

PPIAF Assistance in Egypt

As in many developing countries, the government of Egypt faces the challenging task of reconciling budget deficits with a burgeoning need for investment to improve and expand the provision of infrastructure services. In response, Egypt is aiming to leverage private investment to fill public financing gaps that have caused frequent power outages and gridlocked roads, and inhibited economic growth and development.

Infrastructure investment in Egypt has stagnated from nearly 12% of GDP in 1988 to 5% in 2007. With a budget deficit of 8.3% last fiscal year, and a forecasted 8% this year, the government wants and needs the private sector to shoulder a significant chunk of the infrastructure investment burden. Since 2006 **PPIAF has played a leading role in the development of an enabling environment that is sufficiently robust to attract private investors to the country.** As a result, Egypt is emerging as a regional trailblazer on public-private partnerships (PPPs). The first PPP concession, for the New Cairo Wastewater Treatment Plant, which benefited from upstream technical assistance support from PPIAF, was awarded to Orasqualia in June 2009 and reached financial close in February 2010.

Rachid Mohamed Rachid, Egypt's Trade Minister, recently announced Egypt was "aggressively seeking" further private partners for infrastructure projects.

Policy Changes and PPIAF Assistance

In 2006 the government of Egypt articulated a new economic reform agenda that emphasized the promotion of PPPs across infrastructure sectors. PPPs are seen as a central element of the government's reform agenda by providing an important means of delivering investment in public infrastructure; infrastructure that is necessary to improve the quality of public services. The government hoped that PPPs could be beneficial in attracting private capital (so easing pressure on the capital budget), and would provide other benefits including:

- Greater efficiency by transferring risks that may be more efficiently managed by the private sector
- Facilitating the development of the domestic financial market
- Harnessing private sector innovation in the provision of public services
- Economic growth and increased employment

The overarching goal was therefore to use PPPs to boost economic growth and development through improved and expanded infrastructure services. The ambitious PPP program was designed across a range of public infrastructure sectors. Pilot projects were announced in the education, health, transport, and water and wastewater sectors.

As a result, in June 2006, a Central PPP Unit was established in the Ministry of Finance to drive the development of the policy and legislative framework, to appraise and deliver PPP projects in coordination with line ministries and the public sector, to oversee the necessary capacity building of public sector officers, and to communicate the government's PPP vision and message to the private sector and broader community.

PPIAF assistance, beginning in 2008, included the preparation of a comprehensive diagnostic report on PPP development issues and the legal, financial, and regulatory frameworks for PPPs in Egypt, the preparation of a business development plan for the Central PPP Unit at the Ministry of Finance, and on-the-job technical assistance to review policy issues arising in the design of pilot PPP projects.

The Central PPP Unit was later reorganized to increase its oversight and quality assurance role, based **on the recommendations of a 2008 PPIAF-funded diagnostic report and institutional development plan**, and in May 2010 a PPP law (Law Number 67 for 2010, "Promulgating the Law Regulating Partnership with the Private Sector in Infrastructure Projects, Services, and Public Utilities"), **reviewed**

and revised following legal advice funded by PPIAF, was enacted to provide a secure legal framework to encourage private investment in Egypt’s pipeline of PPP projects.

A final component of the capacity building support to the Central PPP Unit was specific transaction support for the 6th of October Wastewater Treatment Plant. A more detailed description of this component is provided in the review of PPIAF support to the wastewater sector later in the text.

Results of PPIAF’s Activities in Assisting Egypt’s PPP Unit and Legal Framework

Category	Outputs
Enabling environment reform	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> • Preparation of a PPP Diagnostic Report for Egypt, 2008
<i>Plans/strategies prepared</i>	<ul style="list-style-type: none"> • Institutional Development Plan for the Central PPP Unit, 2008
<i>Policies prepared or legal or regulatory changes recommended</i>	<ul style="list-style-type: none"> • Review and revision of draft PPP law, 2009

Category	Outcomes
Enabling environment reform	
<i>Plans/strategies adopted</i>	<ul style="list-style-type: none"> • The Central PPP Unit was reorganized based on the recommendations of the diagnostic report and the institutional development plan. This has contributed to the development of a robust in-house capacity on PPP within the Ministry of Finance.
<i>Policies adopted, legislation passed/amended, or regulation issued/revise</i>	<ul style="list-style-type: none"> • Law No. 67 of 2010 passed May 2010, “Promulgating the Law Regulating Partnership with the Private Sector in Infrastructure Projects, Services and Public Utilities”

Technical Assistance for Egypt’s Irrigation Sector

The irrigation sector plays a vital role in food production and in the development of rural economies, but irrigation infrastructure is costly and has been founded mostly on massive public funding programs, many of which have been neglected and abandoned because of the fiscal burden of operation and maintenance on national governments. Private investment in the irrigation sector has historically been limited, though more recently the role of the private sector in the financing and operation of large-scale irrigation projects has been expanding.

The area located approximately 60 km north of Cairo to the West of the Nile Delta had experienced noticeable growth since the late 1990s when the government allocated land to farmers and allowed them to irrigate these lands from groundwater sources. By 2005 the area was a flourishing agricultural area, with an economy estimated to be between \$300–\$500 million annually. In addition, the area was home to 500,000 people and provided about 250,000 jobs in the agriculture sector alone.

However, with the rapid development of the West Delta region, there had been an excessive exploitation of the groundwater reserves. Thus, 47% of the total 1.071 million m² was under cultivation, and water extraction by the year 2000 had reached 870 million m³ annually, a 36.2% increase in just over a decade.

To resolve this problem, the government began reviewing options to replace groundwater with surface water for an irrigation system to reverse the depletion of the groundwater resource. The government wanted a system design that would ensure full cost recovery and volumetric tariffs to ensure correct incentives to conserve and utilize water more efficiently. In addition, the government prioritized private sector participation in the design, operation, and financing of the new system.

It was in this context that the government approached PPIAF in 2004 for assistance in **developing a conceptual framework and transaction model for implementing a surface water irrigation system in the West Delta region**, which became known as the West Delta Irrigation Project. A demand-driven approach, involving consultations with farmers to ensure their needs and willingness to use and pay for services, was used to guide the development of the technical design, financing alternatives, and tariff structure.

A follow-up activity, requested in 2005, assessed options for managing foreign exchange risk, and economic, regulatory, and institutional frameworks were developed to guide the government in improving its relationship with the irrigation users. The recommendations of the PPIAF reports were adopted by the government in late 2006.

The West Delta Irrigation Project is currently in the bidding stage to select a private operator, with a number of international and local firms participating in the process. The Egyptian government will support the initial financing of the project through a \$175 million loan facility, of which \$145 million will come from the World Bank and \$30 million will come from the Agence Française de Développement. The project will bring higher quality water to the 250,000 agricultural workers and the 500,000 people who inhabit the West Delta region. The West Delta Irrigation Project has set new precedents for the irrigation sector in Egypt and has already generated interest for possible use in new projects in Ethiopia, India, Turkey, and Zambia.

In addition to the two activities related to the West Delta Irrigation Project, PPIAF has funded one other activity in the irrigation sector in Egypt. The country has gradually built an extensive network of irrigation and drainage infrastructure of over 50,000 km that is vital for its existence. In addition to agricultural uses, this irrigation and drainage network is used also for bulk water supply and effluent disposal for both industrial and urban uses.

Given Egypt's flat topography, a network of more than 1600 pumping stations plays a critical role in lifting water levels to ensure a continuous and adequate gravity flow to meet the different water supply and disposal requirements. Traditionally, the Ministry of Water Resources and Irrigation has been the provider of a whole range of irrigation and drainage services, which are seen as a public good. However, investment costs of water programs have steadily escalated, as have operation and maintenance costs. This has led to unsustainable demands on the public sector budget.

As large investments are required for the capital costs of the irrigation and drainage infrastructure in general (especially pumping stations), government funding for the investment components was likely to continue with partial cost recovery. However, opportunities potentially existed to improve operations and maintenance efficiency by outsourcing the latter functions to the private sector through various private sector participation arrangements, including PPPs. This appeared possible because there were strong indications that users were willing to share in the costs if services were reliable and responsive to their demands.

As a result, **the government sought PPIAF assistance** in 2006 through the Ministry of Water Resources and Irrigation **to identify a private sector engagement blueprint for the operation and maintenance of water resources such as irrigation and drainage to improve the energy efficiency and service delivery of irrigated water**. As a result of the PPIAF-funded analysis and a series of seminars, an action plan to introduce PPPs and private sector participation in operation and/or maintenance of irrigation and drainage infrastructure was drafted by the Mechanical and Electrical Department at the Ministry of Water, but it has not yet formally been adopted by the government. As a result, plans to pilot private sector participation in 15 pumping stations across Egypt and a follow-up World Bank project have been delayed.

Results of PPIAF's Activities in Egypt's Irrigation Sector

Category	Outputs
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Enabling environment reform	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> • Conceptual Framework and Transaction Model for a PPP in Irrigation in the West Delta, Egypt, 2005 • Options for Managing Foreign Currency Risk in the West Delta Project, 2006 • Design, Build, and Operate Transaction for the West Delta Irrigation Project, Egypt—Regulatory and Institutional Arrangements, 2006 • Assessment of Options for PPPs in Operation and Maintenance of Irrigation and Drainage Infrastructure in Egypt (with emphasis on pumping stations), 2007
Capacity and awareness building	
<i>Transaction support</i>	<ul style="list-style-type: none"> • Seminars were held in Cairo, and a video conference was held in Washington, DC to build consensus around private sector participation in the irrigation and drainage sector

Category	Outcomes
Project cycle related assistance	
<i>Transactions facilitated</i>	<ul style="list-style-type: none"> • The West Delta Irrigation Project is currently in the bidding stage to select a private operator, with a number of international and local firms participating in the process. The project will support the government of Egypt to achieve more efficient and sustainable use of land and water resources by improving the management of irrigation and drainage for farmers in the Nile Delta supplied by the El Mahmoudia and Meet Yazid canals. • The Egyptian government will support the initial financing of the project through a \$175 million loan facility, of which \$145 million will come from the World Bank and \$30 million will come from the Agence Française de Développement. The government will assume the currency risk associated with this loan facility, and once it is exhausted the private operator will be required to obtain its own financing in a hybrid PPP (Build-own-operate/build-operate-transfer concession). • In addition to the loan facility, PPIAF's assistance paved the way for a \$6 million grant from the government of the Netherlands to promote the project and bidding process, implement the regulatory framework, and support capacity building in the Egyptian Ministry of Water Resources.

Category	Impacts
<i>Improved level of services</i>	<ul style="list-style-type: none"> • The West Delta Irrigation Project will replace groundwater pumping with surface water irrigation, bringing higher quality water to the 250,000 agricultural workers and the 500,000 people who inhabit this flourishing agricultural area.

Technical Assistance for Egypt's Wastewater Sector

Egypt's water sector was characterized by limited service provision and faced several other significant challenges. By 2006, at 900 m³ per capita, Egypt's available water was below the water poverty index of 1,000 m³ per capita per annum. Consequently, the Egyptian government identified water as a priority sector and began considering new approaches for financing and managing water supply and sanitation services that involved greater accountability for performance, improved operational efficiency, and

reduced fiscal burden faced by the government. In New Cairo City, a satellite town of Greater Cairo created to alleviate overcrowding, the population of 550,000 was expected to increase to approximately 4 million over the next 20 years. The existing infrastructure was insufficient and of poor quality, and rapid population growth placed increasing pressure on water supply and sanitation services.

The government turned to PPIAF to address the significant challenges facing its water sector due to limited service provision. PPIAF assistance explored new approaches for financing and managing water supply that promoted greater performance accountability and operational efficiency, while reducing the fiscal burden faced by the government. As a result, a conceptual framework and transaction model for a PPP in the water supply and wastewater sector in New Cairo was prepared. The government then hired IFC Advisory to be the transaction advisor for the project.

The resulting New Cairo Wastewater Treatment Plant was awarded to Orasqualia, a 50/50 joint venture between Egypt's Orascom Construction Industries and Aqualia, a division of Spanish construction firm FCC, which reached financial close in February 2010. The 20-year concession contract, worth \$482 million, covers engineering, procurement, and construction as well as operation and maintenance of the plant. The plant will serve one million people and has a capacity of 250,000 m³ per day. Banks participating in the loan include National Société Générale Bank, Commercial International Bank, Arab International Bank, and Ahli United Bank.

As part of PPIAF's support to the Central PPP Unit, transaction support was provided in the wastewater sector to give hands-on support to a specific transaction. Thus PPIAF assisted with support to a wastewater plant transaction in the 6th of October Governorate. In this governorate, current wastewater infrastructure was also deemed inadequate, especially given population projections that would see the governorate's population rise from 150,000 in 2006 to 3 million in 2020.

PPIAF's support for the 6th of October Wastewater Treatment Plant transaction included a PPP options study and a conceptual design and capital investment plan for the plant, as well as draft bidding documents for the tender stage. Following the PPIAF report, the Central PPP Unit together with the Ministry of Housing Utilities and Urban Development (MHUUD) decided to invite bids for the design, build, financing, operation, and maintenance of the 6th of October plant. When operational, the plant will have a capacity of 150,000 m³ per day.

Results of PPIAF's Activities in Egypt's Wastewater Sector

Category	Outputs
Enabling environment reform	
<i>Analysis/assessments prepared</i>	<ul style="list-style-type: none"> • New Cairo Wastewater Treatment Plant Capacity Assessment, 2007 • Analysis of PPP Options for Water Distribution in New Cairo, 2008
Project cycle related assistance	
<i>Transaction support</i>	<ul style="list-style-type: none"> • Analysis of PPP Options for 6th October Wastewater Treatment Plant, 2009 • Conceptual Design and Capital Investment Plan for 6th October Wastewater Treatment Plant, 2009 • Draft Bidding Documents for 6th October Wastewater Treatment Plant, 2009

Category	Outcomes
Project cycle related assistance	
<i>Transactions facilitated</i>	<p>New Cairo Wastewater Treatment Plant:</p> <ul style="list-style-type: none"> In June 2009 a 20-year concession contract, worth \$482 million, was awarded to Orasqualia by the New Urban Communities Authority for the New Cairo Wastewater Treatment Plant. Orasqualia subsequently reached financial close in February 2010. As of December 2010 Orasqualia has completed nearly 40% of the New Cairo Wastewater Treatment Plant and expects construction to be completed in time for the plant to be operational in March 2012. <p>6th of October Wastewater Treatment Plant:</p> <ul style="list-style-type: none"> MHUUD will act as the contracting authority for the 6th of October Wastewater Treatment Plant. Following a shift in the location and scope of the plant, MHUUD has re-opened the prequalification stage for the 6th of October plant. The data room for the project was opened on 14 December, 2010, and invitation to bid was opened on December 27, 2010 and clarifications from the bidders were received. Bids are currently being reviewed by the PPPCU and the project advisors.

Category	Impacts
<i>Improved level of services</i>	<ul style="list-style-type: none"> The New Cairo plant will serve one million people and has a capacity of 250,000 m³ per day.

Technical Assistance for Egypt's Power Sector

Electricity demand in Egypt is increasing at a very rapid pace. It is anticipated that an additional capacity of over 55,000 MW will be needed over the next 20 years to satisfy demand. In order to meet market needs, a liberalized electricity market that encourages competition and private sector investment is necessary.

The government is keen on re-engaging with the private sector to invest in new generation capacity to satisfy the rapidly growing demand for electricity in Egypt. The practical implication of this is a move away from the single buyer model and government-backed Purchase Power Agreements towards a PPP arrangement.

Based on this context, **in 2008 the government requested PPIAF support for an activity to develop a framework for PPPs in the power sector** based on the new Electricity Law which called for greater competition, gradual increase in prices, and an appropriate risk allocation between public and private sector participants.

Although this activity has only recently been completed, outcomes are already close to being achieved, which would eventually lead to visible impacts. Based on PPIAF recommendations, it is expected that the government will over time allow tariffs to cover costs in order to encourage private sector participation into the sector. The Egyptian power regulator, the Egyptian Electric Holding Company, has also issued an

invitation to private investors to construct a 1,500 MW power plant at Dairut, and the prequalification of developers was completed in April 2010. In November 2010 the government signed a mandate with IFC Advisory to act as the transaction advisor for this Dairut Independent Power Project.

Results of PPIAF's Activities in Egypt's Power Sector

Category	Outputs
Enabling environment reform	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> • PPPs: Applicability to the Power Sector in Egypt, 2009 • Electric Utility Clearinghouse: Recommendations for Settling Financial Transactions in the Egyptian Electric Power Sector, 2009

Technical Assistance for Egypt's Roads Sector

Despite ambitious road network development over many years, Egypt faces serious deficiencies in the quality of its 65,000 km road network, congestion on urban highways, and poor institutional capacity to manage the network of rural and urban roads. As a result, the government of Egypt sought PPIAF support to prepare a study to develop a framework for introducing output- and performance-based maintenance contracts in the road sector in Egypt, as well as identify the legal, institutional, and policy changes required. As part of the activity, model contracts and tender documents for pilot testing of performance-based contracts in the road sector were developed. A second activity then provided implementation support services and capacity building to the General Authority for Roads, Bridges, and Land Transport (GARBLT) related to the execution of the performance based maintenance contracts.

The activities were successfully completed. A pilot tender was launched, but is now on hold as the GARBLT received only one high-priced bid for works on the test itinerary, and therefore decided to cancel the tender.

Results of PPIAF's Activities in Egypt's Roads Sector

Category	Outputs
Enabling environment reform	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> • Framework for Performance-Based Contracts for Egypt and Document Preparation, 2007 • Performance-Based Contracting of Maintenance of Paved Roads: Lessons Learnt from Egypt, 2009
Project cycle related assistance	
<i>Transaction support</i>	<ul style="list-style-type: none"> • Model contracts and tender documents for pilot testing of performance-based contracts in the road sector, 2007
Capacity and Awareness Building	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> • Performance-Based Road Maintenance Contracts Implementation and Capacity Building Support, 2009

Looking Ahead: PPIAF and the PPP Agenda in Egypt

PPIAF has enjoyed significant success supporting the PPP agenda in Egypt. As the Central PPP Unit aims to bring its pipeline of projects—worth a potential \$15 billion—to financial close, PPIAF expects to continue to play a leading role in the expansion and improvement of Egypt's infrastructure services. As ever, the focus will be on assisting the government and Central PPP Unit in the preparation of viable projects that provide value for money for consumers and attractive long-term returns for investors.

Striking the right balance will ensure maximum benefit for Egyptian citizens, and contribute towards poverty reduction and sustainable economic development.