



YALE UNIVERSITY

PPPUE Working Paper Series Volume I

# **Public-Private Partnerships for the Urban Environment**

## **Options and Issues**

Written By:

Elizabeth Bennett  
Peter Grohmann  
Brad Gentry

New York, 1999

# Contents

I	Background	3
II	Five Common Public-Private Partnership Options	5
III	Fundamental Issues Underlying PPPs	17
IV	Basic Guidelines for Entering Into A PPP	22
V	Conclusion	25
VI	Additional Readings	27

# I Background

## **A. Current Trends In The Delivery Of Urban Infrastructure Services**

Cities around the world are growing at an unprecedented rate. Over the past three decades, the number of people living in the cities of developing countries has more than tripled. This urban growth continues to be accompanied by an alarming increase in the number of people living in poverty. Today, one out of four people living in cities does so in absolute poverty; another one in four is classified as relatively poor.

The rapid concentration of hundreds of millions of people in urban areas has placed an extraordinary strain on governments – both national and local – to meet their citizens' basic needs. Many governments are finding that their existing water, sanitation, and energy infrastructures are unable to service their rapidly expanding populations. In addition, governments realise that their limited financial resources are not sufficient to cover the needed expansion of these services. Even where governments do find the resources to subsidize public utilities, service is often still poor and sectors of the population largely unserved.

It is the poor who suffer the most from these circumstances. The World Health Organization estimates that 25 to 30 percent of urban residents in Latin America, Africa, and the Middle East lack access to potable water. Municipal authorities collect less than half of the waste generated each day in these large cities and, in many cities, slums and squatter settlements have no access to waste disposal services.

## **B. Finding Solutions Through Public-Private Partnerships**

It is becoming increasingly clear that governments cannot meet the continually growing demand for water, waste and energy services acting alone. Governments are finding that their tax revenues are not providing sufficient resources to meet these needs, and official development assistance has not been

able to fill the gap. New approaches to addressing these problems that involve collaboration among an increasing number of stakeholders are urgently needed. Public-private partnerships are one of the most promising forms of such collaboration.

The term “public-private partnership” (PPP) describes a spectrum of possible relationships between public and private actors for the cooperative provision of infrastructure services (see Figure 1). The only essential ingredient is some degree of private participation in the delivery of traditionally public-domain services. Private actors may include private businesses, as well as non-governmental organizations (NGOs) and community-based organizations (CBOs). In this context, CBOs typically represent directly one or several communities, while NGOs are intermediaries between government and communities, and often provide communities with technical and financial assistance for the development of their projects. Through PPPs, the advantages of the private sector – innovation, access to finance, knowledge of technologies, managerial efficiency, and entrepreneurial spirit – are combined with the social responsibility, environmental awareness, and local knowledge of the public sector in an effort to solve urban problems.

In cities throughout the world, private firms have demonstrated their ability to improve the operation of infrastructure services. However, it is important to bear in mind that private involvement does not provide an automatic solution to urban infrastructure problems. Private sector involvement changes, but by no means eliminates public sector responsibilities. The business sector is driven by profit, and if unregulated, this pursuit of financial gain can lead to under-investment in the human and social capital that is necessary for meeting basic infrastructure needs. Governments must maintain responsibility for ensuring that adequate and affordable infrastructure services are provided to all citizens. Whether they exercise this responsibility as a provider, partner, or regulator will depend on the government’s needs, constraints and capacity.

### **C. How Public-Private Partnerships Typically Get Started**

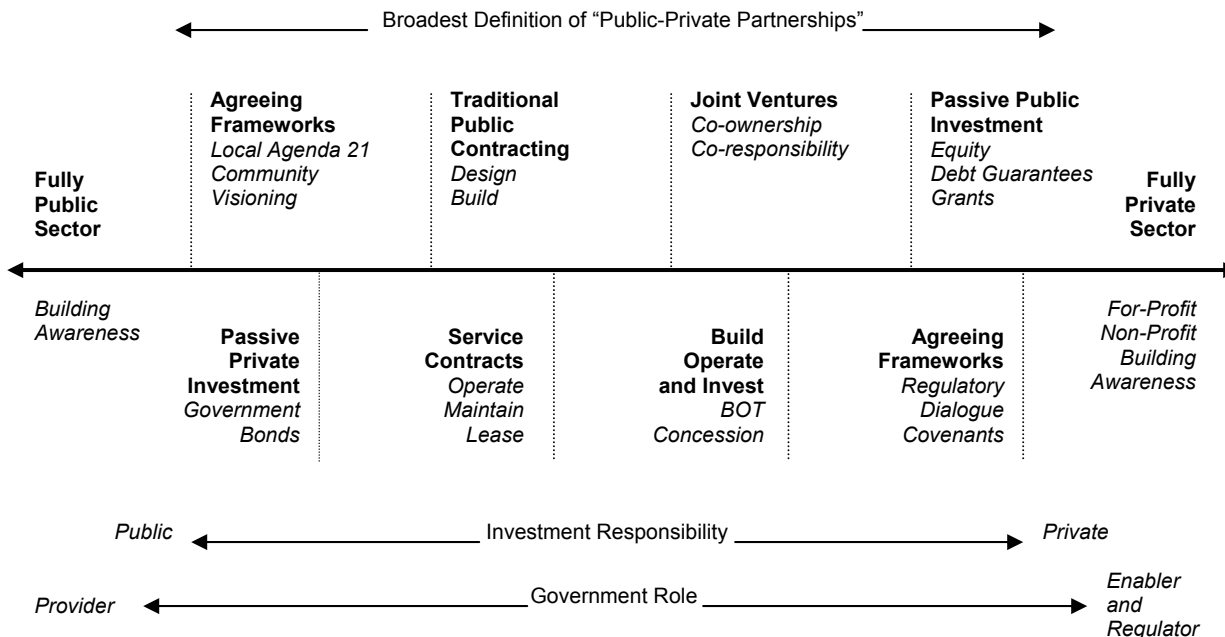
Whether you are coming from the public or the private sector, getting involved in a PPP may not seem like a desirable solution at first. Most organizations prefer to stay on paths they know, sharing goals and work practices with other groups that think and act like them – governments working with governments, businesses with other businesses. Although governments and private firms have long worked together under simple arrangements that typically involve purchasing private sector products for public services, both parties are reluctant to enter more complex relationships, such as those presented by the provision of infrastructure services. Governments are often concerned that private businesses will take advantage of them, while businesses tend to consider government approaches to be burdensome and a waste of time.

So, what does it take to coax these groups off their traditional paths and persuade them to work together to address urban environmental problems? Generally, it takes a widely acknowledged crisis – one multiple groups acknowledge as affecting their core interests. In the case of urban infrastructure, the substantial problems facing so many cities constitute such crises and have been key drivers in the formation of new PPPs. These problems have been coupled with a broader global trend toward decentralization, which is shifting infrastructure responsibilities from national to municipal governments. Faced with their new responsibilities and often severely limited resources, municipal governments are turning to the private sector to find solutions.

Sometimes, even in the absence of a significant crisis, an individual, group, or organization will realize that separate, uncoordinated actions are creating redundancies and missed opportunities for optimizing the use of scarce resources. Such “champions” can be government officials, NGOs, business people, or citizens who – through their personal motivation – make partnerships happen. In other cases, they are service providers who stand to profit from the partnership. Although one hopes that progress can be made in the absence of a crisis, in practice, the inertia that keeps many of us on our familiar paths is usually only broken by a pressing need to work together.

# II Five Common Public-Private Partnership Options

## A. Spectrum Of Public-Private Partnership Options



If your municipality is considering private sector involvement, you will find that you have a spectrum of PPP options from which to choose, ranging from “awareness building” to full privatization (see Figure 1). There are virtually an infinite number of individual points on the spectrum, with new models for cooperation being developed all the time. The broadest definition of PPPs is any form of cooperation between public and private actors. The narrowest is joint ownership of a business.

This paper focuses on the five major types used to provide urban water and waste services, namely: service contracts; build-operate-transfer (BOT) contracts for new treatment plants; concessions; joint ventures; and community-based provision. Other major forms of public-private cooperation that are not addressed in this paper but are relevant to urban environmental services include:

- Building the awareness of either government or private parties on the opportunities for improving the delivery of

environmental services through the spectrum of collaborative approaches;

- Agreeing on the basic frameworks for community or private action through participatory mechanisms ranging from Local Agenda 21 processes, to negotiation of contractual terms;
- Passive investment by either private investors in government operations (such as through their purchase of municipal bonds in some countries) or by government investors in private operations (through equity, debt or guarantees offered by institutions such as the International Finance Corporation, as well as through grants); and
- Traditional public contracting for the private provision of design and construction services.

Many of the options presented can be used to improve the delivery of water and waste services in your city. Choosing among them depends upon a number of issues, including the:

- Degree of control desired by the government;
- Ability of governments and private parties to provide the desired services;
- Legal frameworks for private investment and regulatory oversight; and
- Availability of financial resources from the public and private sectors.

Following are brief summaries of the five most common types of public-private partnerships for the provision of urban water and waste services. Each summary discusses the role of the public and private sector partners, financing structures, and the potential strengths and weaknesses associated with each option.

## **B. Operation, Maintenance and Service Contracts**

### **Role of the Public and Private Sector Partners**

Under an operation, maintenance and service contract ("service contract"), the public sector essentially hires a private organization to carry out one or more specified tasks or services for a period of five to seven years. The public sector remains the primary provider of the infrastructure service and only contracts out portions of its operation to the private organization. The private sector must perform the service at the agreed upon cost and must typically meet performance standards set by the public sector. Governments generally use traditional competitive bidding procedures to award service contracts, which tend to work well given the limited time frame and narrowly defined nature of these contracts.

Examples of service contracts in the water sector include the operation of a water treatment plant, provision of water distribution services, meter reading, billing and collection operations, and the operation and maintenance of standpipes (see box below). Examples from the solid waste sector include waste collection,

the production and distribution of trash receptacles, street-sweeping services, fleet maintenance, and the operation of a landfill or transfer station. In 1994, Bogota issued four different service contracts for waste collection and street sweeping services for four separate sections of the city, along with an operation and maintenance contract for local landfill operations.

### **Financing Structures**

Under a service contract, the government pays the private business a pre-determined fee for the service, which may be based on a one-time fee, unit cost, or other basis. One financing option involves a cost-plus-fee formula, where costs such as labor are fixed, and the private business participates in a profit sharing system. The private contractor does not typically have a relationship with the end-users and all financial interactions are made directly with the government. The government is responsible for funding any capital investments needed to expand or improve the system.

### **Potential Strengths**

- Service contracts provide a relatively low-risk option for expanding the role of the private sector, and going through the process of awarding them helps governments gain a more complete understanding of their infrastructure systems.
- Service contracts have great potential to provide better system operation, allowing the government to obtain improvements in performance and efficiency through technology transfer and the acquisition of technical and/or managerial capacity.
- Service contracts are generally the most competitive form of privatization. Since the contracts are reissued frequently, contractors should be under continuous pressure to keep costs low. Also, because service contracts are limited in scope, the barriers to entry are fairly low. For example, more businesses have the capacity to install water meters or repair water pipes than to operate an entire urban water system. This not only increases competition, but also provides a greater

opportunity for the government to award the contract to a local business without sacrificing cost or quality.

### Potential Weaknesses

- Service contracts do not involve significant infusions of private capital, nor do they necessarily create a base from which to optimize entire infrastructure systems. As a result, the contractor's effectiveness in improving the service performance is limited by the government's ability to provide the necessary capital investments and direction.
- Service contracts leave the government in charge of many of the most explosive political issues – the fee imposed for services and the ownership of the underlying assets. Therefore, they do little to separate the operator from political intervention.
- Municipalities are often under pressure to award service contracts to the lowest bidder without considering the businesses' ability to provide high quality service. This can stifle the private sector's incentives to propose innovative solutions to providing the service both during the bidding process and during service provision.

### Mexico City, Mexico – Private Sector Management of Water and Sewerage Systems

The water and sewerage systems in Mexico City are well developed, but face many operating challenges. The aquifer that is the main source of Mexico City's water supply is overused, and the drinking water distribution network suffers from major leakage, with losses of up to 30 percent. Less than half of the water consumed by the system is billed, and only 70 percent of those bills are paid. In 1997, the government projected an operating deficit of 2.6 million pesos.

In developing responses, the government did not need much initial capital, given that the existing network reaches 98 percent of the population for drinking water and 94 percent for sewerage. What the government did need was technical and commercial expertise in water operations and decided to get this by involving the private sector. The government also believed that phasing in private management would alleviate some of the political problems anticipated over efforts to increase fee collection rates.

The government chose to enter into a phased program of contracts with the private sector. First, competition was built into the process by dividing the city into four zones and the issuing of four tenders. The lowest price for performing the tasks in each phase won the contracts, which were awarded to four different companies for 10-year terms in October 1993. Second, each contract anticipated three phases of work. Phases 1 and 2 involved identifying customers, and designing and implementing a more effective billing system. The government pays the contractors directly on a simple fee-for-service basis for this work. In Phase 3 (not necessarily performed after Phase 1 and 2 depending on the local system needs), the principal task is to make improvements in the physical distribution system. In this phase, the contractors' compensation is tied to revenue earned (fees collected from customers).

The fall of the peso, and a dispute from a losing bidder, caused delays in commissioning the work. Still, the installation of water meters is continuing, an important step in discouraging excess consumption. A leak detection program has also been initiated to help with bill collection and to reduce water losses by a third or more.

### C. Build-Operate-Transfer Contracts

#### Role of the Public and Private Sector Partners

Build-operate-transfer (BOT) contracts are designed to bring private investment into the construction of new infrastructure plants. Under a BOT, the private sector finances, builds and

operates a new infrastructure facility or system according to performance standards set by the government. The operations period is long enough to allow the private company to pay off the construction costs and realize a profit, typically 10 to 20 years. The government retains ownership of the infrastructure facilities and becomes both the customer and the regulator of the service.

BOTs tend to work well for new facilities that require substantial financing. Governments generally issue BOT contracts for the construction of specific infrastructure facilities, such as bulk supply reservoirs, drinking water or wastewater treatment plants, waste transfer stations, and waste disposal stations. BOTs typically involve the construction and operation of only one facility and not the entire system.

### **Financing Structures**

Under BOTs, the private sector provides the capital to build the new facility. In return, the public sector agrees to purchase a minimum level of output to ensure that the private operator recovers its costs during operation. This requires that demand be estimated up front, which can cause problems for the public sector partner if demand is overestimated. The size and time frames associated with BOTs require the development of sophisticated and often complicated financing packages.

### **Potential Strengths**

- BOTs are an effective way to bring private money into the construction of new infrastructure facilities or into the substantial renovation of existing ones.

- BOT agreements tend to reduce market and credit risks for the private sector because the government is the only customer, reducing the risks associated with insufficient demand and ability to pay. Private sector partners will avoid BOT arrangements where the government is unwilling to provide assurances that the private sector investment will be paid back.
- The BOT model has been used to build new power plants in many developing countries. This history means that potential financial partners and operators have less of a learning curve to climb in structuring such transactions in the water and waste sectors, which often increases their appeal to the private sector.

### **Potential Weaknesses**

- BOTs generally involve only one facility, which limits the private sector actor's ability to help optimize system-wide resources or efficiencies. BOTs can, however, provide a platform for increasing local capacity to operate infrastructure facilities.
- BOTs provide some competitive incentives for efficiency since private companies must compete to win the contracts. However, the length and complexity of BOTs make these contracts difficult to design, a fact that often negates the positive effects of the initial competition. For example, most BOTs have to be renegotiated once they are underway and these negotiations are essentially conducted in the absence of competition.



### **Izmit, Turkey – BOT for Construction and Operation of a New Drinking Water Plant**

Seven years of negotiation led, in 1995, to the signing of a \$933 million BOT contract for the construction of a new drinking water plant in Izmit, a coastal town southeast of Istanbul. The plant will serve all 1.2 million of Izmit's residents. Thames Water of Britain is the lead investor in the consortium to build and operate the plant, which will revert to the state 15 years after operations begin.

Being the largest privately financed water supply project in the world, Izmit has an innovative financing structure. First, there is substantial local participation. Thames has agreed to work with two local Turkish contractors who share in 70 percent of the equity. Furthermore, the municipality is also a shareholder (15 percent) in the project. Perhaps the most critical aspect of the Izmit financing, however, is that the Turkish central government is guaranteeing 85 percent repayment of construction costs. This guarantee opened the doors to international finance in the face of concerns over "political risks" in Turkey. Two Japanese firms took another 15 percent of the equity and arranged for \$180 million in debt, repayable in untied aid. Export credit agencies in Britain, France and Japan also helped the financing arrangements by covering political and commercial risks, and dividing the debt financing.

The Izmit agreement is "take-or-pay," obligating the city to pay for a minimum and maximum amount of water delivered by the project company. If the municipality defaults, the lenders have recourse with the Turkish government.

### **Hong Kong – BOT for the Construction and Operation of a Solid Waste Transfer Facility**

Hong Kong issued a BOT for the construction and operation of its solid waste transfer facilities, which include a transfer station and fleet of transfer trucks. The government pre-qualified several firms based on their past experience in designing and operating transfer stations and then held a competitive tendering process to select the winning firm. The bidding documents laid out technical and environmental performance requirements, maintenance requirements, and equipment replacement schedules. The station has been built and is currently in operation. The government conducts regular inspections of the transfer facilities to verify that the specified requirements are being met.

## **D. Concessions**

### **Role of the Public and Private Sector Partners**

Under a concession, the government awards the private contractor (concessionaire) full responsibility for the delivery of infrastructure services in a specified area, including all related operation, maintenance, collection and management activities. The concessionaire is responsible for any capital investments required to build, upgrade, or expand the system, and for financing those investments out of the tariffs paid by the system users. The public sector is responsible for establishing performance standards and ensuring that the concessionaire meets them.

In essence, the public sector's role shifts from being the provider of the service to the regulator of its price and quantity. Such regulation is particularly critical in the water sector, given that water is a public good and its delivery systems are natural monopolies. The fixed infrastructure assets are entrusted to the concessionaire for the duration of the contract, but they remain government property. Concessions are usually awarded for time periods of over 25 years. The duration depends on the contract requirements and the time needed for the private concessionaire to recover its costs.

In the waste sector, the government might award a concession to build and run a recycling or waste-to-energy facility. In the water sector, a concession might entail the full provision of water services for a designated geographic

area. Most water concessions to date have been done in capital cities or at the national level. In part, this may be due to the greater size, and hence financial strength, of these concessions. It may also be due to the fact that they are being driven by national government leaders as part of their broader push for private sector involvement.

### Financing Structures

The private sector operator is responsible for all capital and operation costs – including infrastructure, energy, raw materials, and repairs during the contract life. In return, the private operator collects the tariff directly from the system users. The tariff is typically established by the concession contract, which also includes provisions on how it may be changed over time. In a few rare cases, the government may choose to provide back-up financing to help ensure that the concessionaire can recover its capital expenditures by the end of the contract.

### Potential Strengths

- Concessions are an effective way to bring private money into the construction of new infrastructure facilities or into the substantial renovations of existing ones.
- Combining the responsibility for investments and operations gives the concessionaire strong incentives to make efficient investment decisions and to develop innovative technological solutions, since any gains in efficiency will directly increase profits. In many countries, concessions have been successful in both improving infrastructure services and reducing fees.
- Concessions are less prone to political interference than government-operated utility services because the service stays

under the same operator regardless of changes in political positions.

### Potential Weaknesses

- Large-scale concessions can be politically controversial and difficult to organize. In particular, concessions often suffer from a failure to undertake sufficient dialogue and joint planning prior to entering into binding contractual commitments.
- Although concession contracts specify performance targets, price adjustment mechanisms, and service standards, governments generally find that they need to regulate concessions. This often requires governments to expand significantly their regulatory capacity.
- It is difficult to set bidding and contractual frameworks for concessions that are likely to evolve over a period of 25 years or more. No one can predict in advance – with the level of certainty applied in traditional public sector bid specifications – the most efficient and effective ways to provide the desired service over that period of time. A number of ways to combine predictability and flexibility are being explored, ranging from having the bidders offer a total amount of investment based upon a specified service fee without specifying how the total investment will be allocated, to contractual provisions for revisions of capital investment programs throughout the contract term.
- Some argue that the benefits of open competition are limited in the concession market since such a small number of international companies are able to run a concession. In addition, concessions essentially create a monopoly, which then protects the concessionaire from most forms of competition during contract renegotiations.

### **Aguas Argentinas, Buenos Aires – Water and Sewerage Concession**

As part of Argentina's extensive privatization program in the early 1990s, control over Buenos Aires' water and sewerage system was awarded to Aguas Argentinas ("AA"), a consortium led by the French company Lyonnaise des Eaux. In order to win the bid, AA offered the greatest reduction in then-existing water tariffs. In addition, AA agreed to a 30-year investment plan of US\$4 billion to connect 100 percent of the population in the concession area to drinking water and 90 percent to sewerage.

Since winning the concession, AA has connected over half a million new residents to drinking water and 300,000 to sewerage. Drinking water supplies have grown and quality has improved. Increased efficiency has led to economic and environmental benefits through the reduced use of chemicals. Commercial incentives have led AA to check water quality more frequently than required by regulation and to re-examine how to address the wastewater treatment issues.

Argentina's overlapping authorities to regulate environmental matters have caused some confusion. It is unclear whether AA is subject only to the regulatory structure authorizing the concession, including environmental standards enforced by a specially created regulatory body, or also to separate, conflicting legislation enforced by the national environment ministry as well as provincial and municipal authorities. Efforts are underway to clarify the regulatory requirements so that the concessionaire can operate in a more certain regulatory climate and proceed on projects that have been delayed due to the confusion over authority.

#### **E. Joint Ventures (Mixed-Capital Partnerships)**

##### **Role of the Public and Private Sector Partners**

Joint venture PPPs are alternatives to full privatization in which public and private organizations assume co-responsibility and co-ownership for the delivery of infrastructure services. Under a joint venture, the public and private sector partners can either form a new company or assume joint ownership of an existing company (e.g., the public sector sells shares of an existing municipal company to the private sector) that provides urban infrastructure services. In either case, it is essential that the company be independent from the municipality. Joint ventures are generally used in combination with other types of PPPs. For example, the government awards the newly established mixed capital firm with a service, BOT, or concession contract for the provision of urban infrastructure services.

Joint venture PPPs provide a vehicle for "true" public-private partnerships in which governments, businesses, non-governmental organizations and others can pool their resources and generate shared "returns" by solving local infrastructure issues. Under joint ventures, the government is the ultimate

regulator, but it also is an active shareholder in the operating company. From this position, it may share in the operating company's profits and help ensure the wider political acceptability of its efforts. The private sector partner often has the primary responsibility for performing daily management operations.

Under a joint venture, the public and private sector partners must work together from the earliest possible stages, often forming an institutional vehicle (sometimes called a "shadow company") or Project Development Entity during the pre-investment or development phase of the project. This vehicle provides a forum for direct collaborative dialog between the public and private sector partners as they work to develop the final project. In a more basic form, this can be a formal working group. Some projects have formed jointly capitalized companies specifically to work on developing the project during this initial phase.

##### **Financing Structures**

Under the joint venture PPP model, both the public and the private sector partners must be willing to contribute to the cost of the project's feasibility studies from the outset and be prepared to invest in the new company when it is formed. Mixed-capital PPPs require that both parties accept the idea of shared risk and

shared reward. In other words, each must be willing to make quantifiable contributions throughout the project development and implementation process. Optimally, the company should be financially independent. However, the government can choose to provide subsidies to the company or its users if necessary.

### **Potential Strengths**

- Joint ventures combine the advantages of the private sector – dynamism, access to finance, knowledge of technologies, managerial efficiency, and entrepreneurial spirit –with the social responsibility, environmental awareness, local knowledge, and job generation concerns of the public sector.
- Under a joint venture, both the public and private sector partners have invested in the company and therefore both have a strong interest in seeing the venture work. This often allows for better conflict management.
- Full responsibility for investments and operations gives the public and private
- Private sector organizations tend to focus on the “bottom line” – governments on the process. These differences are often manifested in the timetables each sector considers reasonable and can create barriers during the project development phase.

sector partners a large incentive to make efficient investment decisions and to develop innovative technological solutions, since any gains in efficiency will directly increase their profits.

- Early participation by the public and private sector partners allows for greater innovation and flexibility in project planning and helps ensure that both the public and private partners are able to optimize their goals.
- Early investment by the public and private sector partners reduces the transaction costs associated with more traditional tender of concessions or BOTs.

### **Potential Weaknesses**

- In some cases local government shareholders also have regulatory responsibilities, which can lead to a conflict of interest for the municipality in maintaining both public accountability and an eye on maximizing returns to the venture. This can increase the risk of political interference and reduce potential gains from private sector management.
- The early involvement of both parties that is required for joint ventures typically precludes the use of traditional public tender procedures and promotes the use of alternative procedures such as direct negotiation. This can raise concerns about transparency and corruption, which can affect political acceptability and additional private sector investment.

**Cartagena, Colombia – Joint Venture in Water Service Provision**

Facing huge inefficiencies and poor service, the government of Cartagena liquidated the public water and sewerage utility. In its place, it created a mixed-capital company – Acuacar – to serve the city's 750,000 inhabitants. Acuacar is jointly owned by the government of Cartagena and Aguas de Barcelona, a Spanish provider of water services. It has been awarded a 26-year operation and maintenance contract, and assumed control of the system in 1995. The City of Cartagena continues as the sole owner of the system, with full responsibility for funding any needed expansion. Aguas provides operating services and receives a fixed percentage of total revenues and divided distributions from Acuacar's profits. The new company is regulated, in theory, by a national commission, but in practice the oversight responsibilities have been unclear.

Acuacar has proved considerably more responsive to its users than the former utility and has undertaken substantial investments in maintenance and rehabilitation – the first investments to occur after an 11-year hiatus. Water quality has also improved.

However, given the scope of needed investments, on the order of \$250 million over five years, and the fact that the private shareholder has no responsibility to invest, it is unclear how extensive further improvements can be. Savings from improved management appear insufficient to generate the needed level of investment or creditworthiness.

## F. Community-Based Provision

### Roles of the Public and Private Sector Partners

Community-based provision starts when financial limitations prevent the government from providing adequate waste and water services to sectors of the population, forcing these residents to rely on their own means of serving their needs. Community-based providers might include individuals, families, or local micro-enterprises. Often, such activities are not recognized by and not well integrated into the formal system. In many cities, however, where local governments, and/or NGOs have recognized, organized, and assisted these informal groups, service has improved. CBOs play a key role in organizing poor residents into taking collective action and in representing their interests in negotiations with NGOs and governments. NGOs provide inputs into the management process, mediating negotiations between the CBOs and the wider political party, networking, disseminating information, and promoting policy reform.

Many poor residents make their living in community-based solid waste management by acting as door-to-door collectors, street and dumpsite scavengers, and as traders and dealers in waste materials. In the water sector, community-based providers might buy water in bulk from the local utility and sell it in their community in buckets. Community-based providers might also help install “group taps” to provide service to three to six households using only one tap. Other water options include “communal water point service” where 20 to 30 households install metered taps off the main system and regulate their own water use, paying the bill collectively.

### Financing Structures

Community-based provision typically involves low initial costs, as the “capital” is already established in the local providers and their materials. Initial organizational and material costs are often provided by NGOs, private charities, official development assistance, the government or by the community itself. Maintenance costs should be generated by

local charges or revenues. Local knowledge generally allows for the development of least cost solutions, which keep expenses low.

### Potential Strengths

- Community-based provision taps into local knowledge, which often results in the more efficient provision of services and prevents against bad investments.
- Community-based arrangements typically reduce initial investment costs by integrating local resources, e.g. labour, local materials, as well as guarding building materials, supervising workers and provisions, etc.
- Community-based provision can provide local residents with a stable form of income, which can improve local economic conditions.
- Community groups are dynamic and often able to respond better to customer demand, which will result in more sustainable infrastructure services.
- Community-based services often cover areas with difficult access for formal providers, especially in the waste sector (e.g. steep hills, settlements with very small access ways).

### Potential Weaknesses

- The two main concerns with community-based provision are coverage and scale. Although community-based projects are successful in some neighborhoods, they are often unable to move to a larger scale or to be replicated in other neighborhoods.
- To build up sustainable community-based infrastructure projects can take more time than business partners and the government are willing to accept.
- Governments are sometimes reluctant to support community-based providers because their informal methods of service provision are viewed as illegal and unstable.

**La Sirena, Cali, Colombia – Community-Based Provision of Water Services**

In La Sirena, urban settlements lie on steep hillsides that require pumping water at very high costs. With 53 percent of the residents engaged in the “informal economy,” this area has minimal financial resources on which to fall back. The community sought assistance from SIRENA, an inter-regional center for water supply and drainage, which helped establish a multi-stage filtration mechanism and a PVC (piping) network to render and distribute potable water throughout the settlements. Since its construction in 1987, a user-elected Action Committee of volunteers has established a differentiated tariff regime according to type of household (households with tenants versus single family households). The Committee also employs two operators who monitor water quality and conduct daily network inspections.

In 1996, the community succeeded in funding improvements by obtaining outside financing. Tariffs pay for operation and maintenance costs, but future expansion will involve additional external financial support or direct financing. This example shows that organized communities can operate and maintain water systems if they have the necessary institutional support and technologies they are able to understand.

**Quito, Ecuador – Community Based Provision of Waste Services**

The community group, Barrio El Carmen, in Quito presents an interesting example of a partnership between the government and a community group for the provision of solid waste management services. This low-income neighborhood of about 250 families is located in the southern portion of Quito. With political support from a city council member, and some promotional assistance from a local religious organization, the neighborhood is operating an alternative method for solid waste management, based on communal effort and micro-enterprise initiative. Households sort their waste, which is then collected by members of the micro-enterprise. The micro-enterprise sells the recyclables to traders or companies, and most organic waste goes to local farms for compost. Non-recyclables and the remaining organic waste are collected on a weekly basis by the municipality and transported to the city’s dumpsite.

To promote this initiative, the municipality has doubled the amount of money earned by the micro enterprise through the sale of its recyclables, investing those resources in local projects selected by the community. Since the program began, an illegal dumpsite in a nearby gorge has disappeared, allowing the area to be used for recreational activities. Several surrounding neighborhoods have now asked the Barrio El Carmen to manage their solid waste.

## G. Summary of Five Common Public-Private Partnership Options

Table 1 provides a summary of the five common PPP options discussed above. It breaks down each option by asset ownership, degree of regulatory intensity, source of investment, potential for labor concerns, and the estimated time scale for contract preparation.

**Table 1. Summary of Five Common Public-Private Partnership Options**

	<b>SERVICE</b>	<b>BOT</b>	<b>CONCESSION</b>	<b>JOINT VENTURE</b>	<b>COMMUNITY-BASED</b>
<b>Asset ownership</b>	Public	Public	Public	Joint	Community
<b>Regulatory Intensity</b>	Moderate	High	High	Moderate	Moderate
<b>Source of Investment</b>	Public	Private	Private	Joint	NGO, Private or Public
<b>Labor Concerns</b>	Moderate	High	High	Low	Low
<b>Time Scale for Contract Preparation</b>	Moderate	High	High	High	Low

## H. Tailoring Public-Private Partnerships to the Local Context

As the examples above illustrate, PPPs are context-based. The methods used by other cities will not necessarily work perfectly for your communities. Collectively, however, these examples of PPPs provide a rich “menu” of ideas and models from which your local government can choose. Flexibility is key. It needs to be present in the choice of parties to play the different roles, as who will best serve varies from city to city. Flexibility also needs to be present in the choice of response in order to maximize effectiveness and optimize system efficiency. The most successful cooperative arrangements come from a flexible, opportunistic approach, drawing from experiences in other cases. For example, smaller municipalities often have projects that

are too small in scale to attract a significant collection of private investors. These municipalities may have more success by offering multi-sectoral contracts, or by joining forces with neighboring municipalities in the bidding process, thereby offering potential private sector partners better economies of scale.

Often the best PPP option does not fall neatly into one of the categories described above, but combines components from various more traditional PPP options. For example, Cartagena is a joint venture with an operating contract to run the new treatment plant; concession contracts may include the construction of a new treatment plant; or community-based provision may develop into a more formal service contract with the supporting NGO or local micro-enterprise.



# III Fundamental Issues Underlying PPPs

## A. Building Strong Foundations

Strong foundations for PPPs are based on complementary goals and an enabling regulatory and political environment. Partnerships can only work to the extent that the goals of the major stakeholders are mutually compatible (i.e., acceptable services for acceptable prices and levels of return) and understood and accepted by all parties. In addition, partnerships need legislative, administrative, political and social environments that support the process of developing the partnership and achieving its objectives over time.

### Compatible Goals

Government, business, and community leaders must understand and respect each other's goals. As a government, you may initially have difficulty accepting the profit motive of private businesses, just as companies may be tempted to walk away from the more administrative decision-making processes used in the public sector. Local communities may not have patience for your need to address other areas of the city.

To resolve these differences, all parties must focus on the broader, complementary goals to be achieved. It is important to realize that public and private goals do not necessarily need to be the same for partnerships to work – they must merely be compatible. For example, both the public and private sectors want to raise general standards of living – governments and communities to alleviate poverty, businesses so that more people can afford their products. Both sectors also want to build more links at the local level, particularly in “emerging markets” – businesses to support market growth, governments and communities to promote development and idea exchange. Both want to provide efficient service – governments

and communities to keep costs low and to increase coverage, businesses to increase profits.

### **Enabling Environments**

An enabling regulatory, legal and political environment is the cornerstone of sustainable private sector participation. Early on, the public sector must establish an appropriate legal framework for contract procurement and private sector investment. It is very important that mechanisms be put into place to minimize the likelihood or appearance of corruption. Unpredictable and unfair procurement and investment processes reduce both political acceptability and the interest of many private investors.

The government must also establish clear regulatory frameworks and implement appropriate tariff regimes and subsidy mechanisms. The creation of a regulatory framework alone, however, does not necessarily guarantee effective regulation. As all local governments are different, the public and private sectors will face a steep learning curve as they try to define and regulate their relationships with each other and their roles in providing services. In particular, the public sector needs to define a clear allocation of responsibilities between the national and municipal governments, and a clear statement of its role as a provider and regulator.

In general, private sector companies prefer that the contract serve as the major regulatory mechanism, and that local governments have very limited regulatory discretion once it is in place. Highly specific contract terms that establish duties, performance targets, rules for changing prices, and dispute resolution procedures, allow the private sector better to predict the profitability of the venture and decide what it is worth bidding for the contract. Given these preferences, governments will have to make important judgements about the degree of regulatory discretion they are willing to give up, particularly for long-term contracts. Once again, corruption can be a concern here, this time in terms of public acceptance of the PPP.

Some governments raise concerns about an imbalance between their limited means and

capabilities as regulators and the capacity of experienced private operators. Decentralization has tended to aggravate this imbalance by giving municipalities more responsibility for providing public services from fewer resources. In situations where municipalities are limited by financial constraints and have little enforcement capacity, the central government may need to provide financial and regulatory support. In any case, mechanisms that strengthen public administration and regulatory bodies are necessary to reduce this imbalance and improve the public sector's negotiating power. Such reforms might include changes to the legal system that improve enforcement of regulatory frameworks or macroeconomic reforms to alleviate poverty and reduce inequality.

Bad political climates caused by the pressure of election cycles, the potential instability of new democracies, personal agendas of government officials, and the special status of some services (particularly access to water), can also create barriers to starting or maintaining public-private collaborations. Governments must provide assurances whenever possible to private sector partners that such political factors will not disrupt their contractual partnerships.

### **B. Importance of the Public Acceptance**

Government and business leaders cannot build partnerships alone – political and social acceptance of private sector involvement is essential. The people must see private sector participation as beneficial for the partnerships to last over time. Public support of private sector involvement over the long term will depend primarily on the delivery of promised services and benefits at reasonable costs. Therefore, it is of the utmost importance that mechanisms be developed to ensure that the organization providing the service, whether it is the public or the private sector, is accountable to its customers.

Public support will also depend on the ability of the partnership to meet the needs of all stakeholders. For example, public sector workers can be a source of tremendous opposition to increased private involvement in the provision of services. Contracts should ensure the employment or placement of public

employees and local residents to the greatest degree possible. There are a variety of options for placing public employees. These include transfers to the private sector operation, contracting workers for use by the private sector operator, placement in other public jobs, and offers of severance packages to workers who are not interested in the other options.

Public support will depend in part on the provision of affordable and sustainable services to historically disadvantaged sectors of the population. Service coverage requirements should always be part of the contract proposal evaluation criteria. Options for making this work include multi-level services and corresponding multi-level tariffs, which allow higher income areas to cover the costs of lower income ones.

### **C. Moving from Public Sector to Private Sector Management**

In entering into public private partnerships, governments generally switch from being a provider to a regulator of the service. This means that governments must become sophisticated in their understanding of what private firms can and cannot offer. Governments must ensure that basic social needs are met while the individual goals of the other parties are honored. Such role changes often require substantial capacity building, which may include the following:

- Strategic planning, financial modeling, and infrastructure investment planning;
- Developing financial packages for the contract;
- Setting effective tariffs and service levels;
- Managing contracts and monitoring contract compliance; and
- Re-prioritizing budgets to adjust for new development priorities.

Private sector involvement does not relieve the municipality of its responsibility to ensure adequate provision of the service. Given the nature of environmental services such as waste and water, it is inevitable that public regulation of the private involvement will be necessary. Developing such regulatory frameworks can be

challenging. Governments must find the appropriate balance between making a partnership attractive to private firms and protecting the rights and interests of their citizens.

Regulations must not just be designed to protect public interests, but must also create the conditions under which private firms can operate effectively and efficiently. For example, the municipality can increase private sector confidence by demonstrating that it will implement its commitments predictably. This might include, for example, undertaking tariff adjustments or purchasing land. Wherever possible, governments should develop public sector regulatory frameworks that will facilitate similar future projects.

### **D. Pricing Issues**

Before getting involved in a PPP, governments should be aware of some key pricing issues. Pricing issues are a particular concern for long-term PPPs such as BOTs, concessions, and joint ventures. At the beginning, the public sector often does not have any way to know what the true long-term costs and benefits of the package will be. Even when information is available, it is rarely incorporated into pricing structures.

Other pricing concerns include the use of subsidies and the political acceptance of the higher prices that typically accompany private involvement. Under concessions and other large-scale privatization efforts, the private operator often inherits inappropriate tariff structures that give operators and consumers the wrong incentives. Experience shows that unless clear tariff adjustment policies are built into the contract, political factors will continue to affect tariff setting after the private sector becomes involved.

The method for determining tariffs should be transparent and should specify objective criteria that would initiate adjustments. For example, if low tariffs cause private operators to lose money when providing service to the poor, then service to the poor will suffer. The public sector must correct these disincentives by making it profitable to serve the poor using tools such as subsidies. Given the social benefits associated with urban environmental services, for which

private partners are not necessarily fully compensated, such public sector financing of these investments should be justified.

### **E. Contract Procurement Issues: Ensuring Transparency and Evaluating Performance**

Most governments have rules requiring some form of competitive bidding for the procurement of any private sector good or service. In addition, most international lending institutions and assistance organizations require the use of competitive bidding procedures as a condition of the loan or assistance. Governments generally cite three reasons for using a competitive bidding procedure:

1. It ensures transparency in the contract award;
2. It provides a market mechanism for selecting the best proposal, typically resulting in the lowest costs; and
3. It stimulates interest among a broad range of potential investors.

Traditional procurement of basic operation and maintenance and service contracts can be a relatively straightforward process – due in large part to the high level of certainty regarding the nature of the services. Under conditions of certainty, such processes have generally worked well to inhibit corruption and get the best possible value for the government.

Despite these successes, the structures and time scales associated with more complex PPPs such as BOTs, concessions and joint ventures, make the traditional ‘competitive bidding’ procurement process a less efficient vehicle for forming contractual relationships between the public and private sectors. Four characteristics of traditional procurement help to explain why:

1. Traditional public tender is designed to work under conditions of certainty – large-scale PPPs start and generally evolve under conditions of uncertainty;
2. Traditional public tender is designed only to get the lowest price for a given product or service – large-scale PPPs often involve multiple design proposals and look for

criteria other than the lowest prices (including use of local firms and fostering local economic development);

3. Traditional public tender generally prohibits informal communication between the public and private sectors – communication is the cornerstone of a successful large-scale PPPs (particularly joint ventures) and must start at the earliest possible stage of the process; and
4. Traditional public tender is a time-intensive process. Private sector groups are results driven – they are engaged in the partnership to improve their bottom line. High transaction costs and long delays in contract awards will serve as barriers to private sector participation, particularly for smaller scale service contracts and joint ventures.

Despite the inherent incompatibility of traditional procurement practices, fear of corruption and high costs make governments and lending institutions reluctant to embrace alternative procurement procedures. Effective cooperation among governments, businesses, NGOs, and others is difficult to achieve under the best conditions. It is close to impossible if there is not a high level of trust, or at least predictability, in the process.

If people think there are irregularities going on, many will be unwilling to invest their time or resources. Even the appearance of corruption will dissuade many private investors from involvement. A recent World Bank study shows a negative correlation between investment and growth and corruption (as perceived by private investors and businesses). In addition, the presence of corruption has been shown to greatly increase the cost of any public service to the public. Therefore, any procurement process that does not control corruption will never get a good value for the public. The credibility of the parties involved, as well as the transparency of the process used, are critical determinants of long-term success. Getting the service at a good value is the key objective.

Alternative procurement options such as direct negotiation must be designed to prohibit corruption and get the best value for the public. Mechanisms for prohibiting corruption might

include: imposing stricter penalties on civil servants who accept bribes; penalizing firms that paid the bribe and prohibiting them from contracting with the government for a specified period; and encouraging local and international NGOs, as well as the media, to play a

'watchdog' role in the procurement arena. Mechanisms for ensuring good value might include benchmarking costs against the similar provision of services in other cities, and providing for periodic cost renegotiations.

## IV Basic Guidelines for Entering into a PPP

While PPPs by their nature are dynamic and tend not to conform to a simple model, for the purposes of generating some basic guidelines it is helpful to view the PPP development process in four stages:

1. Project preparation.
2. Analysis of different PPP options.
3. Soliciting private sector participation.
4. Establishing a durable partnership.

### A. Project Preparation

- The government should assess the current infrastructure service. This type of analysis will include an internal review of the following: (1) existing assets including infrastructure, capital and tariff regimes; (2) current service coverage; (3) general customer satisfaction; and (4) current balance sheet (revenues vs. costs).
- The government should outline broad goals for improvements. These include setting coverage objectives and service standards, as well as ensuring transparency, efficiency and customer satisfaction.
- If it appears that private sector participation might be an option, the next step should be the development of a multidisciplinary review team. The review team should then conduct a more thorough evaluation of the current system and evaluate the technological, financial, social, political and legal feasibility of various solutions. It is important that the review team identifies and actively involves key stakeholders such as local residents, NGOs, development committees, and community organizations in a meaningful way throughout the process. It is also of the utmost importance that this process be transparent and that the views of all stakeholders be actively solicited.

- Smaller municipalities may need to contract out some of these assessment services. Such contracts should be issued using a competitive bidding process when possible to help ensure the government is getting the best possible advice.

## B. Analysis of Different PPP Options

- Once the assessment is complete, the review team should establish a clear set of feasible infrastructure improvement priorities. It is important that the goals of broad coverage, affordable services, transparency, efficiency, and customer satisfaction be kept in mind throughout this process. The review team can then evaluate various PPPs options against these lists. This process may involve the use of cost/benefit models.
- When exploring different PPP options, governments should engage in open dialogues with a range of potential private sector partners. Traditional public procurement requirements can sometimes serve as barriers to this type of communication. Where this presents a problem, governments should consider alternative forms of procurement.
- Governments may want to consider a possible role for third parties. Third parties can act as a catalyst for or facilitator of the project development. They often provide a vehicle for developing a trust and confidence level between the public and private sector parties that helps to resolve problems. Third parties also provide increased transparency and mitigate the likelihood of corruption, as all decisions must be justified to them. Many experts agree that the more people that are accountable for a decision, the less likely corruption is to occur. Third parties can also teach governments about the successes and challenges faced by other governments struggling with similar problems.

## C. Soliciting Private Sector Participation

- Soliciting private sector participation generally involves procurement procedures. This means that governments

will have to determine what type of procurement process will get them the best value for the best service, while avoiding corruption. Presently, the two main options are competitive bidding and direct negotiations (see Section III.E. for a more complete discussion of the limitations of various contract procurement options).

- In any PPP procurement, every effort must be made to ensure that all guidelines encourage innovation and reward creativity to the greatest degree possible. One way to encourage innovation is to minimize specific requirements in bidding documents while specifying the desired end goal of the project or service – allowing the private sector to develop the best possible ideas for meeting the goals.
- One concern with performance-based design criteria is that the government may not be able to discern which projects will be the most effective at actually meeting the standards. Finding ways for governments to evaluate multi-factor design proposals is an issue that needs closer analysis. In the short-term, however, third parties and expert review panels can greatly assist the government in making such decisions. In addition, one inherent benefit of joint ventures is that prospective private sector partners are not likely to propose projects that they do not firmly believe will work, as the private sector partner is not just a contractor with the government, but a financial partner. As such, if the proposed project fails, the private sector partner gets no return on its investment.
- While finding ways to encourage innovation is good for the project if it builds capacity, it may not be viewed as good by private sector partners who may fear that they will not be compensated appropriately for their ideas or “intellectual property” in the event they are not awarded the contract. Procurement processes must address the issue of intellectual property rights. Often this is done by compensating private sector organisations if the government uses their idea, even if they are not awarded the contract.

## D. Establishing a Durable Partnership

Governments clearly want to establish PPPs that are sustainable over time. Essential ingredients of durable PPPs include:

- **Resource Commitments:** All partners should have to commit resources (financial, human, capital) to increase their interest in seeing the partnership succeed.
- **Participation and Transparency:** The interests of all major stakeholders must be reflected in project development. Special attention should be paid to meeting the needs of the poor. Broad participation in the collaborative process must be sought at strategic points to maximize the acceptability and sustainability of the solution developed. Transparency on the basic features of the project (framework, fees, and ownership) is key.
- **Capacity Building:** Projects requiring substantial institutional change or large capital investments will require capacity building of all stakeholders: (a) consumers on the nature of the service they are receiving and the costs associated with its provision; (b) providers, particularly local organizations, on entrepreneurial skills; and (c) governments on adopting the frameworks for and overseeing the provision of the services.
- **Patience:** Projects requiring substantial institutional change or large capital investments require lots of time. Careful attention must be paid to the balance between responding rapidly to the most pressing crises and developing integrated solutions that will last. Political cycles and the desire for immediate improvement in crisis situations often lead to the development of time frames that are too short. These short time horizons lead to unrealistic expectations and unsustainable solutions. Major institutional change (such as building regulatory capacity) and major private investments both take time. It is not realistic to expect that private sector involvement will quickly overcome public institutional and operational inefficiencies and immediately compensate for a history of insufficient public sector resources.
- **Flexibility:** All partnerships are context-based and locally distinct. Partnerships should draw from other experiences, but be opportunistic about exploiting the comparative advantage of local resources. Over the long-term, changes in investment plans, technology choices, and priority actions will be necessary in response to unforeseen circumstances. Including clear procedures for making such changes over the life of the project will reduce the chance they will have a negative impact on the partnership.
- **Social responsibility:** Infrastructure services provide goods that should be available to everyone. Improving infrastructure services is about making people's lives better, especially those of the urban poor. Governments should always make changes that promote increased access and better quality service. An emphasis on social responsibility will also increase political gain, as better service will lead to greater political acceptance.
- **Environmental Responsibility:** PPPs must also take seriously the importance of environmentally responsible service provision. Urban infrastructure services are directly linked to issues of environmental quality. Water is a scarce resource. To ensure long-term sustainability, efforts must be made to ensure it is provided in a way that does not substantially impact local ecosystems. Similarly, wastewater must be treated in a manner that ensures minimal impacts on the environment. Waste collection and disposal must also minimize environmental harms. Although mechanisms to ensure environmental responsibility often involve more substantial initial investments, the benefits to society – public health protection, ecosystem sustainability, and responsible use of scarce resources – generally more than justify these capital outlays. Assurances for environmentally responsible service provision and the use of “eco-efficient” technologies should be built into all contractual agreements.



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## V Conclusion

It is often easier to stay on the paths we know. Governments working with governments, private businesses with other private businesses. Whether you are coming from the public or private sector, PPPs may not seem like a desirable solution at first. However, a closer look at the benefits such relationships can offer provides a strong argument for their use. Through PPPs, the advantages of the private sector – dynamism, access to finance, knowledge of technologies, managerial efficiency, and entrepreneurial spirit – are combined with the social responsibility, environmental awareness, local knowledge, and job generation concerns of the public sector. In cities throughout the world, governments have found that private sector involvement can greatly improve the quality of their infrastructure services while expanding coverage and lowering costs, thereby improving the lives of their citizens.

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## VI Additional Readings

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## **Public-Private Partnerships for the Urban Environment**

United Nations Development Programme  
Bureau for Development Policy  
One United Nations Plaza  
New York, New York  
10017 USA

Telephone: +1 (212) 906-5367  
Fax: +1 (212) 906-5896

Email [pppue@undp.org](mailto:pppue@undp.org)

To find out more information on PPPUE or to access the PPPUE databases, downloadable technical reports and research papers, please visit PPPUE on the Web at:

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