management operation in West Bank and Gaza.
- **Private sector partner(s):** The Greek consortium W.A.T.T. S.A.- MESOGEOS S.A. & EPEM S.A
- **Public sector contracting party:** The Joint Services Council for Hebron and Bethlehem (JSC-H&B)
- **Delivery structure:** Operations, Maintenance and Management (OMM) structure. The World Bank and international donors funded the development of a modern sanitary landfill, transfer stations, and access roads at Al Minya that would enable the closure of existing, unsanitary dumpsites. The private partner is responsible for the operation and management of brand new Al-Minya landfill and two transfer stations at Tarqoumiya and Hebron, including the long-haul transfer of waste from the transfer stations to the landfill.
- **Investment size:** The project benefitted from significant donor coordination. The construction of the landfill, transfer station and related infrastructure was made possible through grants from the World Bank, European Commission, USAID, and the Government of Italy totaling US\$30 million.
- **Funding structure (for OMM):** The JSC-H&B will provide a minimum waste guarantee of 500 tons per day to the operator and pay fees per ton of waste managed at the landfill and transfer stations. Primary waste collection is not a part of the private sector's responsibilities and will remain in the hands of various municipal entities.
- **IFIs involvement:** IFC designed a PPP structure built on a sound technical, legal, and regulatory foundation. To improve the sustainability of the project and the sector, the World Bank Group also structured an US\$8 million output-based grant from the Global Partnership on Output Based Aid
- **Status:** The concession was signed in September 2013. The new landfill became operational in 2014 and It is now serving 33 municipalities with 840,000 residents.
- **Comments:** First PPP in the West Bank



## Urban Solid Waste Management in Minas Gerais (Brazil)

- **Project description:** The Government of Minas Gerais and 43 municipalities from Belo Horizonte's Metropolitan Region and Metropolitan Belt came together around a PPP that would improve the much fragmented and inefficient municipal solid waste management systems. This would contribute towards the national goal of eliminating the disposal of solid residues in inappropriate areas and directly benefit 3 million citizens (15% of Minas Gerais population).
- **Private sector partner(s):** CMTR (Metropolitan Waste Treatment Consortium) conformed by Vital Engenharia Ambiental, Revita Engenharia and Constructora Barbosa Mello.
- **Public sector contracting party:** Secretariat of State for Regional Development, Urban Policies and Metropolitan Management (SEDRU)
- **Delivery structure:** DBFOM. The 30-year concession contract transfers to the private initiative the tasks related to the implementation and the execution of the services of transport, storage, environmental treatment and final disposal of waste. The partner remuneration, in turn, depends on performance indicators, in order to ensure substantial results and the quality of the services delivered. The PPP contract establishes that the concessionaire has one year to build the transshipment station and two years to construct the central station for solid waste treatment, considering the contract signature date.
- **Investment size:** US\$ 105 mln of private investment in construction and operation of facilities.
- **Funding structure:** State compensation of US\$ 723 on average per ton; Municipalities compensation of US\$ 5,50 minimum per ton. The private sector is stimulated to use new waste treatment technologies with the possibility of obtaining an extra income through the energy exploitation of the treated material, reducing the volume of buried waste and bringing more benefits to the local economy and to the environment.
- **IFIs involvement:** No IFIs involvement identified. In 2012, Bain & Company was hired to prepare the data and information that supported the project's elaboration, especially with regard to the design of the business plan and the economic and financial feasibility model.
- **Status:** Contract signed in 2014 and operative since then.
- **Comments:** First PPP for urban solid waste management in Minas Gerais.



## Berhampur Solid Waste Management (India) – *Transaction Fell Through*

- **Project description:** With little to no primary waste collection in about half of Berhampur city, many citizens, mainly in low-income areas, are exposed to health risks resulting from pollution, water contamination, and untreated solid waste. Seeking an affordable solution for delivering improved solid waste management services to its citizens, Indian authorities turned to the World Bank Group to help structure a PPP transaction and attract a private operator to improve the efficiency and management of the system.
- **Private sector partner(s):** UPL Environmental Engineers Limited, one of India's leading environmental engineering companies.
- **Public sector contracting party:** The Department of Housing and Urban Development (H&UDD) of the Government of the Indian state of Odisha and the Berhampur Municipal Corporation (BMC).
- **Delivery structure:** BOT. 20-year concession in which UPL will be responsible for collection and transportation of waste, development of a segregation line and composting facility, a greenfield sanitary landfill and the decommissioning of the existing dumpsite.
- **Investment size:** The project will attract investments of \$10.3 million.
- **Funding structure:** To ensure the financial viability of the project, a capital grant and concessional loan were introduced during construction. The grant and concessional loan were provided by the Odisha Urban Infrastructure Development Fund (OUIDF), a specialized fund financed by the German State-owned KfW. The tipping fee was fixed at an affordable level for the municipality. The concessional loan was fixed at 25 percent of the initial project cost. The project was bid out on the basis of the amount of grant required by the private sector to make the project viable with a cap at 25 percent of the initial project costs. To minimize the payment risk from the municipality, the team introduced an escrow account mechanism with a three-month reserve and an automatic release of funds upon receipt of the invoices on a monthly basis. The municipality's payment obligations were backed by a comfort letter from H&UDD.
- **IFIs involvement:** The World Bank Group (IFC) served as lead transaction advisor to BMC for the project.
- **Status:** The concession agreement was signed in 2013 and the project was scheduled to be operational in 2015. Unfortunately, UPL withdrew from the project, apparently due to public disagreements.
- **Comments:** Operations were expected to benefit over 350,000 people, including approximately 100,000 in low-income areas.



# THANK YOU

