

---

# EGYPT

## Enabling Private Investment and Commercial Financing in Infrastructure

---



© 2018 International Bank for Reconstruction and Development / The World Bank

1818 H Street NW, Washington DC 20433

Telephone: +1 202-473-1000

[www.worldbank.org](http://www.worldbank.org)

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

### **Rights and Permissions**

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Any queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: [pubrights@worldbank.org](mailto:pubrights@worldbank.org).

### **Cover Photos:**

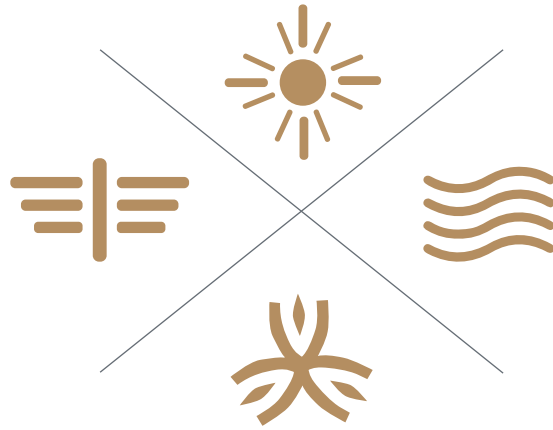
Water being poured into tank. Ghana. Photo: © Arne Hoel/The World Bank

Close up of leaf. Detail. Photo: © Curt Carnemark/ World Bank

Power plant using renewable solar energy with the sun: © Gencho Petkov/Shutterstock

Aerial view container cargo ship, import-export business logistics, and transportation of International by ship in the open sea: © Avigator Fortuner 887/Shutterstock

Cover design: Rana Al Gazzaz



THE REPORT

The Egypt Multisector Infrastructure Assessment Program report was funded by the British Government through the UK-WB Trust Fund in Egypt, and was prepared by a team led by: Aijaz Ahmad (Task Team Leader, Senior Public Private Partnership Specialist, GTIFP) and Helen Martin (Co-Task Team Leader, Senior Public Private Partnership Specialist, GTIDR), under the supervision of Clive Harris (Practice Manager, GTIMF) and Ashish Khanna (Program Leader, MNC03). Members of the core team included: Fatma El Zahraa Yassin Aglan (Agriculture Specialist, GFA05), Tu Chi Nguyen (Energy Specialist, GEE05), and Aleksandra Liaplina (Consultant, GTIAK).

The team would like to acknowledge the support of Asad Alam, Chief of Staff, Office of the President and Walid Labadi, Country Manager (CMEEC).

The team would also like to acknowledge the invaluable active support of the following Practice Managers: Alejandro Alvarez de la Campa (GFCM1), Carmen Nonay (GWA05), Erik Magnus Fernstrom (GEE05), Jean Denis Pesme (GFCMW), Julian Lampietti (GFA03), Olivier Le Ber (GTD05), Renaud Seligmann (GGOMN), and Yolanda Tayler (GGOPM).

The team is indebted to the following individuals for the contribution and inputs to various sector pieces: **IBRD:** Wael Zakout (Senior Advisor, GSULN) Tracey Lane (Program Leader, MNC03), Arnaud Dornel (Lead Financial Sector Specialist, GFCLT), Alan Moody (Lead Economist, GFCME), Laurent Gonnet (Lead Financial Sector Specialist, GFCAW), Diep Nguyen-Van Houtte (Lead Transport Specialist, GTD05), Osama Hamad (Lead Water Supply and Sanitation Specialist, GWA05), Christopher Brett (Lead Agribusiness Specialist, GFAGE), , Ibrahim Saeed Chowdhury (Senior Economist, GMTMN), Katharine Baragona (Senior Infrastructure Finance Specialist, GEE05), Hatem Chahbani (Senior Transport Specialist, GTD03), Sami Ali (Senior Transport Specialist, GTD05), Sandra Broka (Senior Agriculture Specialist, GFA05), Mohamed Nada (Senior Urban Specialist, GSU11), Sameh Mobarek (Senior Energy Specialist, GEE05), Alexander Johannes Huuderman (Senior Gas Specialist, GEEX2), Mohamed Yehia Ahmed Said Abd El Karim (Senior Financial Management Specialist, GGOMN), Jamal Abdulaziz (Senior Procurement Specialist, GGOPM), Farid Tadros (Senior Private Sector Specialist, GFCM1), Kilara Suit (Economist, GMTA4), Joern Huenteler (Energy Specialist, GEE01), Mariam Samedia (Private Sector Specialist, GFCM1), Mekbib Haile (Young Professional, GFA03), Aldo Baietti (Consultant, GWAGP), Dina Elabd (Consultant, GTD05), Xuanhe Wang, (Consultant, GFCLT), Enas Shaaban (Team Assistant, MNCEG), Hebatallah Aboelleil (Team Assistant, MNCEG), Ingy Awad (Team Assistant, MNCEG); **IFC:** Ignacio De Calonje (Chief Investment Officer, CNGOG), Pierre Pozzo di Borgo (Chief Industry Specialist, CN3SI), Ashruf Megahed (Principal Investment Officer, CM3A3), Malak Draz (Investment Officer, CN3IN), , Mark Sorial (Investment Officer, CN3IN), Jean-Louis Morcos (Investment Officer, CNGOG), Mohamed El Atfy (Associate Investment Officer, CM3MP); **MIGA:** Abir Burgul, Senior Underwriter (MIGOP).

Finally, the team would like to thank the peer reviewers of this report; Martin Raiser (Country Director, LCC5C); Marianne Fay (Chief Economist, GGSCE), Merli Margaret Baroudi (Director, MIGES) and Bernard Sheahan (former Director of Global Infrastructure and Natural Resources, IFC). Additional written comments were provided by Sajjad Ali Shah (Manager, MNADE).

## ABBREVIATIONS AND ACRONYMS

BOO	Build-Own-Operate	MALR	Ministry of Agriculture and Land Reclamation
BOT	Build-Operate-Transfer	MDB	Multilateral Development Bank
BRT	Bus Rapid Transit	MENA	Middle East and North Africa
CAI	Cairo International Airport	MERE	Ministry of Electricity and Renewable Energy
CAPEX	Capital Expenditure	MFI	Microfinance Institution
CBE	Central Bank of Egypt	MIDOR	Middle East Oil Refinery
CIB	Commercial International Bank	MIGA	Multilateral Investment Guarantee Agency
CL	Contingent Liabilities	MIIC	Ministry of Investment and International Cooperation
CMA	Cairo Metropolitan Area	MoCA	Ministry of Civil Aviation
CTA	Cairo Transport Authority	MoF	Ministry of Finance
DP	Development Partners	MoP	Ministry of Petroleum
E&P	Exploration and Production	MoT	Ministry of Transport
EBRD	European Bank for Reconstruction and Development	MPMAR	Ministry of Planning, Monitoring and Administrative Reform
ECA	Egyptian Competition Authority	MTI	Ministry of Trade and Industry
EEA	Egyptian Electricity Authority	MW	Megawatt
EEHC	Egyptian Electricity Holding Company	MWRI	Ministry of Water Resources and Irrigation
EETC	Egyptian Electricity Transmission Company	NAT	National Authority for Tunnels
EGAS	Egyptian Natural Gas Holding Company	NBFI	Nonbank Financial Institution
EGP	Egyptian Pounds	NIB	National Investment Bank
EGPC	Egyptian General Petroleum Corporation	NREA	New and Renewable Energy Authority
EHCAAN	The Egyptian High Commission for Airports and Air Navigation	O&M	Operations and Maintenance
ENR	Egyptian National Railways	OPEC	Organization of the Petroleum Exporting Countries
FDI	Foreign Direct Investment	PPA	Power Purchase Agreement
FIT	Feed-in Tariff	PPP	Public Private Partnership
FRA	Financial Regulatory Authority	PSO	Public Sector Obligors
GALPDP	General Authority for Land, Ports and Dry Port	PV	Photovoltaics
GAPTP	General Authority for Planning Transportation Projects	RIS	River Information System
GCC	Gulf Cooperation Council	RTA	River Transport Authority
GCR	Greater Cairo Region	SBM	Single Buyer Model
GCTRA	Greater Cairo Transportation Regulatory Agency	SCZ	Suez Canal Zone
GDP	Gross Domestic Product	SEZ	Special Economic Zone
GoE	Government of Egypt	SFP	Strategic Financial Planning
GOPP	General Organization for Physical Planning	SGC	Sovereign Guarantee Committee
GW	Gigawatt	SOE	State-Owned enterprises
ICT	Information and Communication Technology	SPV	Special Purpose Vehicle
IFC	International Finance Cooperation	TSO	Transmission System Operator
IPO	Initial Public Offering	US\$	US Dollars
IPP	Independent Power Project	VGf	Viability Gap Financing
ITDP	Institute for Transport Development Policy	WBG	World Bank Group
ITS	Integrated Transport System	WSC	Water and Sanitation Companies
IWT	Inland Water Transport	WSS	Water Supply and Sanitation
LNG	Liquefied Natural Gas		
LRT	Light Rail Transit		

## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	1
<b>1 INTRODUCTION: WHY THE NEED TO EXPAND COMMERCIAL FINANCE AND PRIVATE INVESTMENT IN SUSTAINABLE INFRASTRUCTURE .....</b>	<b>8</b>
<b>2 SECTOR TRANSFORMATION.....</b>	<b>14</b>
<i>2.1 Transport</i> .....	<i>17</i>
2.1.1 Airports.....	19
2.1.2 Ports.....	24
2.1.3 Railway Freight .....	30
2.1.4 Inland Waterways .....	36
2.1.5 Urban Transport .....	42
<i>2.2 Energy: Electricity &amp; Renewables, Oil &amp; Gas</i> .....	<i>49</i>
2.2.1 Electricity and Renewables .....	49
2.2.2 Oil and gas.....	57
<i>2.3 Water and Sanitation</i> .....	<i>65</i>
<i>2.4. Agriculture</i> .....	<i>70</i>
<b>3 ADDRESSING CROSS-CUTTING ISSUES: PATHWAY TO DEVELOPING ROBUST PROJECTS .....</b>	<b>78</b>
<i>3.1 Enabling Activities</i> .....	<i>78</i>
3.1.1 Access to Land .....	78
3.1.2 Improving Governance - Procurement .....	81
3.1.3 Improving Governance - SOE Performance.....	82
3.1.4 Infrastructure Financing Market.....	84
<i>3.2 Functional Activities</i> .....	<i>87</i>
3.2.1 Project Selection: Creating Coherent Strategic Investment Plans: Key Findings.....	87
3.2.2 Project Structuring: Mainstreaming PPPs .....	89
3.2.3 Project Sustainability: Managing Fiscal Commitments and Contingent Liabilities .....	92
<b>4 SUMMARY AND CONCLUSIONS.....</b>	<b>96</b>

## EXECUTIVE SUMMARY

**Confronted with pervasive macroeconomic imbalances and microeconomic distortions, the Government of Egypt (GoE) embarked on an ambitious and much needed transition towards a better economic policy.** In the post-2011 era, Egypt faced daunting economic challenges, which ultimately deterred trade and private sector investment and exacerbated entrenched structural problems such as a weak business climate, high unemployment and costly energy subsidies which resulted in unsustainable fiscal and external balances. In 2016, the GoE introduced transformative economic reforms, that have played a vital role in restoring macroeconomic stability. Key reform measures included: (i) the decision to liberalize the exchange rate, which in turn eliminated the large currency overvaluation and the acute shortage in foreign exchange; (ii) launching a program of fiscal consolidation, which introduced value added taxes and a gradual reduction in energy subsidies; and (iii) passing critical pieces of legislation, which included new laws on industrial licensing, investment and insolvency, in order to strengthen the business climate, attract private investments, and promote growth and job-creation.

**Egypt is now beginning to reap the benefits of its transformative reform program.** Macroeconomic stability and market confidence have been largely restored, growth has resumed, fiscal accounts are improving and the public debt ratio is projected to fall for the first time in a decade. While many countries have averted economic crises, a smaller number have sustained that stabilization and moved on to complete the modernization efforts of sustained and inclusive growth. Egypt is now at the point where it has a chance to do so. This will not only require broadening and deepening the reform agenda but it will also require a fundamental shift away from the state as a provider of employment and output, and move towards creating an enabling environment for the private sector to invest more, export more and generate more jobs.

**While public finances are on a firmer footing, the overall fiscal situation remains challenging.** The public debt ratio reached 109 percent of GDP by end FY2016/17, an increase of 30 percentage points in four years. With limited fiscal space, relying on public resources to fund much-needed infrastructure investments will no longer be a viable strategy to meet the country's needs. This constraint reaffirms the need for a shift in the development model, where the private sector plays a pivotal role in attracting substantial new investment across high potential economic sectors.

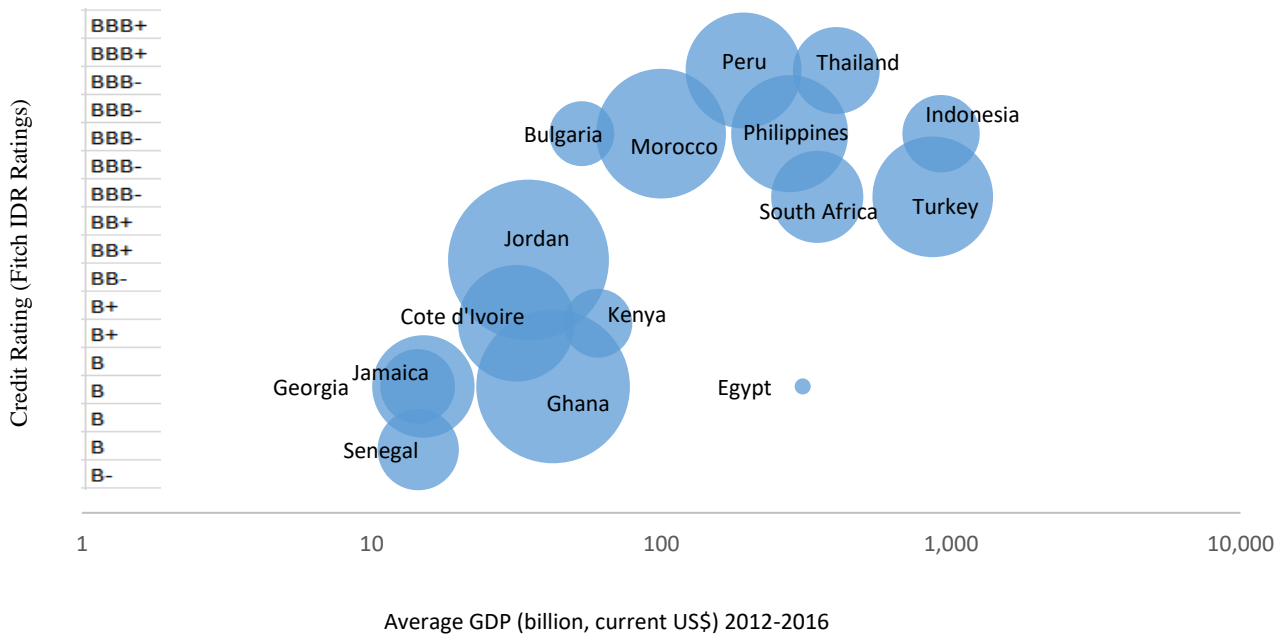
**With 80 million Egyptians entering the labor force within the next 10 years, creating jobs will be Egypt's biggest economic challenge.** Improving infrastructure will provide access to jobs, markets and basic services. It will also create reliable supply chains and therefore allow for the efficient movement of goods and services across borders, and bolster Egypt's export potential. Combined, these positive outcomes will support national development by alleviating poverty, unemployment, regional imbalances, literacy and poor health.

**Infrastructure sectors have significant investment needs. As per the G20's Global Infrastructure Outlook, Egypt faces a significant infrastructure financing gap over the next 20 years, assuming current trends.** During this period, Egypt could provide up to US\$445 billion in financing, but requires US\$675 billion to meet its needs, resulting in a US\$230 billion investment gap. The transport sector alone accounts for US\$180 billion of the total investment

gap, and water infrastructure requires over US\$45 billion in investments above projected trends. In the oil and gas sectors, the major Zohr gas field will require investments of US\$11-16 billion.

**A shift towards private investment or commercial finance in large infrastructure investments, and increased private investment in agriculture, could introduce efficiencies by inducing competitive pressure, transferring risks, and introducing new technologies and management expertise.** However, this shift requires sufficient funding at the project level, which can be provided by user fees or government payments, and can be facilitated by an increase in funding streams for public infrastructure. Fortunately, Egypt has a considerable scope to increase its use of project finance for infrastructure (as highlighted in Figure 0.1 below). Improving funding streams can result in a shift of sectors away from a reliance on taxpayers to a reliance on user fees. Public Private Partnerships (PPPs) and private financing should be introduced where they offer the most immediate gains in efficiency. For example, a PPP model can increase revenue through a better implementation of user fees by creating incentives for operators to maintain roads at a particular quality level, thus serving users and helping the government prevent overloading. This model can also generate new revenue streams from greater asset utilization, or improve asset utility to users, which would in turn improve the users' willingness to pay and facilitate cost recovery. An important objective of this shift could be to attract new market participants with the necessary skills and experience needed to drive efficiency (e.g. electricity generation), and deploy newer technologies (e.g. desalination).

*Figure 0.1: Infrastructure Project Finance Volumes in Emerging Economies*



Bubble size reflects project finance volumes as a percent of GDP. X axis refers to GDP size, and Y axis reflects international credit rating. Sources: Reuter's, PFI, IJ Global, PPI database, market sources.



**Egypt historically closed significant project finance deals, notably three large independent power projects (IPPs) in the late 1990s and early 2000s.** During the period 2007-2016, Egypt closed 14 international project finance transactions worth US\$ 11.8 billion, however only two of these deals (Damietta International Port and New Cairo Wastewater) were in the infrastructure sector. All other project finance transactions closed during the last decade were in heavy industries, manufacturing, and oil and gas. Volumes in 2017 were encouraging, with 29 solar PV projects financed in the last quarter, including 13 projects with total cost of US\$ 823 million financed through IFC A and B loans totaling US\$ 650 million, 15 projects financed by EBRD, one by Proparco, and 3 by ICBC (commercial bank). MIGA supported 12 projects both covering equity sponsors and debt by ICBC with exposure up to US\$ 210M. Project finance has been restricted due to lack of creditworthy counterparties and a robust pipeline of bankable projects.

**Catching up with the country's peers will require putting the key economic sectors on a better financial footing, and transitioning off of taxpayer funding to user funding.** The differences among the infrastructure sectors requires particular attention due to the varying implications of transitioning financial strategies within each sector. When it comes to seeking an expanded role for the private sector, these implications depend on: (a) the nature of the opportunities for sustainable private or commercial investment in the short and medium term (as well as the need and nature of the on-going public-sector role); and (b) the specific steps needed to unlock those opportunities. For most sectors (except agriculture, where state-owned enterprise investment and the use of guarantees have been less dominant), this will require groundwork at the sector level to develop sector structures and business models that are sustainable and align with investor requirements. These steps involve three dimensions:

- i. *Strengthening institutional and sector frameworks* to deliver strategic infrastructure on time, within budget, and in a manner that is cost-efficient, affordable, and above all beneficial to users and citizens. This is particularly important because weak institutional capacity (lack of organizational, technical, and commercial skills, coordination, and experience) can undermine project development. Consequently, this may result in expensive contracts, failed biddings, or (if relevant) a project being unable to attract private financing;
- ii. *Transitioning towards financial independence* by adjusting tariffs and tariff-setting approaches to ensure sustainable and adequate revenue streams, as well as to improve operational performance and efficiency. Currently, most of the subject sectors operate under regulated prices set by GoE. Sector entities, under varying institutional structures, are currently set at below-cost recovery levels. This means that significant fiscal transfers are needed in some cases to support operations and in many cases to support new investments;
- iii. *Clarifying project plans and priorities* to help potential investors better understand investment pipelines and, where relevant, the competitive environment for proposed projects.

*Table 0.2 Summary of Sector Strategies*

	Energy	Transport	Water	Agriculture
<b>Readiness</b>				
<b>Key Binding Constraints</b>	Capacity	Institutional Structure	Tariffs	Resources
<b>Strategic Objectives</b>	<p><b>Energy security</b> through diversified energy supply (including the generation of renewables), and making use of geostrategic position to become a <b>regional gas hub</b> while maximizing efficiency and adhering to climate change initiatives</p>	<p>A <b>multimodal freight strategy</b> and integrated mass transit strategy are to be implemented, paving the way for the country to be a <b>global trade hub</b>.</p>	<p>Improve water sector sustainability and achieve <b>water security</b> through a new tariff structure and the widespread introduction of <b>desalination</b> technologies</p>	<p>By meeting the needs of a growing population, Egypt becomes an <b>efficient producer and supplier</b>, and an <b>agribusiness transformation hub</b>.</p>

*Sustainable Infrastructure Projects that Maximize Private and Commercial Financing*



## Key sector findings and priorities

**Transport:** The transport sector is vital for connecting lagging regions to growth centers as inclusive growth key for economic development.. By developing a more integrated transport system, Egypt can leverage its geostrategic position, and become a regional trade and logistics hub. Investing in the transportation sector will increase connectivity and therefore: (i) cater to the urban demands of the growing population; (ii) provide better market access to the underserved, particularly in lagging regions; and (iii) provide the necessary routes for efficiently sourcing inputs and services, linking local and international markets.

**Energy:** Energy is critical for restoring macro-economic stability, enhancing foreign exchange reserves, achieving energy security and demonstrating improved governance models in Egypt. To achieve its goal of energy security, Egypt needs to work on: expanding and diversifying its energy supply and capacity needs; and improving governance and attaining financial sustainability. In electricity, renewable energy development, modernization of oil and gas sector, setting a regional oil and gas hub and energy efficiency will continue to be a priority. Sector

reform, recovery tariffs, and improvement in the efficiency of the distribution company are the necessary building blocks to increase private-sector participation going forward. In the meantime, short- to medium-term solutions are needed to reduce reliance on government guarantees, while at the same time addressing three areas of investor concern: (a) project’s contractual arrangements; (b) sector uncertainties; and (c) and the political landscape.

**Water and sanitation:** The United Nations predicts that by 2025, Egypt may reach the level of “absolute water crisis” of less than 500 cubic meters per capita, which will significantly affect agriculture, as it accounts for 86 percent of its use. Egypt has taken important steps towards improving cost recovery, but the effort needs to be complemented the need to focus on improving collection efficiency and reducing both technical and commercial water losses.

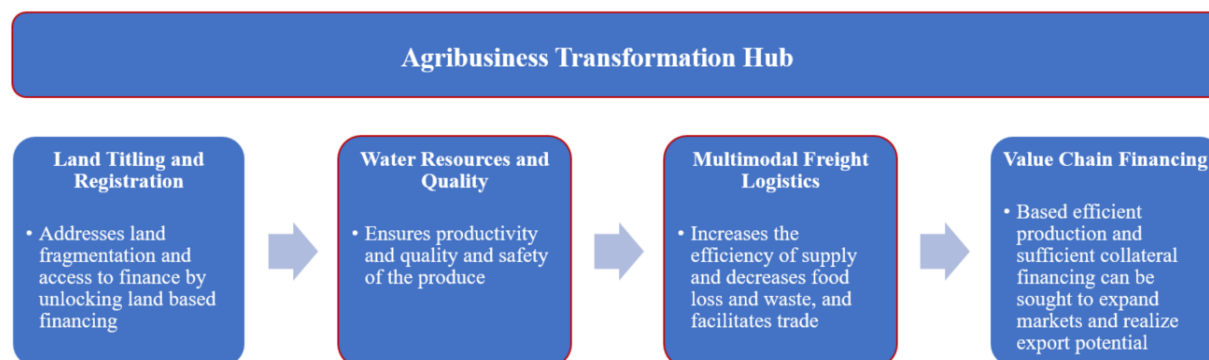
**Agriculture:** Accounting for more than 30 percent of GDP, the agriculture and agribusiness sectors have the highest potential for job creation amongst the selected sectors. The overarching strategy proposed is based on making Egypt an efficient producer and supplier of agricultural and agribusiness products, whilst supporting its development into an efficient global agribusiness transformation hub. By supplementing their sectoral development with a robust transportation and logistics network, Egypt can achieve food security, decrease food loss and waste (averaging at 30 percent for some value chains), and realize its tremendous export potential.

**Table: 0.3 Short-term Priority Actions**

<p><b>Energy</b></p>	<p><b>Electricity:</b> implementation of the Electricity Law, undertaking auction for additional solar projects and enhancing energy efficiency and customer service.</p> <p><b>Oil and Gas (O&amp;G):</b> (i) implementation of the O&amp;G Sector Modernization Project, particularly the financial restructuring of the 105+ existing sector companies; and (ii) finalization of the Oil and Gas Hub Strategy; and (iii) stimulating / maximizing energy efficiency and gas flaring reduction initiatives.</p>
<p><b>Transport</b></p>	<p><b>Airports:</b> improve coordination and assess and prioritize options for accommodating future capacity and levels of service requirements, especially in cargo</p> <p><b>Ports:</b> The National Ports Development Strategy should be finalized to improve efficiency and connectivity to inland dry ports and production/consumption centers, and to facilitate transparent concessions</p> <p><b>Railways:</b> Develop freight business through private sector investment/PPPs, key reforms of Egyptian National Railways (ENR) further strengthening of the Legal and Regulatory Framework, and through addressing competition with road transport</p> <p><b>Inland waterways:</b> Strengthen collaboration between relevant ministries and expand the capacity of the River Transport Authority (RTA) and address infrastructure bottlenecks to efficient transport on key Nile waterway corridors</p> <p><b>Urban Transport:</b> a comprehensive mass transit and urban transport strategy needs to be developed, in addition to streamlining the institutional structure.</p>
<p><b>Water</b></p>	<p>(i) Revising the tariff structures for drinking water, considering the ever-reducing per capita resource levels; (ii) conducting a sector strategic financial planning exercise; (iii) addressing NRW and local water distribution companies’ creditworthiness; (iv) enabling and fostering private sector participation in water (including desalination) and waste water.</p>
<p><b>Agriculture</b></p>	<p>(i) Establish a mechanism for review and coordination of policies related to private investments in agriculture; (ii) review of options for establishing a single land agency; (iii) fund and empower the food safety agency; (iv) develop the framework for the use of ICT systems for water resource management and precision farming; (v) facilitate smallholder-driven value chain development through alternate sources and modalities (digital) of finance (e.g. MFIs and NBFIs), and access to knowledge.</p>

**It should be noted, that there are some disparities between readiness and sector potential.** Where some sectors, such as Agriculture, have a tremendous potential for job creation and trade facilitation (the untapped export potential in this sector is estimated to be at least US\$10 billion), they are bound and unable to fully realize this potential due to institutional and regulatory constraints. There are also notable linkages between sectors, an example of which is illustrated in diagram 0.4 below, where a 1 percent decrease in transport costs increases trade by 1 percent and potentially minimizes agricultural waste by 30 percent.

*Diagram 0.4: An example of cross-sectoral linkages*



### Addressing cross-cutting enabling and function activities

**Improving land markets is key to infrastructure delivery.** It can be achieved by reducing risks involving land availability and unlocking land-based financing. The government would need to proactively support efforts made by the General Organization for Physical Planning (GOPP), the National Center for Planning State Land, and the MPMAR to enhance the allocation of state land to relevant land-custody authorities. There is also a need for drafting a new bill to consolidate, reform, and introduce new instruments.

**The government needs to improve transparency and competitiveness in infrastructure delivery by addressing procurement issues.** This would create “value for money” for the contracting authorities, as well as give confidence to the private sector. For instance, the construction sector is currently characterized by low growth, dominance of SOEs, and a history of uncompetitive practices (for example, the sole sourcing of public sector entities crowding out the private sector). The Egyptian Competition Authority (ECA) should enforce antitrust rules and advocate against inconsistent interpretations and applications of procurement rules. It is also suggested that procurement framework(s) be modified to introduce independent appeal mechanisms and prescribe “transparency and disclosure” provisions.

**Robustly developed, viable and sustainable investment projects are needed to maximize the crowding in of private and commercial financing.** The Diagram 0.5 below illustrates key enabling and functional activities that need to be undertaken and sequenced in a manner that ensures that only priority projects that can leverage private finance, and are fiscally prudent and sustainable, are offered to the market.

**The Ministry of Finance (MoF) would need to develop a new approach to infrastructure provision.** This could be achieved by playing a lead role in addressing the cross-cutting issues, especially those related to managing and monitoring fiscal commitments and

contingent liabilities arising out of infrastructure projects. In addition, the MoF can also play a proactive role in project selection and prioritization at the development planning stage, ensuring alignment with sector strategy and fiscal space availability. This entails strengthening and supporting the Sovereign Guarantee Committee (SGC) and working closely with the Ministry of Planning Monitoring and Administrative Reform (MPMAR) at the time of the Public Investment Planning/investment project approval stage. The MoF would also need to revive and reenergize its PPP Central Unit to provide technical support in the above areas, and to serve as a “gateway” for ensuring that only robust and bankable projects that demonstrate “value for money” are taken to the market, encouraging contracting authorities to prioritize “user-pay” concession/PPP models.

**The MoF would also need to play a key role in reforming SOEs**, particularly with respect to increasing transparency, improving accounting and financial performance, and creating independently creditworthy entities that are able to access commercial equity and debt without sovereign guarantees. Sector reform and the viability of the oftaker are essential for achieving long-term solutions. Working through the SGC, MoF should develop a comprehensive transition policy on “weaning off” sovereign guarantees for public sector/contracting authority-compensated PPP models, based on improved financial viability of the sector – particularly by improving the oftakers creditworthiness. A gradual transition from a full sovereign payment or credit guarantee model to a non-sovereign guarantee model could include utilizing a payment security mechanism (using, for instance, escrow accounts), targeting backstopping-only specific obligations, and encouraging the use of external guarantees and insurances.

**Opportunities should be created to expand the supply of long-term finance for infrastructure.** For instance, the MoF or the Central Bank of Egypt (CBE) could offer wholesale schemes providing risk-sharing or refinancing facilities to domestic commercial banks engaged in long-term infrastructure finance, such as a contingent subordinated facility supporting senior debt in case of project cash flow shortfall. The government should also shift state intervention to development finance, and perhaps move to reorient the mandate, operations, and governance of the National Investment Bank (NIB) from its current role of direct lending for public projects towards a more catalytic role facilitating commercial financing of infrastructure. Finally, the MoF through the Financial Regulatory Authority (FRA) should encourage and facilitate the development of fixed-rate and hedging instruments in commercial debt markets to allow lenders and obligors to minimize their exposure to interest rate mismatch and fluctuation risk.

**To ensure the provision of relevant and multifaceted solutions, the WBG teams closely consulted with the GoE, Development Partners (DP) and sector stakeholders since the inception of the report.** This was done by engaging in regular dialogue in the form of formal and informal bilateral meetings, and public and private sector consultations, supplemented by planning interactive workshops to continuously verify the initial findings. Through this clear and unified approach, the teams were able to maintain the alignment of the government and DP sector strategies, and foster the collaboration between the cross-cutting ministries (Ministry of Finance, Ministry of Investment and International Cooperation, and MPMAR) and the relevant line ministries.

## INTRODUCTION: WHY THE NEED TO EXPAND COMMERCIAL FINANCE AND PRIVATE INVESTMENT IN SUSTAINABLE INFRASTRUCTURE

1. **The GoE’s ambitious economic reform program aims to drive private sector-led growth and spur job creation by attracting substantial new investment across high-potential economic sectors.** This requires continued investment in infrastructure to ensure competitiveness, create reliable supply chains, provide access to markets and basic services, and increase productivity. Improvements in infrastructure enhance quality of life by alleviating poverty, unemployment, regional imbalances, illiteracy, and poor health; all of which inhibit national development. Improving the quality of infrastructure in Egypt can contribute to substantial returns in increased economic competitiveness. One study found that each percentage of improved infrastructure quality generates a 1.42 percent return in economic competitiveness.<sup>1</sup> In terms of direct employment for infrastructure projects, every US\$1 billion spent on road and bridge construction can generate 350,000 jobs, and water and sewage projects can generate 136,000 jobs; along with lesser job creation for projects of greater complexity (that is, power stations, communications, and so forth).<sup>2</sup> Infrastructure projects also contribute to long-term job creation in view of their causal relationship to economic growth. Egypt can drive economic growth through improved infrastructure provision if it can strengthen infrastructure planning, delivery, and finance, realizing its potential to be a trade hub in the Eastern Mediterranean, and boosting agricultural jobs and exports.

2. **However, Egypt’s infrastructure investment needs are large and cannot be met on a business as usual basis.** According to the G20’s Global Infrastructure Outlook, Egypt will require US\$675 billion of investment over the next 20 years to meet their infrastructure needs. This will be challenging; Egypt’s public finances deteriorated following the post-2011 economic downturn. The total government debt (including domestic budget sector debt and external government debt) reached an estimated 108.7 percent of Gross Domestic Product (GDP) at the end of FY2016/17, which was a twelve-year high and more than 30 percentage-points higher than at the end of FY2011/12. The precarious nature of Egypt’s public finances exerts constraints on public spending. It is expected that Egypt could afford to provide up to US\$445 billion in public financing over the next 20 years. This level of public spending would still leave a US\$230 billion investment gap between available public resources and the total infrastructure investment needs of US\$675 billion. The transport sector alone account for US\$177 billion of the total investment gap, with water infrastructure also requiring US\$49 billion in investments above projected trends.

3. **Egypt has considerable scope to move away from a reliance on the public budget for financing infrastructure.** Figure 1.1 below shows that Egypt’s use of infrastructure project finance is, relatively, lower than other countries. This figure highlights the infrastructure project finance volumes (average deal volume per year 2012-16) in various emerging economies comparable to Egypt in terms of GDP size (approx. US\$350 billion in 2016), GDP per capita (US\$3,500 in 2016), and/or international credit rating (“B”). These peer countries had annual infrastructure project finance debt volumes ranging from 0.2 percent to 1.0 percent. This sample includes six countries with an international credit rating of B- to B+, similar to Egypt’s “B” rating.

---

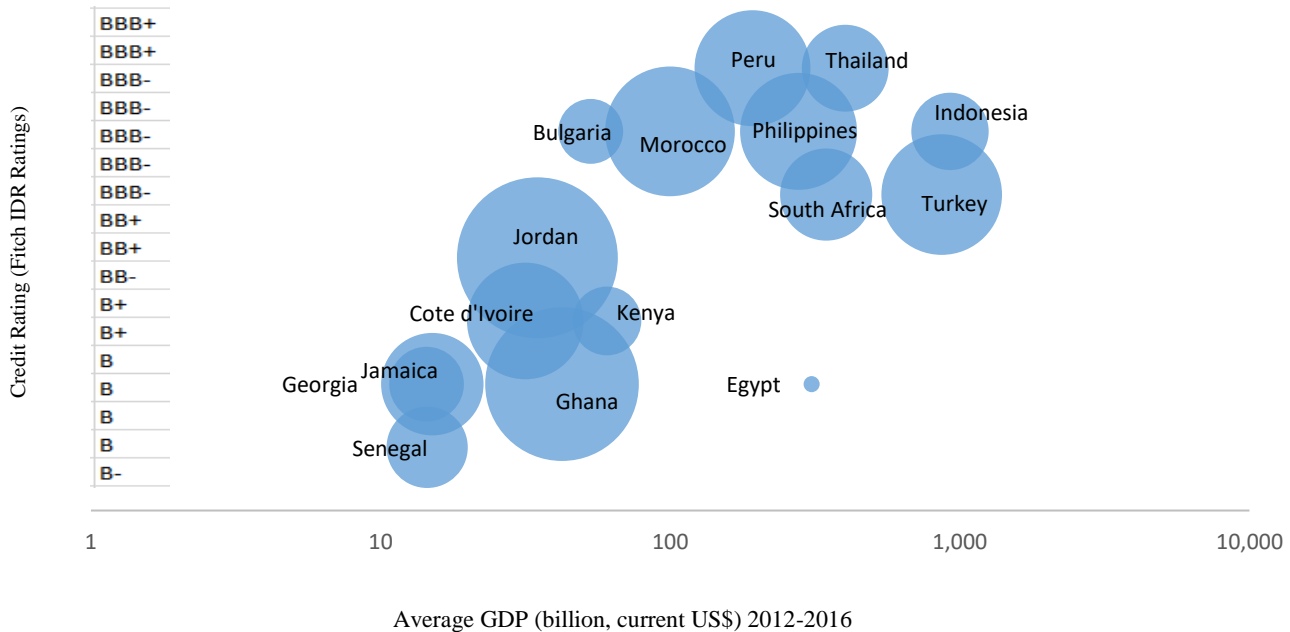
<sup>1</sup> Urbain Thierry Yogo and Audrey Verdier-Chouchane, “Enhancing North Africa’s Infrastructure for Improved Competitiveness,” African Development Review 27, issue 3 (September 2015): 274–287.

<sup>2</sup> Estache, Antonio; Ianchovichina, Elena; Bacon, Robert; Salamon, Ilhem. 2013. Infrastructure and Employment Creation in the Middle East and North Africa. Directions in development, infrastructure. Washington, DC: World Bank.

The infrastructure project debt volume for these countries has averaged 0.5 percent of GDP in the last five years, while Egypt averaged 0.01 percent. The chart clearly indicates that Egypt has an opportunity to match its peers and to grow the volume of project finance.

**Figure 1.1: Infrastructure Project Finance Volumes in Emerging Economies**

Bubble size reflects project finance volumes as a percent of GDP. X axis refers to GDP size, and Y axis reflects international



Credit Rating Sources: Reuter's, PFI, IJ Global, PPI database, market sources.

4. **To attract this additional investment, Egypt must be able to demonstrate solid economic fundamentals and provide a healthy investment climate.** Confronted with pervasive macroeconomic imbalances and microeconomic distortions the Government of Egypt has embarked on an ambitious and much needed transition toward a better economic policy that will improve its attractiveness to private participation in infrastructure investment. In the post-2011 era, Egypt faced daunting economic challenges which ultimately deterred trade and private sector investment. Additionally, these challenges exacerbated the entrenched structural problems such as the weak business climate, high unemployment and costly energy subsidies resulting in unsustainable fiscal and external balances. Egypt's government debt level had been on an upward trend, reflecting the challenges of the post-2011 economic downturn.

5. **Faced with this difficult situation, the Government introduced transformative economic reforms, starting in late 2016 that have played a vital role in restoring macroeconomic stability.** A key reform measure was the decision to liberalize the exchange rate, which in turn eliminated the large currency overvaluation and the acute shortage in foreign exchange. A fiscal consolidation program was launched, at the heart of which was the introduction of the value added tax and a gradual reduction in energy subsidies. Parliament passed critical pieces



of legislation – including new laws on industrial licensing, investment and insolvency – which were necessary to strengthen the business climate, attract private investments, and promote growth and job-creation. Most importantly, these reforms paved the way for significant changes in economic incentives, steering the economy towards a more labor-intensive and export driven economic model.

6. **Egypt is now beginning to reap the benefits of its ambitious and difficult economic reform program.** Macroeconomic stability and market confidence have been restored, growth has resumed, inflation has fallen, external and fiscal accounts are improving, and the public debt ratio is projected to fall for the first time in a decade (Table 1). Egypt’s growth has continued to accelerate during FY2017/18 (July to June), rising to 5.2 percent in the first half of the year from 4.2 percent in FY2016/17. Annual headline inflation declined from 33 percent in mid-FY2017 to around 13 percent in April. The current account deficit also narrowed sharply, reflecting the revival in tourism, strong growth in remittances and a recovery in exports, while improved investor confidence has continued to support portfolio inflows. In addition, international reserves rose to US\$44 billion at the end of May 2017, equal to 7 months of imports. FDI inflows, on the other hand, remain largely concentrated in extractives. Important fiscal reforms on both the expenditure and revenue side led to an improvement in the fiscal balance despite larger than budgeted oil prices with the overall budget deficit narrowing to 10.9 percent of GDP in FY2016/17 from 12.5 percent the year before. Meanwhile, energy subsidy reforms have freed up funding needed for targeted social assistance.

7. **In addition to the positive outcomes of these reforms, these policy changes are slowly shifting Egypt’s state-led economic model to one that envisages a larger role for the private sector.** Many countries have averted economic crises and achieved a measure of macro-stability, but few have sustained that stabilization and moved on to further modernization, which in turn drives sustained and inclusive growth. Egypt has a chance to do so. This will not only require broadening and deepening the reform agenda but it will also require a fundamental shift away from the state as a provider of employment and output to creating an enabling environment for the private sector to invest more, export more and generate more jobs. The Government has already demonstrated its commitment to move into this direction, creating greater opportunities for all Egyptians, while at the same time focusing on improving governance, protecting the vulnerable, reducing inequities and ensuring service delivery.

8. **There are important reasons to empower the private sector and promote market-oriented economic policies.** The IMF notes that by 2028, Egypt’s working age population will increase by 20 percent from 2018, which totals a labor force of 80 million Egyptians in just 10 years from now. Creating jobs for this burgeoning labor force will be Egypt’s biggest economic challenge, and will require the private sector to play a pivotal role. Additionally, while public finances are on a firmer footing, the overall fiscal situation remains challenging. The public debt ratio reached 109 percent of GDP by end FY2016/17, an increase of 30 percentage points in four years. With limited fiscal space, relying on public resources to fund both the constitutionally mandated increases in social spending and much-needed infrastructure investments will no longer be a viable strategy to meet the country’s needs, thus calling for the private sector to play a more prominent role.



**Table 1.1: Key Economic Indicators**

Last updated August 2017	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
	Actual	Actual	Actual	Actual	Actual	Pre-Actual	Forecast	Forecast	Forecast
<b>Real Sector and Prices</b>									
Real GDP Growth Rate (y/y)	2.2	2.2	2.9	4.4	4.3	4.2	5.0	5.5	5.8
Unemployment Rate (last Q of FY)	12.6	13.4	13.3	12.7	12.5	12.0	11.5	10.5	9.5
CPI Inflation Rate, (Period Average)	8.6	6.9	10.1	10.9	10.2	23.3	22.1	14.0	12.0
<b>Public Finance (in percent of GDP)</b>									
Overall Budget Balance	-10.0	-12.9	-12.0	-11.4	-12.5	-10.9	-9.8	-8.4	-7.3
Primary Balance	-3.7	-5.0	-3.9	-3.5	-3.5	-1.8	-0.6	0.8	1.2
Public Debt (Domestic + External)	78.1	88.2	89.4	93.1	102.8	108.8	99.8	96.4	91.3
<b>External Sector (in percent of GDP)</b>									
Trade Balance	-12.2	-10.7	-11.2	-11.7	-11.5	-15.1	-13.7	-13.1	-13.2
Current Account Balance	-3.6	-2.2	-0.9	-3.6	-5.9	-6.6	-4.9	-4.4	-4.1
Net Foreign Direct Investment Inflows	1.4	1.3	1.4	1.9	2.1	3.4	3.4	3.5	3.7
External Debt	13.4	15.0	15.1	14.6	16.8	41.6	38.4	35.6	34.0
External Government Debt	9.2	10.7	9.7	8.0	8.0	20.1	19.0	18.6	16.9

Source: World Bank and Ministry of Finance.

9. **The GoE has requested the WBG’s support in identifying opportunities and constraints to expanding commercial finance and private investment to achieve sustainable infrastructure development across key sectors.** The sector analysis is structured around the following building blocks:

- **Sector level transitions:** creating financially stronger and better-performing sectors and creditworthy investment opportunities. This building block follows the framework presented in Box 1 below (this framework entails the identification of binding constraints and the prioritization of actions at the sector levels). The framework is based off the Government’s objectives and priorities for each sector, and is followed by: (a) an assessment of opportunities and options for leveraging commercial capital or private investment; (b) an outline of the main barriers to maximizing private/commercial financing; and (c) a presentation of the near- and medium-term policy recommendations.
- **Actions in cross-cutting areas:** improving macro stability, reforming financial and capital markets, making the construction market more open to the private sector, and targeting land market reforms, while improving the efficiency of public spending and support, and additionally ensuring that private investment is brought in through efficient processes based on global good practices and appropriate risk allocation

10. **The report focuses on four priority sectors selected by the GoE, namely:**

- *Energy*: oil and gas transmission, distribution; electricity generation, transmission, and distribution;
- *Transport*: multi-modal freight transport and logistics, including ports, airports, railways and inland waterways, and related logistics infrastructure; urban transport in the Greater Cairo Metropolitan Area (GCMA);
- *Water and sanitation*: bulk water supply, distribution, and wastewater treatment;
- *Agriculture*: value addition and transformation, enhanced efficiency of value chains and sustainable water and land resource management.

**Box 1: Sector Assessment Framework**

Reflecting the information attained, the team has structured the sector chapters in the following manner:

1. Government's Objectives and Priorities. An assessment of the Government's objectives and priorities for sector development (in terms of access, service level, efficiency improvements and technological focus, if any), and describing the overall strategic direction, as well as targets based on the available strategic documentation and discussions with Government counterparts. Depending on the information available, this section might include a rough assessment of sector financing needs required to achieve the sector's objectives and priorities.
2. Opportunities and options for leveraging commercial capital or private investment: An assessment of the Potential/Ease of Access to Private Capital. The main questions asked here are "What does it take to crowd-in commercial finance?", and "What are the potential quick wins?"
3. Binding constraints to achieving sector objectives: An assessment of binding constraints in achieving sector objectives in terms of reforms and improvements required in policy, legislative, institutional, governance and regulatory environment and the political economy surrounding it. Where possible, it includes an assessment of binding constraints in maximizing private/commercial financing and management to achieve the sector objectives in terms of required asset quantity and quality, service levels, and the operational and financial strength of utilities/service delivery entities.
4. Recommended Action Plan – aligning results of the first three sections - for the next three years - from a policy, legislative, institutional and regulatory perspective<sup>3</sup> in terms of achieving sector objectives. A comparison of recommended actions benchmarked with experiences in similar countries is provided as well, where appropriate and possible, highlighting sector potential. Finally, it includes an overview of the identified "first mover" projects that are already in preparation and the ones that have the highest potential from the perspective of achieving the Government's objectives for the sector, the crowding-in potential, as well as other environmental and social considerations. Actions are prioritized based on their importance, sequencing and linkages with other actions and feasibility of implementation.

---

<sup>3</sup> For agriculture/agribusiness the focus will be on highlighting the linkages with other infrastructure sectors given the Egyptian context.

11. **To ensure the provision of relevant and multifaceted solutions, the WBG teams closely consulted with the GoE, Development Partners (DP) and sector stakeholders since the inception of the report.** This was done by engaging in regular dialogue in the form of formal and informal bilateral meetings, and public and private sector consultations, supplemented by planning interactive workshops to continuously verify the initial findings. Through this clear and unified approach, the teams were able to maintain the alignment of the Government and DP sector strategies, fostering collaboration between the cross-cutting ministries (Ministry of Finance, Ministry of Investment and International Cooperation, and MPMAR) and relevant line ministries.

12. **Attracting private sector participation into sectors requires concrete pipelines of creditworthy investment opportunities.** Potential investors have stressed the need for clarity of Government policy and strategic direction. Availing this information will help in incentivizing and attracting new investors. In certain sectors, such as transport, outlining the availability and attractiveness of investment opportunities may be necessary to clarify the competitive environment within which investments would take place.

13. **However, many sectors still lack a coherent approach to sector planning, which leads to insufficient clarity on potential projects.** The underlying reason is institutional fragmentation and weak coordination. This problem is prominent for most of the sectors that have been studied. For example, in the transport sector, planning in each mode (railways, ports, waterways, airports, and roads) is conducted independently and with no communication to the others. The same challenge of duplications of mandates and lack of coordination are also faced in the water and agriculture sectors

14. **Further analysis is therefore needed to inform investment plans and to identify priorities for potential investments.** Without comprehensive planning, it is difficult to identify strategies for prioritizing and sequencing investment projects. In the short term, there is a significant need to strengthen sector-wide planning capacity. In the longer-term, institutional defragmentation efforts will be necessary. Preliminary sector analyses have revealed some potential investment opportunities, but gaps remain.

15. **In Egypt's five-year macroeconomic framework and strategy the GoE asserted the direction of adopting a broad policy orientation that fosters private sector growth through legislative and structural reforms** while complementing that track with investments in essential infrastructure projects. Outlined in the Ministry of Planning's Vision 2030 paper and Egypt's Economic Development Conference's sectoral action plans, the Government has presented a broad set of sector strategies and highlighted those with the highest growth potential.<sup>4</sup> A summary of the GoE's vision for the selected sectors are presented in Table 2.1 below.

---

<sup>4</sup> Sectors identified are; Housing and Utilities, Energy, Mining, Agriculture, Tourism, Manufacturing and SMEs, ICT and Transportation and Logistics.

**Table 2.1 GoE's Strategy regarding Energy, Transport, Water and Agriculture**

<i>Sector</i>	<i>GoE Vision</i>	<i>WBG Identified Actions</i>
<i>Transport</i>	<p>Allowing Egypt to become a global <b>trade hub</b>, and addressing <b>urban transportation challenges</b></p>	<ul style="list-style-type: none"> <li>• Develop an updated comprehensive and prioritized transport strategy to include all transport modes over a staged planning horizon with dedicated financing schemes, and to encourage sustainable modes of transportation in more coordinated and effective manner.</li> <li>• Accomplish the New Suez Canal Project and the National Project for Roads</li> <li>• Rehabilitate and expand the railway network according to an ambitious US\$10 billion 10-year investment plan</li> <li>• Invite the private sector to develop key strategic projects either under its sole stewardship or in conjunction with the public sector, including container and cargo terminals, river transport, railway projects, dry ports, bus rapid transit and light rail</li> </ul>
<i>Energy</i>	<p>Based on three fundamental pillars: (i) <b>security</b> through a diversified energy supply that can reliably meet demand; (ii) <b>sustainability</b> on both a financial and social level; and (iii) <b>governance</b>, where a strong institutional framework that is transparent and can be held accountable</p>	<ul style="list-style-type: none"> <li>• Accelerate gas production from existing fields and incentivize new exploration and development through subsidy phase-out and full arrear settlement to oil companies</li> <li>• Reorient the sector to operate on economic basis with increased private sector participation through restructuring EGPC, establishing an independent regulator for oil and gas and reviewing the joint venture model governing extractive industries.</li> <li>• Direct US\$10 billion of investments to the downstream industry to upgrade and build new refinery capacities</li> <li>• Eliminate power outages in the short term through 3,600 MW in additional capacity.</li> <li>• Secure additional fuel to operate power plants via agreements to import LNG cargoes</li> <li>• Expand installed capacity by 16 GWh and 26 GWh over the 2012-2017 and 2017-2022 time periods, respectively.</li> <li>• Foster private sector participation and liberalize the electricity market</li> <li>• Promote investments in renewable energy via shift to other mechanisms to optimize tariff and enhance financial sustainability of the renewables segment (i.e. auctions)</li> </ul>

*Agriculture*

Aims at **achieving large productivity gains** to unlock high growth potential and **generate jobs** through: (i) vertical development of increasing production in old lands in the Nile Valley and the Delta; and (ii) horizontal development into new reclaimable land in the desert

- Increase production per unit of land by improving water management systems and irrigation networks
- Expand reclaimable land through heavy investment in land preparation and water resources development from aquifers
- Minimize waste through strategically located modern storage facilities
- Develop the food processing industry in efficiently located agro-industrial parks
- Restructure the Agricultural Bank of Egypt

*Water and Wastewater*

The main priorities are improving the WSS sector sustainability, achieving **water security** and increasing water use efficiency; among the national targets are (i) enhancing water quality; (ii) rationalizing water use; and (iii) developing water resources

- Improve water-related services to be developed under PPP schemes in collaboration with development partners
- Improve water management systems
- Strengthen the institutional and legislative structure of water resources management system.
- Expand infrastructure for supporting a sustainable water system.
- Adopting fiscal policy reforms to encourage sustainable consumption patterns of water and natural resources.
- Raise an awareness to preserve the environment and natural resources, providing incentives for more advanced alternatives and technologies for water conservation and natural resource protection.
- Work on a strategy towards full cost recovery tariff, independently of the ownership of the asset
- Enable PSP in water/wastewater

*Government's Objectives and  
Priorities for the Sector*

16. **Egypt has an ambitious vision to expand and integrate its transport networks to meet growing mobility needs and to connect remote communities to jobs, markets, and opportunities so that “no one is left behind”.** Egypt therefore needs to focus on developing a more integrated and smarter transport system that provides services designed around demand needs rather than supply capabilities. A more integrated transport system<sup>5</sup> would allow Egypt to reap large efficiency benefits from improved modal choices for both passengers and freight. For passengers, this means linking the airports, ports, railways, and metro and bus stations into multimodal connection platforms that would provide opportunities for other routes of travel. For freight, Egypt needs specially developed freight corridors<sup>6</sup> optimized in terms of energy use and emissions, and attractive for their reliability, limited congestion, and low operating and administrative costs.

17. **Due to its geographic position, Egypt has two separate, but related opportunities to act as the trade hub of the Eastern Mediterranean region, but neither is being realized.** The first is based on the trade that transits the Suez Canal between Asia and Europe but in which Egypt currently plays little part.<sup>7</sup> The second is based on the need for all land-based trade between the Mashreq and Maghreb countries, and between Europe and the Arabian Peninsula, to transit Egypt. Improvements are required in internal multimodal connectivity, trade facilitation, maritime services, and land roll on/roll off (ro-ro) connectivity to Jordan and Saudi Arabia. Investment needs include: (i) developing the Ports and Logistics Complex of Egypt, including increasing the efficiency of maritime ports, developing dry ports, free zones, and logistics centers; (ii) enhancing connectivity to the Ports and Logistics Complex through railways (increasing the rail mode share of domestic freight to 10 percent), inland waterways (increasing the inland waterway share for

<sup>5</sup> Reference: *EU Transport White Paper 2011*

<sup>6</sup> Identified in the Comprehensive Study on The Master Plan for Nationwide Transport System in the Arab Republic of Egypt (MiNTS – Misr National Transport Study) as: (i) the Mediterranean corridor; (ii) The Intermodal Transport Corridor; (iii) the Red Sea corridor; and (iv) the Upper Egypt corridor.

<sup>7</sup> Other than collecting canal fees.

*The estimated cost of bringing Egypt's transport infrastructure up to global benchmark standards has been variously estimated at between 3 and 5 percent of GDP, whereas the most the public sector has ever reached is about 1.2 percent of GDP.*

*A funding gap has been estimated at around US\$6 billion per year*

*Egypt has two related but different opportunities to act as the trade hub of the Eastern Mediterranean region:*

*1) Between Asia and Europe via the Suez Canal;*

*2) Between Mashreq and Maghreb, and between Europe and the Arabian Peninsula via land*

*In addition, fulfilling the investment needs in transport also would have potential to yield great benefits for other sectors including for oil and gas, mining, and agribusiness.*

freight transport to 5 percent), and improving the efficiency of road transport; and (iii) increasing the cargo-carrying capacity through air transport. The trucking industry needs to be restructured to better address demand needs, and to establish a more competitive environment for more efficient transport options such as railways and waterways.

*Overall sector financing needs*

18. **Overall, there is a significant potential for private sector investment and commercial finance in multimodal transport and logistics infrastructure.** The estimated cost of bringing Egypt's transport infrastructure up to global benchmark standards has been variously estimated at between 3 percent and 5 percent of GDP, whereas the most the public sector has ever reached is about 1.2 percent of GDP. This leaves a funding gap of at least US\$6 billion per year – and this does not take into account the many specific projects needed to develop the Suez Canal Zone (SCZ). Moreover, by fulfilling the investment needs of the transport sector, the GoE could benefit from positive spillover effects in other sectors (including for oil and gas, mining, and agriculture and agribusiness), as they would help to overcome logistical bottlenecks and improve access to markets. More work is needed to identify specific investment priorities and potential modalities (PPP; commercially-financed investment by SOE; fully private investment).

*Potential/Ease of Access to Private Capital*

19. **The pace at which private sector finance has been welcomed into the Transport sector in Egypt has varied by sub-sector.** The aviation and ports sub-sectors have been more advanced, while railways and urban transit have lagged behind, with inland waterways being somewhere in between. The inability of the transport service to collect commercial fees – as opposed to being viewed as a public service obligation (PSO) – is a fundamental reason for why the speed of private sector engagement has varied amongst sub-sectors. Other key reasons that continue to hamper the progress of private sector participation across the transport sector include: (i) an excessively complex institutional structure that does not facilitate decision making nor independent and transparent regulation; (ii) antiquated laws that require updating to permit private sector investment; (iii) the absence of an integrated multimodal freight transport strategy; (iv) the absence of an integrated mass transit strategy; and, (v) insufficient qualified staff to strategically or operationally manage services or sub-sectors/modes properly. Additionally, environmental considerations are currently absent in the strategic planning. The GoE is well aware of these deficiencies, and is starting to address these issues in earnest. If the cross-cutting issues above can be addressed within one year, it is conceivable that private sector investments that can transform the quality of freight and passenger transport services in Egypt can be realized within the next five years.



*Government's Objectives and Priorities*

20. **Egypt's aviation sector has mainly focused on passenger transport, especially for tourism.** 80 percent of tourists arrive in Egypt by air. However, air traffic fell in 2011, due to the collapse of tourism in the aftermath of the Egyptian Revolution, and the sluggish recovery ever since has been exacerbated by recent aircraft crashes. This reduction in tourist air travel highlighted the risks of ignoring freight transport. Moreover, Egypt's strategic location and proximity to the Suez Canal complex has generated opportunities for air cargo transport.

21. **The Global Competitiveness Report, 2016-2017 ranks the quality of Egypt's airports at number 52, second in the region behind Jordan but higher than Morocco and Tunisia.** Egypt's National Airport System consists of twenty-two airports. Nine airports have been classified as international airports, six have been classified as domestic airports but used for international flights, and seven airports have been classified as pure domestic airports.

## AIR CARGO

*Air cargo represents an opportunity for Egypt, the following actions are recommended: (i) expanding freight terminal capacity; and (ii) boosting airport productivity and efficiency, through the involvement of the private sector in the management of airports and cargo facilities.*

*The new Master Plan is currently under preparation – it will include a focus on air cargo transport in addition to passenger transport*

## AIRPORTS

- *In alignment with the GoE strategic direction of improving the freight logistics capacity of Egypt, and leveraging its unique geographical position, CAI has an opportunity to turn into a regional and international Air Cargo Hub*
- *Developing a creditworthy SOE owner-operator model would require a further strengthening of the governance, financial independence, accountability, and transparency of EHCAAN and its subsidiaries.*
- *Until now there have only been two concessions of airports or airport terminals in Egypt, both for small airports*

22. **Cairo International Airport handles and transports 99 percent of Egypt's air cargo volume,** in addition to handling the agricultural produce for export and general cargo for imports. The total international air cargo at CAI increased at an average annual rate of 3.6 percent from 2004 to 2016 totaling 338,000 tons, with temporary declines in 2008, 2011 and 2013 due to economic and political events.<sup>8</sup> The only data available for domestic air cargo corresponds to 2016 and amounted to 6,976 tons.

<sup>8</sup> The 2006 National Airports Master Plan projected that total Air Cargo increase from approximately 210,000 tons to 639,000 tons in 2025, with total Departing International Air Cargo (exports) increasing reaching 418,000 tons in 2025 and total Arriving International Air Cargo (imports) increase from reaching 200,000 tons in 2025, and total Domestic Air Cargo would increase from 7,000 tons to 21,000 tons in 2025.

Trade volumes (exports and imports) have increased at an annual compounded rate of 16 percent since 1997. The European Union is Egypt's largest trading partner; Egyptian exports enjoy tariff-free access to the European Union and transport costs are very competitive, making Egypt an ideal export base to supply Europe and a potential larger trading partner for European exports. The U.S. is the second largest partner and accounts for 29 percent of Egypt's imports and 21 percent of exports.

23. **Expanding freight terminal capacity is a priority.** There now appears to be an overall sufficient capacity of runways, taxiways, and passenger terminals to meet demand for at least the next decade.<sup>9</sup> However, there is inadequate freight terminal capacity to meet even current demand, and far from enough capacity to meet the hoped-for increase in demand if CAI succeeds in becoming a freight hub for the region. Therefore, investment priorities (Table 2.2) should be targeted at increasing the cargo handling capacity and space, and utilizing some components of the Aerotropolis concept. Potential PPPs can be structured for either a conventional cargo terminal or the Aerotropolis concept.

24. **In 2017, the Government had commissioned the development of a financially sustainable Airport Master Plan to guide long-term planning and investments prioritization.** This plan, financed by the Public-Private Infrastructure Assistance Facility (PPIAF) and managed by the World Bank, will include a focus on air cargo transport in addition to passenger transport. The Master Plan will assess and prioritize options for accommodating future capacity and level of service requirements, these include: increasing the capacities of existing sites vs. developing new locations or closing existing facilities that are not economically viable; and optimizing the operational patterns to harness potential complementarities between airports with the aim of enhancing the economic and financial viability of the investments, as well as the sustainability of the Egyptian aviation sector. In parallel, the Government also intends to boost airport productivity and efficiency, through the involvement of the private sector in the management of some of the country's largest international airports and cargo facilities. The private sector's know-how and innovative capacity will benefit the sector by: introducing state-of-the art management techniques; and developing the airports revenue streams, especially for areas dedicated to commercial activities. Finally, since large capital amounts will be required for some planned developments, the private sector can further contribute to bridging the funding gap, and allow Egypt to diversify and keep its scarce public resources for social needs.

*Binding constraints to achieving sector objectives*

25. **The institutional structure of the aviation subsector still lacks coordination with the MoT.** The Ministry of Civil Aviation (MoCA) is responsible for the planning of the entire aviation sector. The Egyptian High Commission for Airports and Air Navigation ("EHCAAN") is the state holding company responsible for operating Egypt's civil airports and is financially self-supporting. Developing a creditworthy SOE owner-operator model would require a further strengthening of the governance, financial independence, accountability, and transparency of EHCAAN and its subsidiaries, and close coordination with the Ministry of Transport.

26. **There is not yet a framework in place within which new airport concessions are awarded.** Until now there have only been two concessions of airports or airport terminals in Egypt.

---

<sup>9</sup> The ICR of the recent World Bank Cairo Airport TB2 project indicated that there would sufficient passenger terminal and runway capacity at CAI at least until 2030.

Both were for small airports (Marsa Alam on a 40-year concession and El Alamein on a 50-year concession) that were not commercially viable without the tourist development associated with them. These concessions were unsolicited proposals that were not competitively tendered. Both concessions were awarded to Egyptian tourism development companies under a 1997 law. However, when the Ministry of Civil Aviation was restructured in 2002, it postponed all further concessions on the grounds that the projects were not financially viable (or that the private sector would not bid for them) and that the profits should go directly to the Government without being filtered through the concessionaire. The new development was re-issuing of a tender in 2018 to develop an airport and adjacent tourism resort in Ras Sudr. The Government introduced amendments including special land ownership provisions as the previous tender received no bids even though four companies have initially expressed interest.

#### *Financing needs*

27. **Although the airport has land available for accommodating significant future growth, an adequate platform for cargo operators to jointly improve logistics processes is lacking.** Current airport infrastructure includes two main facilities (Egypt Air Cargo Terminal and a Perishable Center) totaling 20,000 m<sup>2</sup> (square meters) and four smaller dispersed facilities each managed by a different entity, with more than 60 percent of current volume going through the EgyptAir Cargo Terminal. Apart from the Perishable Center, the existing facilities are not up to industry standards and have reached their design capacity.

#### *Opportunities and options for leveraging commercial capital or private investment*

28. **Regional and international hub for air freight.** Despite Egypt's unique geographical position between three continents placing it at the crossroads of international logistics networks, CAI has failed to develop as a significant regional and international hub for air freight. CAI currently handles commodities including agricultural produce in exports as well as general cargo in imports. Cargo volume has stabilized at around 300,000 tons per year for the past seven years with 80 percent of air cargo currently carried by passenger planes with a strong seasonal imbalance of perishable exports and significant dips in the summer months. For comparison, air cargo traffic in the Middle East was growing at 5.7 percent per year for the same period, and stood at a total of 2.2 million tons in 2017, thus reflecting a missed opportunity for CAI. The concentration of the GoE on exports with the creation of the Suez Canal Zone less than 150 km (kilometers) away is likely to increase demand for air cargo handling. At present CAI is not in a position to attract global cargo operators and is currently unable to benefit from the forecasted increase of air cargo traffic globally, which is due to double over the next 20 years per the 2016 World Air Cargo Forecast. Opportunities for private sector investment and participation in the cargo segment are the highest, but the options for accommodating future capacity and level of service requirements need to be assessed and prioritized. The previous steps in this direction included preparation of an Air Transport Policy under the Cairo Airport Development Project which mainly focused on passenger services. There is no evidence that any of its recommendations have been implemented. Another study, commissioned under the same project in 2014, was to develop an Aerotropolis for Cairo. This project is still under consideration. Currently, a PPIAF-funded Air Transport Master Plan is under development, with the view to rationalizing the airport network in the country.

29. **Metropolitan hub in land parcels in and around CAI.** A second ambitious proposal for the development of CAI is called the Aerotropolis project. This project involves the development of a metropolitan hub of land parcels in and around CAI. It could include the development of offices, retail centers, hotels, healthcare services, educational institutions, exhibition centers, cargo warehouses, logistics platforms, and even a solar energy plan to make the Aerotropolis self-sufficient in energy. A macro-level financial assessment based on a PPP approach as part of the master plan indicated that the average rate of return for investors in the Aerotropolis would be in excess of 20 percent. Further progress on the project is awaiting acceptance by the Government of the overall project concept, their authorization of Cairo Airport Company to implement the project, and commitments from enough stakeholders to move the project forward. This project could attract private sector investments; however, it remains at an early stage. Any progress on this project would need to be closely coordinated with progress pertaining the Cargo Terminal at CAI, as their potential for operational and financial success are closely linked.

*Recommended action plan*

30. For the Government’s policies to succeed, conditions related to the legal and regulatory framework will need to be conducive to private sector participation, and there has to be willingness to allow private concessionaires to manage airports (including the largest ones). Optimal procurement options that achieve value for money will be identified as part of the ongoing World Bank-financed Master Plan study recommendations, due to be completed in June 2018. In particular, schemes that are supportive of PPPs shall be identified and an outline financial feasibility and transaction road map prepared.

**Table 2.2: Investment Opportunities for Airports**

Project	Scope	Responsibility	Additional Details
<b>Air Cargo handling capacity at Cairo International Airport</b>	Development of CAI into a large international hub for cargo, including reorganizing and restructuring of the current air cargo facilities, as well as building a brand new specialized cargo terminal on already-identified land inside the airport	EHCAAN	IFC, in coordination with the World Bank, is currently conducting a prefeasibility study for the Cairo Cargo City at CAI.
<b>Aerotropolis</b>	Development of a metropolitan hub in land parcels in and around CAI	EHCAAN	Further progress on the project is awaiting acceptance by the GoE of the overall project concept, and their authorization of Cairo Airport Company to implement the project, as well as commitments from enough stakeholders to move the project forward.

31. **Passenger and Ground Handling Services:** Additional opportunities for private sector investment in passenger transport might become available depending on recommendations developed under the Air Transport Master Plan, for example, rehabilitation of Terminal 1 at Cairo International Airport (CAI) and Tier II airports. A benchmarking analysis can help to evaluate if

the EHCAAN managed airports are maximizing their profitability. Recent examples such as Queen Alia in Jordan and Greece Regionals highlight the value of airports and that governments can monetize these through upfront payment and ongoing concession fees. Concerns over regulation and security can be addressed through appropriate structuring. In order to attract investment to the smaller airports that are not commercially viable on a standalone basis, these can be offered together to private sector with larger airports or remain under EHCAAN and allocated funding streams from the other airports' concession revenues. Ground Handling Services is another potential area that could attract private sector participation, although there currently is no plan to do so.

*Government's Objectives and Priorities*

32. **Egypt's Ports Complex is ranked number 18 in the world, and with improvements, could add US\$12 billion of exports.** Critical to the success of the Ports Complex is establishing connectivity to the major production and consumption centers of Egypt. These include the Greater Cairo Metropolitan Area (GCMA) which accounts for about two-thirds of Egypt's GDP and half of the country's jobs, and lagging regions such as Upper Egypt that nevertheless account for a significant percentage of the population and share of agricultural production volumes. The GoE's plan for establishing this connectivity for freight transport is through the development of dry ports and logistics centers at GCMA and Upper Egypt, and linking these to the Ports Complex through railways and inland waterways.

## PORTS

*The GoE's plan for improving connectivity for freight transport is through the development of dry ports and logistics centers at GCMA and Upper Egypt, and linking these to the Ports Complex through railways and inland waterways.*

*Due to a lack of coordination, nearly all freight is transported by road – the mode that has the highest operating costs.*

*The previously adopted Master Plan aimed at turning Egypt into a regional hub for transshipments and containerized trade did not materialize due to conflicts of interest and multiple functions of the port authorities and maritime transport sector, and their related logistics services.*

*Opportunities and options for leveraging commercial capital or private investment*

33. **The General Authority for Land and Dry Ports (GALDP) is using the 2012 National Transport Master Plan as the framework within which it is planning the development of nine dry ports/logistics centers using a PPP framework.** Three of the nine proposed dry ports are more promising for private financing than the others. GALDP is planning to develop two of these dry ports in GCMA at 6th of October and 10th of Ramadan, while SCZ is looking at developing the Ismailia Dry Port. All three are closely related to proposals for expansion of container traffic destined for the Greater Cairo Metropolitan Area, although all three would also depend on value-adding processes in addition to transit containers. For the GCMA destined containers, the proposed developments would function as dry ports, whereas for the value-adding activities they would also need to be Special Economic Zones (SEZs).

34. **El Dekheila / Alexandria Dry Port / SEZ.** El Dekheila/Alexandria Port has limited space for container storage and is seeking to develop an inland container terminal and/or SEZ in Borg El Arab, which is about 20kms from the Port. The land is owned by the Egyptian National Railways. MoT has not yet decided whether the project will entail either a dry port that will serve domestic trade flowing through Alexandria Port, or a SEZ with value adding activities for imported

## PORTS

*Historically, disputes over contractual terms resulted, in some cases, in delays and, in some, – cancellations of the concessions*

*Market risks remain strong - growth in cargo in Egypt has not been strong enough and is not forecast to be strong enough to support all the projects that are being considered. A Ports Development Strategy is being drafted to streamline and coordinate development plans.*

*Establishing inland connectivity to the Ports Complex, especially through railways and inland water transport, is a critical success factor, for the Ports*

products. ENR is now seeking support in order to conduct a feasibility study and, based on that, it will determine the scope of the project before tendering it as a PPP. If developed as an SEZ, the Alexandria Port complex would compete with Port Said East (PSE) as well as other ports on the Mediterranean. The Ports Development Strategy is expected to outline the scope of the Alexandria Port expansion.

**35. Damietta Grain Logistics Center. Damietta has ambitious plans to be a grain center for the Eastern Mediterranean.** Its proposed Logistics Center for Grains is planned to have an area of 3 million m<sup>2</sup> and a storage capacity of up to 50 million tons. This scale of operation is probably over-ambitious, but a smaller scale center focusing on Egyptian imports and re-exports could be feasible. However, as with the El Dekheila Grain Silo Connectivity Project and PSE Grain Silo Project, there is the risk of over-capacity even for the domestic and re-export markets. The National Ports Development Strategy should provide a context in which the risk of over-capacity can be resolved, to facilitate the financial viability of the potential grain logistics projects, and enable potential PPPs.

**36. The development of the 6th of October Dry Port** in the GCMA has been proposed as a PPP using a Design Build Finance Maintain and Utilize (DBFMU) model. An adjacent site has been reserved for a potential value-adding center which will be operated as a SEZ. A draft Project Information Memorandum has recently been prepared through the MOT represented by GALDP and the PPP Central Unit at the MOF, with EBRD support. It is envisaged that the PPP will be awarded during 2018. The success of the 6th October Dry Port will depend on it having adequate rail connectivity to the ports of Alexandria and El Dekheila. The World Bank and IFC are working with MoT on developing a freight railway line to establish this connectivity through a PPP.

**37. The concept for a dry port at 10th of Ramadan to complement that at 6th of October was proposed in the 2012 National Transport Master Plan.** Since then little progress has been made, and there has been a sponsorship issue, where two competing proposals have been made. One was sponsored by GALDP, and framed as the “Logistics Center” of 10th of Ramadan, and the other was sponsored by the SCZ and dubbed the “10th Ramadan Dry Port”. It is noteworthy to see that the SCZ has carried out a pre-feasibility study of its proposed 210 hectare site, which indicated a total cost of the order of US\$500m (excluding land access costs) for an estimated throughput of about 1.25m TEUs by 2030. It does not appear that GALDP’s proposed 100 hectare site has progressed beyond the preparation of concept drawings. Before the project for a 10th Ramadan Dry Port can progress further, its proposal needs to be further clarified, and its ownership and implementing responsibilities must be assigned. This is crucial, as the GoE has already started making use of the financial and technical support from EBRD for the preparation of the aforementioned 10th of Ramadan Dry Port project as a PPP.

38. **A pre-feasibility study for a Free Trade Zone at Ismailia was carried out as long ago as 1979 by USAID** for the precursor of GALDP and GAFI. Although the Free Zone was created in 1985, it failed to progress since there was no rail connectivity. It came to new prominence as part of the SCZ development in 2014. It is now envisaged to have specialized facilities for the handling, transit, and storage of agricultural commodities. Ismailia is still a longer-term prospect than the other two inland logistics platforms. There is no evidence available of any pre-feasibility study having been completed since that of 1979.

39. **Not all three of these proposed dry ports will be needed in the short-term.** The dry port at 6th of October City could be operational by 2021; though to some extent it is dependent on when the rail access will be provided. The 10th of Ramadan dry port could be operational two years later, while that for Ismailia is a longer-term prospect. The planned Integrated National Multimodal Freight Transport and Logistics Master Plan should clarify the need and timing for all three facilities.

*Binding constraints to achieving sector objectives*

40. **The port subsector governance is fragmented, which has led to a lack of coordination in investment planning and an inconsistent overall scope of investment ambitions.** The ports subsector is characterized by: (i) the dominance of public Port Authorities reporting to the MoT; (ii) six public companies reporting to the SCZ (Port Said East, Port Said West, Ain Sokhna, Adabia, El Tor, and Al Arish); (iii) the presence of public companies reporting to the Ministry of Investment and International Cooperation; and (iv) private companies involved in operating services. Each port is responsible for its own investments, and each has developed ambitious development programs based on very optimistic traffic projections. There does not seem to be adequate dialogue between the different ports, as well as between other entities that operate ports (for example, Abu Tartour under the Ministry of Industry and Trade) that handle industrial and mining cargo. Better dialogue and harmonization of their actions and development projects is needed, which will hopefully be addressed by the ongoing development of the National Ports Development Strategy.

41. **In addition, ports are not integrated into broader transport system planning.** All the transport modes (and dry ports) related to ports and their hinterland connectivity are under the jurisdiction of the MoT, but each mode is subject to different agencies. As such, necessary coordination has not occurred, with the result that nearly all freight is transported by road. Whereas road transport requires the least coordination with others agencies, it has the highest unit operating costs (for other than very short distances and small volumes), the highest fatality rates, and the greatest negative environmental and social impacts.

42. **It is possible, within the existing institutional framework, to promote the private sector's engagement through landlord/PPP or commercial SOE owner-operator models, but clarity is needed on sector strategy.** In the late 1990s, to facilitate Egypt becoming a regional hub for transshipments and containerized trade, the government adopted a master plan, based on the landlord principle, to modernize Egyptian ports by creating independent profit-oriented, cost-based corporations to manage them. This was done through two new laws (Law No. 1 of 1996 and Law No. 1 of 1998), which allowed the private (domestic and foreign) sector to become engaged in building private ports and an array of port and logistics services. However, the application of the landlord model has not followed international best practices. The multiple functions of the port authorities and the maritime transport sector, and their related logistics services, suffer from



conflicts of interest. Furthermore, the planning function, which is necessary to identify needs for port expansion and upgrade, has not been adequately fulfilled as discussed above.

43. **The lack of an independent regulator has also resulted in unresolved disputes between the Government and private concessionaires.** For example, in Ain Sokhna, a dispute between the Government (represented by the MoT) and Dubai Ports World, which took control of the concession in 2008, over a proposed expansion, and the mutual accusations of failure to comply with the terms of the concession, resulted in a postponement of the expansion. In Port Said East, the negotiations for the concession agreement lasted five years, and included disputes over how the second phase of development was to be managed. Similarly, in the Port of Damietta, the Port Authority had to cancel the concession agreement and restart the development process as a result of a dispute related to penalty charges levied by the Port Authority for nonperformance in developing a new terminal.

44. **A major binding constraint to the success and development of ports and dry ports is connectivity to the economic centers of Egypt.** Currently, Alexandria Port is better connected to GCMA than Port Said East and the Suez Canal Zone. Thus, the success of the Ports Complex depends on establishing freight transport connectivity to the Greater Cairo Metropolitan Area and, eventually, to Upper Egypt as well as other key economic centers. Modes that should be prioritized include railways and inland waterway transport on the Nile, both of which present opportunities for PPPs and private sector investment.

45. **Another constraint is associated with high market risks.** The main successful private sector port investments took place over 10 years ago. More recently there has been less success as the private sector has been quite concerned regarding overcapacity and a lack of strategic planning. For example, in Alexandria there have been ongoing discussions regarding the needed expansions at Berth 100 and Berth 55 with the two operators (Hutchinson and a government operator) attempting to secure the expansion project for themselves, resulting in years of deadlock. The APM transshipment terminal at East Port Said is operating well below capacity and has dropped tariffs significantly to try and attract additional volume, while concurrently a new concession is being discussed there and planning for an expansion in Damietta continues. Growth in cargo capacities and traffic in Egypt have not been strong enough, and are not forecast to be sufficient enough, to support all the projects that are being considered. Additionally, given the current environment it is unlikely that commercial banks and International Financial Institutions will accept the market risks involved in the port sector, and therefore new projects may not be bankable. It is therefore critical that this situation be addressed by Government.

46. **Other complaints from port operators and logistics services providers include inefficient clearance and handling services,** part of which is attributed to a cumbersome customs clearance process, outdated IT systems and insufficient qualified staffing. For example, Sokhna Port has a 25-day average container clearance time. Egypt ranks 49 out of 190 countries in the World Bank's 2016 Logistics Performance Index for Customs performance. While the 2.75 point for Customs performance (out of a 4.0) is a slight improvement over previous years, significant improvement is still needed to lower the cost of trade and improve the competitiveness of Egypt's exports.<sup>10</sup> An update to the 2010 World Bank Trade and Transport Facilitation Assessment study is recommended to clarify these trade facilitation bottlenecks

---

<sup>10</sup> 2016 World Bank Logistics Performance Index.

*Recommendation Action Plan*

47. **In the short term, the National Ports Development Strategy should be finalized to facilitate the more transparent concessioning of port terminals, and revision of the governance structure.** The new Ports Strategy currently under development needs to recommend a new institutional arrangement for the ports sector and, perhaps, an overdue revision to the Ports Laws of 1960 and 1996 or even a new ports law. In addition An independent regulator must be established.

48. **In the medium term, measures to be taken to promote multi-modal planning could be institutional rationalization.** Without a national ports strategy (as part of the National Multimodal Freight Transport and Logistics Master Plan) while most planning responsibility would still be delegated to port authorities, new ports can be developed anywhere, and existing ports can be expanded with no centralized and coordinated plans, creating risks of ports competing for the same traffic. Finally, the strategy must address other challenges to attracting private sector investments including having off-take agreements with relevant entities and providing guaranteed exclusivity for particular cargoes or exclusivity to specific landside hinterland zones.

**Table 2.3: Action Plan for Ports**

Action	Responsibility	Additional Details
National Ports Development Strategy that would recommend: i) a new institutional arrangement for the ports sector; ii) an overdue revision to the Ports Laws of 1960 and 1996 or even a new Ports Law; iii) revision, and development of more balanced concession agreements; and iv) establishment of an independent regulatory body.	MoT	Under development
Review of the structure of the MoT. to streamline authorities for maritime transport, river transport, land ports, and dry ports	MoT	By the end of 2018

**Table 2.4: Investment Opportunities for Ports**

Project	Scope	Responsibility	Additional Details
<b>El Dekheila/Alexandria Dry Port/Special Economic Zone</b>	This port has limited space for container storage and is seeking to develop an inland container terminal and/or SEZ in Borg El Arab, which is about 20kms from the port. The land is owned by the Egyptian National Railways.	ENR, MoT	ENR is now seeking support in order to conduct a feasibility study
<b>Damietta Grain Logistics Center</b>	Damietta has a plan to be a grain center for the Eastern Mediterranean. Its proposed Logistics Center is planned to have an area of 3 million m2, and a storage capacity of up to 50 million tons.	Damietta Port Authority	
<b>6th of October Dry Port</b>	The development by the General Authority for Land and Dry Ports, of a dry port at 6th of October City in the GCMA is proposed as a PPP using a Design, Build, Finance and Maintain (DBFM) model. An adjacent site has been reserved for a potential future value-adding center which will be operated as an SEZ.	GALDP	It is envisaged that the PPP will be awarded in 2018, and could be operational by 2021.
<b>10th of Ramadan Dry Port</b>	There are two competing projects: one for a “Logistics Center” at 10th of Ramadan City, sponsored by GALDP; and another for a “10th Ramadan Dry Port,” sponsored by the SCZ.	GALDP, SCZ	Could be operational in 2023
<b>Ismailia Dry Port</b>	Envisaged to have specialized facilities for the handling, transit, and storage of agricultural commodities.	GALDP	Longer-term. A prefeasibility study was completed in 1979 but no recent studies have been conducted.
<b>Abu Tartour Industrial Port</b>	A mining and industrial port, 5km south of Safaga port in Red Sea		The consulting agreement has been signed in 2016, and the IFC are currently advising the PPP unit on the matter.

*Government's Objectives and Priorities*

49. **The ENR network is about 5,000km, a third of which are double track.** It is one of the highest traffic density railways in the world, transporting more than 32 billion passenger-km in 2016/2017. For example, although this railway network transports almost half of the passenger traffic of the French railway network, it is six times smaller. In general, the railway infrastructure in Egypt offers good connectivity with all main regions of the country.

50. **The railway sector in Egypt has an important role to play in enhancing the attractiveness of the ports of Egypt,** but presently its potential is not reached due to the limited number of railway lines to ports, limited access of railway lines to the berths of the ports, and many technical, operational and financial challenges accumulated over time and due to the existing outdated legal and regulatory framework.

*Binding constraints to achieving sector objectives*

51. **ENR is financially unviable and dependent on public funding.** ENR operates at an overall annual deficit estimated to be U\$500m (2016/2017) before depreciation and interest. Its operating ratio (traffic revenue/direct operating costs) has been consistently below 60 percent. Most of the deficit is generated on passenger services, which have a social role in Egypt and are operated on very low tariffs (passenger-km account for more than 95 percent of all railway traffic). It is important to point out that the deficit of ENR also includes the large costs of the railway infrastructure.

52. **ENR is strongly focused on passenger transport, with freight traffic accounting for only about 4 percent of its total traffic. Yet, freight transport has the potential to be a profitable business segment.** The competitiveness of ENR in providing freight transport services has decreased constantly during the last 15 years, from about 12 million tons per year transported in 2000 to 3 million tons currently. Despite its small market share, freight transport generates about 21 percent of revenues, incurs about 15 percent of costs, and is responsible for about 10 percent of the operating deficit. The reasons for the decrease of freight traffic on rail are complex, including outdated rolling stock, huge costs for maintenance of assets, lack of skills for properly operating recently purchased modern assets, lack of commercial culture/attitude in the approach to customers, and insufficient availability of locomotives, especially for the freight sector.

53. **In terms of policy and regulatory environment, Egypt has made considerable progress, but further reforms are needed, and a new legal framework needs to be implemented.** The most important reforms relate to ensuring that road transport is not artificially more competitive, i.e. cheaper, than railway transport (and inland water transport (IWT) on the Nile). The recent reduction in fuel price subsidies are a big step in the right direction to improve the competitiveness of railway transport and IWT relative to transport by trucks. Moreover, the Government has placed restrictions on truck movement in the GCMA (trucks can only travel at night) and is starting to enforce axle load restrictions. Nonetheless, there is still a long way to go, as overloaded trucks continue to damage roads, pollute the environment, and cause road traffic accidents in Egypt and especially the GCMA. The structure of the trucking industry also needs to be reformed drastically to address the demand of importers, exporters, and logistics services providers, including the need to professionalize the quality of the workforce and to upgrade the quality and types of trucks in service.

54. **Currently, concessions in railway services in Egypt can be issued under the Concession Law, the Sector Law, the Tender Law or the PPP Law.** Cooperation under the Concession Law between the public and private sector is limited to construction and operation of a public utility for the ultimate benefit of the public sector – without the establishment of a project company or any form of a joint company between both sectors. Under the Concession Law, the administrative authority (ENR in this case) is responsible for the financing of the project through the appropriations in the State budget and/or available grants. This means that the administrative authority will bear the risk of financing the project. Public Private Partnerships in Egypt are regulated by the PPP Law No. 67 of 2010 which specify the use of performance-based contracts under which the private sector provides public services over the duration of the contract and is paid by the public sector, end users, or a combination of both. Output requirements are specified by the Tendering Public Entity (i.e., ENR), while the specific inputs are generally under the responsibility of the private sector partner. Under the PPP contract, the Government retains strategic control over the public services, secures new infrastructure, which is generally transferred back to the public sector at the end of the PPP contract duration, and allocates project and performance risks to the parties. Articles 2 and 3 of the PPP Law permit the administrative authorities to enter into PPP contracts in all infrastructure and public services projects that include the construction, financing, and maintenance of projects. The duration of the contract shall not be less than five years and shall not exceed thirty years. Moreover, the Project estimated cost should not be less than one hundred million Egyptian Pounds. The PPP Law applies to all PPP projects in Egypt excluding the application of Concession Law or Sector-Specific Concession Laws and traditional Tender Law. However, the PPP Law did not abolish the existing laws which regulate concessions. Therefore, administrative entities may still grant concessions based on the Concession Law, Sector-Specific Law, Tender Law, or PPP Law.

55. **On April 2, 2018, the Government issued Law 20/ 2018, which is an update to Sector-Specific Law 149/2006 for railways, intended to allow private sector participation in all aspects of railway services provision.** The new introduced four main amendments which: (i) ends the ENR monopoly on the establishment management, operation, and maintenance of the railway networks; (ii) limits the priority of ENR employees to buying shares sold by ENR to 10%; (iii) broadens the ENR concession based system, to allow engagement of the private sector on a much broader scale; and, (iv) limits the concession period to 15 years. Nonetheless, current opportunities in financing and operations of rolling stock and freight operations would likely be suited under the PPP legal framework, which involves partnership between ENR and a Project Company which shall be incorporated for implementing a project related to the construction or management or operation or maintenance of the railway networks facilities. ENR being the administrative authority may not hold more than 20 percent of the shares of a Project Company under the PPP Law.

56. **While the April 2018 amendment to the Sector Law is a step in the right direction towards creating conditions in the market for development of the railway sector, further changes are needed to improve the attractiveness of the sector for private sector financing, especially for freight transport services.** A rail infrastructure PPP needs to be mindful of the key objectives of helping to improve the performance of Egypt’s overall multimodal surface transport system, alleviating road congestion and its related negative economic, environmental and social externalities, and providing a “delivery system” rather than just private financing. Implementing the “delivery system” involves reform of the logistics/rail/last mile logistics chain, including efficient customs procedures and transit regime (e.g. through transit to the inland dry port);

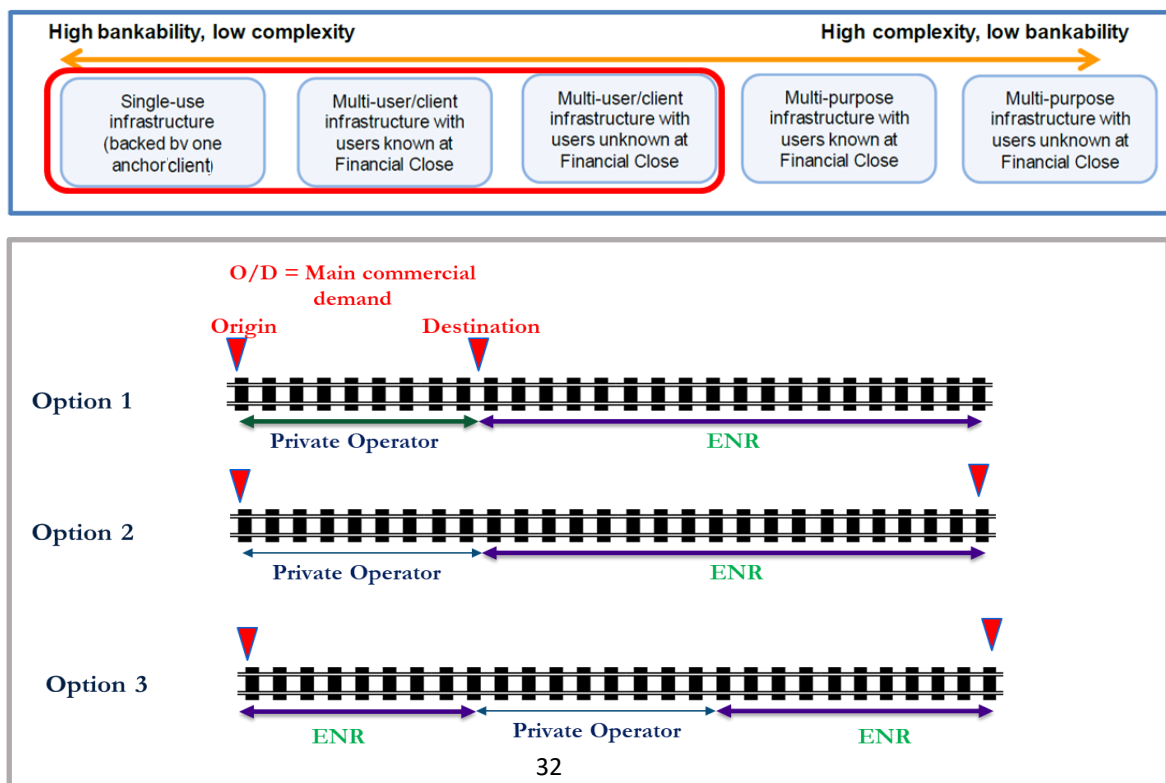
introducing new rail operational standards and practices that can assist ENR in its own operational reform, including labor management; supporting the establishment of an independent and capable technical and financial regulator; and, supporting ENR to establish a transparent and auditable cost accounting system which would also be crucial to help determine the access tariff.

57. **Key issues that still require decisions and reform include: the ability of the Concession Operator to set tariffs; ring fencing mechanisms (service contracts including computation of subsidies and payment mechanisms) for Public Service Obligations (PSOs);** ensuring the exclusive right of the Concession Operator to invest, maintain, and operate the infrastructure; and defining the transport operating rights and access regime to ensure non-discrimination for infrastructure access and capacity allocation. Presently, a comprehensive study, supported by the World Bank (WB)-financed Egypt National Railways Reform Project (ENRRP), to define the main directions of the railway sector reform is under development at ENR. A detailed list of recommendations is provided in Table 2.6.

58. Figure 2.5 lists PPP Structuring Options for railways (especially applicable to brownfield lines), their complexity, bankability, and level of risk. Government must also decide on key project structuring fundamentals such as:

- i. Does the private infrastructure operator take demand risk? If the answer is no, the structure should be linked to annuity payments.
- ii. Can the private infrastructure operator also act as the train operator?
- iii. Is the infrastructure Access Regime between Origin and Destination (O/D) open or regulated (i.e.: foundation rights)?
- iv. Is the private infrastructure operator responsible for ensuring traffic management on the portion of its rail network?

**Figure 2.5. PPP Structuring Options, Bankability and Risk**



59. A very interesting possible PPP investment is the dedicated freight rail line between the ports of Alexandria (Alexandria Port and Dekheila Grain Terminal) and the planned dry port at 6<sup>th</sup> of October City in the GCMA. The World Bank and IFC are working with ENR to conduct a feasibility study of this corridor exploring especially the Option 1 structure vs. an entirely greenfield corridor. A list of investment opportunities is provided in Table 2.7.

*Recommended Action Plan*

**Table 2.6. Action Plan for Railway Sector Reforms**

<b>Action</b>	<b>Rationale and Benefits</b>
<b>Draft Multimodal Freight Transport and Logistics Master Plan</b>	The new strategy and subsequent legal framework should address policies that favor road transport. This will help create a more level playing field for competition between road and rail transport.
<b>Complete railway reforms process (in 2018)</b>	Set up a High-Level Working Group for Railway Sector Reforms (or Cabinet Steering Committee for Transport) and ensure that they meet monthly until the reforms process is completed; draft a comprehensive new railway law
<b>Introduce a new business model, and a new legal framework</b>	Implementing the new business model requires clearly separating the role of the state and the railway operators/service providers. The state will have the role of policy maker and regulator of the railway transport market, while the railway company will act exclusively as the service provider. The new legal framework should incorporate principles listed in Box 2, and ensure that the “delivery system” involving railway transport will support the logistics/rail/last mile logistics chain, including efficient customs procedures and transit regime (e.g. through transit to the inland dry port); introducing new rail operational standards and practices that can assist ENR in its own operational reform, including labor management; supporting the establishment of an independent and capable technical and financial regulator; and, supporting ENR to establish a transparent and auditable cost accounting system which would also be crucial to help determine the access tariff.
<b>Implement regulatory framework for safety in railway transport</b>	The main challenge for improving the safety standards in the railway sector is to immediately put in force a new approach for safety assurance. It should impose the rule of safety as the primary rule of operation for transport services, no matter what the current technical conditions.

### **Box 2: Legal Framework - Main Principles**

1. Commercialize railway service providers.
2. Define private sector rights and obligations to participate in the railway industry, and allow/incentivize private participation in freight train operations. Ensure the exclusive right of the Concession Operator to invest, maintain, and operate the infrastructure; and define the transport operating rights and access regime to ensure non-discrimination for infrastructure access and capacity allocation.
3. Formalize annually-updated medium-term business plans: . Implement rolling business plans for each line of business and for each specific type of activity, including clear, time-bound performance objectives (e.g. freight transport, long distance passenger transport, and short distance passenger transport).
4. Include the principle of transparency of the activities of the railway company. Annual Reports should be issued and be available to the public for consultation, including describing the company's compliance with the Public Corporate Governance Code, risk management, and operational, financial, and audit results.
5. Introduce rigorous accounting and auditing standards and a rigorous transparent cost accounting system, including segmented accounts by lines of business.
6. Introduce targeted public subsidies for public service obligations. The concept of Public Service Contracts sets up the relationships between the Government as contractor of a volume of transport services for social purposes, and the railway company(ies) as provider of contracted services. In this way the railway company(ies) will be incentivized to operate good quality passenger services, and the social need will be fulfilled with the lowest public contribution, while railway transport remains commercially-driven.
7. "Light" tariff regulation that encourages market-based pricing while protecting specific low-income groups if necessary.
8. Institutionalize an independent technical and financial regulator.
9. Support a performance-based compensation system linking pay incentives for managers to performance targets.
10. Install a Board of Directors with enhanced competencies and objectivity, including recruiting private sector members to enhance the Board's expertise and understanding of market needs.
11. The CEO of the railway company should be a separate person from the Chairman of the Board. Selection of the CEO should be merit-based. The Board should be able to monitor the ongoing performance of the CEO and managerial staff (and adjust compensation accordingly).
12. Implement a controlled labor/Human Resources program that involves achieving optimal workforce numbers and technical skills.



**Table 2.7. Investment Opportunities in Railways**

<b>Project</b>	<b>Scope</b>	<b>Additional Details</b>
<b>Private Freight Operators</b>	Convert ENR freight operations into a separate company with some form of private participation in equity and operations.	
<b>Restoration of the Qena-Safaga Railway Line</b>	Misr Phosphate, the operator of the Abu Tartour Mine in the Western Desert, is spearheading efforts to restore the railway line all the way from the mine up to the Abu Tartour Industrial Port for exports.	Railway would be completed in July 2020 via an engineering, procurement and construction contract (EPC) + finance procurement and financing scheme
<b>Freight Rail Line linking the ports at Alexandria (including Alexandria Port and El Dekheila Grain Terminal) to the dry port at 6<sup>th</sup> of October</b>	Studying the feasibility of a dedicated freight corridor including the Manashi/Itay Al Barod brownfield line and a connecting new greenfield line/alignment to 6 <sup>th</sup> of October (near Giza/Wahat) vs. an all greenfield option.	The World Bank and IFC are working with ENR to conduct a feasibility study and structuring options for this corridor exploring especially the Option 1 structure vs. an entirely greenfield corridor.
<b>Western Cairo Railway Bypass Project (WCBP)</b>	Railway line to connect the 6th of October City Dry Port to the Northern Cairo Industrial Center.	A full feasibility study is required to move forward
<b>Upgrade the Railway Line from Port Said East to Ismailia and Cairo</b>	The railway line is needed to connect SCZ to the production and economic centers in Cairo and therefore to ensure the feasibility of SCZ	A full feasibility study is required to move forward
<b>Freight Rail Line linking the ports at Alexandria (including Alexandria Port and El Dekheila Grain Terminal) to the dry port at 6<sup>th</sup> of October</b>	Studying the feasibility of a dedicated freight corridor including the Manashi/Itay Al Barod brownfield line and a connecting new greenfield line/alignment to 6 <sup>th</sup> of October (near Giza/Wahat) vs. an all greenfield option.	The World Bank and IFC are working with ENR to conduct a feasibility study and structuring options for this corridor exploring especially the Option 1 structure vs. an entirely greenfield corridor.
<b>Cairo-Alexandria High Speed Railway (HSR)</b>	This connection between Cairo and Alexandria, may have a beneficial role for freight transport, as releases track capacity for freight.	A prefeasibility study has been completed

60. **Other lines have been proposed as part of MoT’s and ENR’s Freight Connectivity Plan.** These include: Belbis/ Tenth of Ramadan City/Al Robiki to Upper Egypt (dual railway track of 35 km), Wadi Hajoul to Suez Canal/Al Sokhna Port Railway Link, Mansoura to Damietta link, and a 35 km single track to connect the cement factories of Wadi Hajoul and Suez/Al Sokhna Port. However, these lines are all at the concept stage and no feasibility or design studies have been conducted.

*Government Objectives and Priorities*

61. **Cargo transport on inland waterways is more fuel efficient, safer and more environmentally and socially-friendly.** The Nile river navigable section stretches over about 2,600 kilometres and includes various class of navigation; depending on the draft and width offered to vessels. The First-Class network includes 980 kilometers of the main Nile River between Cairo and Aswan, 205 kilometers between Cairo and Alexandria and 241 kilometers between Cairo and Damietta. There is a significant potential for river freight transport, especially after the recent reduction of state subsidy for fuel. One barge on inland waterways can carry about 1200 tons of cargo, which would require 45-70 trucks to carry. A ton can be transported 550km by barge on 5 liters of fuel as opposed to 100km by truck. In the United States, for every injury on inland waterways there are 2192 injuries by road transport. Trucks emit nearly four times as much in Greenhouse Gas (GHG) emissions and have an adverse social effect of Euro 24.12 per 1000-ton kilometers vs. maximum Euro 5.00 per 1000-ton kilometers for barges. Yet, the current share of cargo transport in Egypt by Nile River transport is only 0.6 percent.

INI AND WATERWAYS

*The current share of cargo transport in Egypt by Nile River transport is only 0.6 percent.*

*In 2007-08 the GoE set a goal of increasing the IWT share of cargo transport to 5 percent of national freight demand.*

*Companies incurred losses because the promised reduction in fuel subsidies did not occur as scheduled, while there was no enforcement of the axle load restrictions for trucks which allowed trucks to operate at artificially low rates and*

62. **Realizing this, the GoE has tried to develop the inland water transport sector for at least the last two decades.** With a goal of increasing the IWT share of cargo transport to 5 percent of national freight demand, during 2007-08, the government granted major contracts for transporting grain, coal, and sugar to Nile Cargo and to National Holding Company for Multimodal Transport. The companies invested significantly in their vessel fleet, including investing in 31 refurbished 50m length barges of approximately 400T capacity, as well as modern self-propelled barges, 50+ pushers, and 60+ dumb barges. However, the companies incurred operating losses because the promised reduction in fuel subsidies did not occur as scheduled and the Government's inability to enforce axle load restrictions for trucks allowed trucks to operate at artificially low rates and erode IWT competitiveness. Although these companies are still willing to continue to work with the Government to develop the sector, they cite insufficient lock capacity and operating hours, the lack of sufficient guaranteed depth and availability of navigation aids along the key navigation corridors as bottlenecks to profitable operation of the sector due to the resulting inability of the companies to operate year-round, 24/7, and at full capacity.

*Binding constraints to achieving sector objectives*

63. **In order to create a more enabling environment for private sector investment in inland water transport, more commitment and resources from the GoE are necessary to implement key institutional and legal reforms and capacity development.** Effective coordination and collaboration between MoT and Ministry of Water Resources and Irrigation (MOWRI) is also a key to progress. The 2015 Nile River IWT Development Strategy specified the

action plan described in Table 2.7a (updated with World Bank recommendations), which for the most part has not yet been achieved, including staffing up the River Transport Authority (RTA) and institutionalizing a proposed IWT governance structure with competent personnel. The MOWRI Master Plan also needs to incorporate the strategic objectives related to promoting IWT.

64. **Key actions needed include:** clarifying a regulatory framework and system for collecting fees for the use of Nile navigation channels; developing a clear, transparent and efficient process for the licensing of ports; developing a ports master plan which should be a part of the multimodal freight transport and logistics master plan; institutionalizing a system of data collection to collect regular, comprehensive hydrographic and morphological data on the Nile river system for the purpose of maintaining navigation channels; funding detailed feasibility and design studies, and tender documents for inviting private sector interest in high potential investments; and, addressing the technical bottlenecks to IWT listed in Box 3.

### **Box 3: Key Technical Bottlenecks to Solve to Support IWT**

#### **Water and Navigation Channels**

- *River Information System (RIS)* There is a need for expansion of technical scope and geographic coverage of RIS that is currently being implemented in Upper Egypt to the entire Nile. The aim is for a complete traffic management and logistics planning/tracking capability to cover all stages of the freight journey.
- *Develop short term program for physical aids to navigation, with the aim of enabling vessels to operate 24 hours per day.* This can be done through a functional RIS system mentioned above, but in the interim physical aids such as buoys, permanent beacons, warning signs and lighting can be used.
- *Designate Minimum Navigable Channel (MNC) depth and width for each corridor.* RTA, MOWRI and river transport operators to discuss and agree designating cross-section width and depth that enables economically viable loads to be transported 24 hours a day and 365 days per year. As the existing dredging programs are not proving effective. This can be undertaken over a three-year rolling program of water channel remedial works for priority corridors.
- *Promote data driven development of services and allow for real-time monitoring systems.* For example, this can be used to maintain the MNC water levels, and allow for the release of water from barrages and thus address issues of shallow depths downstream. Additionally, this can be linked to the suggested RIS.
- *Implement Performance- Based Contracts (PBCs) for the MNC remedial works program.* Contractor performance is not being assessed against the need to keep the MNC to the agreed standard for efficient IWT vessel operations. PBCs will enable the effectiveness of MNC remedial works (especially from the operator perspective) to be closely monitored, with payment based on value results.
- *Encourage capacity building* for example, design and deliver water channel training program for RTA engineers and vessel operators. Doing so will facilitate maintenance and operations and potentially attract new entrants into the vessel operation industry (thus promoting competition and innovation).
- *Engage in continued dialogue with vessel operators and investors and investigate special precautionary measures* one example is the navigation on Damietta Branch, where there are problems with water depths. A technical study should be commissioned, considering appropriate solutions such as speed limits and one-way working.

### **Vessels**

- *Develop comprehensive vessel dimension design standards based on international best practice for the carriage of cargo.* This needs to reflect the necessary regulations for biosphere protection. Additionally, a revised approvals process for the submission of vessel designs is required.
- *Undertake feasibility and market demand study for innovative new vessel types.* This should only be undertaken if justified by the master planning and demand forecasting / market assessment work. Possible new vessel types for emerging markets include roll-on roll-off and combined IWT / maritime vessels for short sea shipping.

### **Locks**

- *Produce and implement a Lock Asset Management Plan (LAMP).* Detailed investigation of different technical and operating conditions of all river locks on different stretches of First Class navigable channels, including a full performance monitoring and evaluation regime in order to quantify existing delays / capacity issues at locks from a variety of causes.
- *Undertake a lock capacity assessment exercise, and implement a maintenance program.* The priority is to make best use of existing capacity (for example using 24-hour operation and RIS-based traffic management) and identify the anticipated capacity and infrastructure required given the forecasted traffic and economic and spatial development.

### **Bridges**

- *Ensure accurate information is available to operators and address the identified bottlenecks.* Initially, the team can survey all bridge clearance and instigate the necessary changes for example in the case of the Alexandria end lock road and rail bridge, where the replacement of the existing bridge with movable structure is needed to permit full height navigation to and from Nubaria Canal, and consequent full access to the Alexandria sea port.

### **Ports**

- *Develop a ports master plan* (as input to Multimodal Freight Transport and Logistics Master Plan). This should include: (i) a comprehensive assessment based on future forecasts of demand; (ii) a plan for an integrated and technology enabled national network of modern port facilities; (iii) a sustainability plan identifying a range of options for private sector participation, in line with the GoE strategic priorities. This master plan should be coupled with a revised licensing approach for ports to allow for increased transparency and efficiency.

### *Opportunities and options for leveraging commercial capital or private investment*

65. **Develop three river sections as navigation corridors for private sector investment:** Cairo to Alexandria/El Dekheila, Cairo to Damietta, and Cairo to Upper Egypt (Asyut/Sohag/Qena/Luxor/Aswan). Public investment is needed to provide 24/7/365 navigation channels, possibly on a performance-based contract for maintenance dredging to guarantee navigation channel depths and widths, and navigational aides that enable safe day-time and night-time navigation. Private sector investments are expected in the development and operation of river terminals/ports and multimodal logistics centers for cargo transport along the three corridors. The development and operation of locks can explore various combinations of public-private investment and PPP models. Private sector investors can choose to invest in and manage all the infrastructure and facilities along an entire corridor using an integrated corridor approach, or they can invest in

selected infrastructure a la carte as below. However, for the corridor approach to work, a fee collection structure needs to be clearly defined to allow private sector investors to collect fees for maintaining the navigation infrastructure.

66. **Development and operation of river ports-freight terminals.** The River Transport Authority sought assistance from the Investment Security in the Mediterranean (ISMED) Support Program in 2013 to develop a framework and assess risk-sharing issues for a potential public-private partnership (PPP) covering four river ports. ISMED reviewed a previous attempt by the RTA to tender a river port as a PPP in 2009/10 and conducted a series of consultations with public and private sector stakeholders, investors and river operators. The review of the previous tender found that it had been poorly conceived and designed and was impractical. As an example, it found that the proposed concession for Qena Port was too short in time to allow any investment to be recovered, the site location was inadequate in terms of both river and land access, and too much of the project risk had been assigned to the concessionaire. Designs for other river ports also lacked land access and even adequate turning space for barges. Based on this review and taking account of the stakeholder consultations, ISMED prepared a new plan to concession four ports under PPPs – Qena, Sohag, Meit Ghamr and Assyut. The report made a series of recommendations for improving the viability of river transport, which were similar to those made a year later in the Nile Inland Waterway Transport Development Strategy, but more implementation oriented.

67. **However, the four proposed ports would unlikely attract sufficient demand or be commercially viable unless the investment costs were minimized.** Qena had an estimated cost of US\$28.5m, Assyut US\$64.4m, Sohag US\$21m, and Meit Ghamr US\$28.5m. Since most river ports need no more than a simple berth of about 500 meters, a general purpose (bulk, general cargo and container) crane with a capacity of up to 50 tons and a conveyor with a capacity of about 500 tons/hour (depending on the goods being traded), a storage area and an access road, the cost should not exceed US\$10m for the initial phase, with further investment depending on the growth of traffic. Other ports proposed for investment in the Nile River IWT Strategy include the South Cairo Multipurpose Ports and North Cairo Multipurpose Ports. The former would seek to convert existing ports (potentially Helwan, Tebbin and Ather el Nabi) to multi-purpose operations to handle traffic from Upper Egypt, while the latter seeks to convert existing ports at Imbaba and Shoubra to multi-purpose operations to handle traffic from the Nile Delta and Mediterranean sea ports. Both sets of investments require multi-modal connections to road and rail infrastructure, reinforcing again the need for a multimodal freight transport and logistics strategy.

68. **Integrated Logistics Service on inland waterways.** Another opportunity for private sector investment is in cargo transport/logistics operations using inland waterways, as Nile Logistics has done. More service providers are needed considering the demand potential, especially in light of the development of the new Suez Canal Zone, the expansion of the Ports Complex, and planned investments in dry ports in the Greater Cairo Metropolitan Area. Connectivity through inland waterways for transport of cargo from the Ports Complex to the GCMA and lagging regions including Upper Egypt could become a competitive option if the Government is able to address some of the bottlenecks as discussed below.

**Table 2.8: Egypt Nile IWT Strategy Action Plan**

Action	Rationale and Benefits
Set up River Transport Authority (RTA) Special Implementation Unit	<ul style="list-style-type: none"> <li>▪ Responsible for executing the Development Strategy Action Plan; reports to RTA Chairman and Program Board</li> <li>▪ Commissions and manages the necessary technical work for specific projects</li> <li>▪ Monitors, evaluates, and regularly updates progress on Action Plan delivery</li> <li>▪ Headed by respected leader and staffed by individuals with required competence</li> </ul>
Address the Inland Water Transport governance issues	<p><b><i>Review and implement revised governance structure</i></b></p> <ul style="list-style-type: none"> <li>▪ Necessary to ensure that all activities and stakeholder interests are fully coordinated</li> <li>▪ Clear protocols for joint working – for example within Government and with stakeholders – should be agreed upon</li> </ul> <p><b><i>Set-up Joint Ministerial Board</i></b></p> <ul style="list-style-type: none"> <li>▪ Responsible for coordinating and executing strategic policy and investment decisions, based on advice received from RTA special unit and relevant ministry</li> <li>▪ Involves all Ministries which have an interest in the River Nile or IWT</li> <li>▪ Led by MOT and MOWRI</li> </ul> <p><b><i>Set-up Program Board</i></b></p> <ul style="list-style-type: none"> <li>▪ Responsible for coordination, delivery, and funding of IWT network development</li> <li>▪ Staffed by officials from MOT, MOWRI, and other interested departments</li> <li>▪ Involvement of private sector operators is essential</li> </ul>
Produce IWT Master Plan (as part of Multimodal Freight Transport and Logistics Master Plan).	<ul style="list-style-type: none"> <li>▪ A practical and continuously evolving process involving all stakeholders and focused on practical tasks to deliver longer term beneficial projects</li> <li>▪ Necessary for coordination of IWT with future economic/spatial development and multi-modal transport corridors</li> <li>▪ Guides the longer-term priorities of RTA Special Unit and Program Board by developing, testing, and prioritizing value for money projects</li> <li>▪ Ensure that IWT objectives are incorporated into MOWRI Master Plan</li> </ul>
Implement a funded program of research and development	<ul style="list-style-type: none"> <li>▪ Enact a campaign to raise awareness and address negative perceptions of IWT that prevail amongst potential customers</li> <li>▪ Highlight the barriers of market development and provide means for exploring the potential for added value services, new markets and innovations</li> </ul>



**Table 2.9: Possible Investment Program with World Bank Group Support**

Category/Component	Investment Details
<p><b>Institutional and Capacity Development</b></p>	<ul style="list-style-type: none"> <li>• <b>Data and Navigation Tools:</b> including mapping of the entire Nile River System and its distributaries; provision of an online River Information System; implementation of hydrographic surveys (including bathymetric and topographic) to obtain precise, three-dimensional information detailed longitudinal profiles of the Nile, its branches and canals relevant to IWT development, development of a historical database of survey data; vessel simulation and maneuverability studies to determine the minimum requirements for two-way river channel and canal movement; and production and dissemination of electronic nautical charts.</li> <li>• <b>Institutional/Capacity Development:</b> to improve coordination and planning for the sector.</li> <li>• <b>Regulatory Reform for Sector Sustainability:</b> including increasing port efficiency, and improving revenue sustainability through tariff reviews, organizational and operational reviews.</li> </ul>
<p><b>Infrastructure Development to develop the Cairo-Alexandria, Cairo-Damietta, and Cairo-Upper Egypt navigation routes/corridors for freight transport on the Nile</b></p>	<ul style="list-style-type: none"> <li>• <b>Improving and Maintaining Navigation Channels</b> including (i) Rehabilitation of the canals between the Delta Barrage and Alexandria Port to their original design dimensions; (ii) Deepening and widening the navigation channel on the Damietta Branch of the Nile, between the Delta Barrages and Cairo North and between Cairo and Upper Egypt including restoration and maintenance of minimum advertised depth and straightening river bends; (iii) Linking the Delta routes to adjacent canals to allow greater IWT reach, especially to developing urban areas.</li> <li>• <b>Rehabilitation of the existing navigation locks on the Cairo-Damietta and Cairo-Alexandria routes,</b> including redevelopment of the navigation locks at Alexandria Port, and improvement of cycle time and headway of all other locks (including ‘draw’ and ‘swing’ type bridges), widening the unused navigation lock on the old Mohammed Ali Pasha Barrage of the Damietta Branch, and doubling all navigation locks on the Damietta Branch, including the Delta Barrage.</li> <li>• <b>Provision of Visual Aids to Navigation</b> on the main First Class routes to enable both day and night navigation.</li> <li>• <b>Improvement of Port Efficiency</b> including through providing conveyor linkages between the grain silos at Damietta Port and the adjacent Inland Waterway Terminal, provision of bulk handling equipment in order to reduce vessel turn-around time; improving land accesses and yard areas at existing inland waterway terminals (e.g. road turnouts, gate arrangements, yard layouts and facilities for customs processing);</li> </ul>
<p><b>PPP Development and Project Implementation Support</b></p>	<ul style="list-style-type: none"> <li>• Fund required Feasibility, Design and Safeguards Studies, and Transactions Advisory Support for PPP and other private sector transactions for investment in IWT Terminals, river ports, and logistics zones. Provide support for Project Implementation Unit.</li> </ul>

*Government's Objectives and Priorities*

69. **The Greater Cairo Metropolitan Area accounts for two-thirds of Egypt's GDP and half of the private sector jobs.** The GCMA has a population of 20 million and upwards of 50,000 public transport vehicles of varying capacities and quality. Half of Egypt's vehicles operate in the GCMA and account for 20 million motorized person trips per day and about 13 million tons of CO<sub>2</sub> a year. Despite large investments in road infrastructure and the construction of some 80 km of metro lines, the supply of transport infrastructure and services has failed to keep pace with demand. While highly diversified, with nine distinct forms of public transport (metro, tram, standard bus, executive bus, minibus, collective taxi, standard taxi, and ferries), and an extensive system of urban elevated expressways built in the 1970s and 1980s, the current urban transport system in GCMA requires significant improvements to reduce the aggravated traffic congestion and carbon emissions.

70. **Public transport has proven effective at reducing congestion and pollution levels in Greater Cairo.** Greater Cairo is now among the top five most air polluted megacities<sup>11</sup> in the world. The World Bank estimates that air pollution is the cause of about 11,000 premature mortalities a year in the Greater Cairo area alone, that acute air pollution shocks trigger an increase in respiratory diseases by more than 3 percent, and that the annual cost of air pollution is about 193 billion Egyptian Pounds (EGP) (equivalent to about 5-6 percent of GDP).<sup>12</sup> Vehicles are the most significant source of air pollution (more than 1 in 3 fine particles in the atmosphere is from cars). The same World Bank study finds that a reduction of driving cars by 1 percent yields a reduction in air pollution of 0.27 percent, regardless of the congestion level, and that Metro Line 3 – opened in 2012 and extended in 2014 – reduced cars driving in the streets of Cairo by about 56,000 and reduced air pollution by 3.4 percent.<sup>13</sup>

*Binding constraints to achieving sector objectives*

71. **Institutional structure is even more complex than that in the rest of the transport sector.** Many potential concessions for conventional buses, Bus Rapid Transport (BRT) systems, Light Rail Transit (LRT) systems and river taxis have all faltered at this hurdle. Even more than with the ports sector, the institutional arrangements for urban transport are the major binding constraint on the realization of sector objectives, closely followed by the lack of an updated comprehensive mass transit strategy and the lack of financial viability of most public transport projects. As with most urban metropolitan areas in developing countries, mass public transport in Greater Cairo is not financially viable especially with the current low fares.

72. **Until now there has been little coordination between agencies involved in public transport and those responsible for road development and traffic management.** There have been many instances occurring where roads are expanded to the detriment of public transport.<sup>14</sup> Incoherent governance adds to the challenges facing traffic regulations and mobility in the GCMA. The key stakeholders with responsibilities for urban transport in the Cairo Metropolitan Area are

---

<sup>11</sup> Defined as cities with populations of greater than 12 million.

<sup>12</sup> This is a lower bound estimate, as it does not include several costs such as foregone economic activity (due to sick days for example) or reduced labor productivity, to name but a few.

<sup>13</sup> World Bank: Egypt Pollution Management and Environmental Health Program, 2018.

<sup>14</sup> The loss of the alignment of the Heliopolis tramway to road development rather than public transport (as an updated LRT or a BRT) is just one example.



listed in Box 4. In order to effectively move forward with resolving Egypt’s urban congestion problems, and to attract private sector investment in the sector, the institutional structure for urban transport needs urgent reform.

#### **Box 4: Key Stakeholders with Responsibilities for Urban Transport**

**MoT:** The MoT is responsible for meeting the transportation needs of the country, whether by rail, road or water, in line with Egyptian national development plans. MoT provides funding through all phases of the project life cycle. It has a number of affiliated agencies that have an impact on Cairo transport including:

- **National Authority for Tunnels (“NAT”):** responsible for establishing and operating the main metro lines (that is, planning, design, construction, operation, and maintenance). Also, it is responsible for constructing the tunnels used by the metro (and those for road and rail traffic under the Suez Canal).
- **Cairo Metro (CM):** operates and maintains the Cairo metro lines. Currently, there are three operating metro lines with the fourth in the design phase.
- **Egypt National Railways (ENR):** is responsible for establishing and operating 5000 km of passenger and freight railways across Egypt.
- **Greater Cairo Transportation Regulatory Agency (GCTRA), recently transformed into Transport Regulatory Agency (TRA) for all of Egypt:** GCTRA was originally designed to function as the regulatory and planning agency for Greater Cairo. GCTRA was created in 2012 but has been understaffed and underfunded, with no budget or resource allocations, and therefore has not been functioning as an “Authority.” In March 2018, the Land Transport Regulatory Authority (LTRA) was merged with GCTRA to form the new TRA responsible for regulating urban transport for the entire country.

**Governorates:** The Greater Cairo Metropolitan Area consists of three governorates: Cairo, Giza and Qalyubia. Each consists of its own local road authority, responsible for designing, constructing, and maintaining its own subnetwork of urban roads, and for registering and regulating public transport operators and services within its area.

- **Cairo Transport Authority (CTA):** was created by the Cairo Governorate and incorporates the Greater Cairo Bus Company (GCBC). CTA currently operates and plans the routes of public buses in Greater Cairo. Through its subsidiary GCBC, it operates about 3,000 regular buses and 950 minibuses. It directly operates ferries and river buses (40 vessels in total). The more optimal structure would be moving the jurisdiction over private buses to TRA.

**Egypt Environmental Affairs Agency:** finances a “Sustainable Transport Project for Egypt” focusing on public transport in Cairo. In 2014 it awarded a contract aimed at a first stage of an ‘intelligent’ system for reducing the number of on-street parked vehicles in order to improve the quality of public transport services.

73. **Current bus and rail fares cover less than 15 percent of operating costs.** Despite a recent doubling of the metro fare to 2 Egyptian Pounds, it is still significantly lower than the fare in any other large metropolis, leaving CTA and the Metro excessively dependent on public funding. CTA transports about 4.6 million passengers per day at fares of less than 2 EGP (about US\$0.12). With operating costs of about US\$0.5 per trip, this results in the annual CTA deficit being about US\$400 million. Metro transports about 3 million passengers per day with an operating deficit of about US\$0.6 per passenger, which results in the annual Metro deficit being about US\$500 million. Together, CTA and Metro incur annual financial losses approaching US\$1 billion. A contributing factor is that CTA is grossly overstaffed. At the same time, it is worthwhile

considering that private sector buses, which offer similar fares as CTA, are financially viable although with lower quality and safety standards. In view of these institutional issues, combined with the apparent lack of financial viability of CTA and Metro, any reputable international entities that would potentially bid to operate as a public transport public private partnership, or to assume management and maintenance contracts such as those suggested for Metro, will need strong and dependable guarantees of PSO payments (or other forms of public funding) to make their participation profitable. Putting in place PSO contracts based on best practices in other countries could encourage the private sector to invest in this type of service and to become a reliable solution for providing higher quality transport with lower operating costs. Expected outcomes of public transport PPPs include a more predictable and lower financial subsidy - predictable because the formula for its calculation would be included in the concession agreement, and lower because a private operator would be expected to be more efficient than an SOE operator.

*Opportunities and options for leveraging commercial capital or private investment*

74. **Nile Ferry PPP.** This project involves the supply and operation of vessels in order to modernize and expand the existing ferry service in Cairo. In 2016, the Cairo Governorate through the CTA, with technical assistance from the PPP Central Unit of the Ministry of Finance and EBRD, invited prequalification for a 25-year PPP to finance, develop, and operate a Nile river passenger bus service. This proposal has stalled for several reasons, including lack of clarity on which agency should be responsible for securing the land, and developing and maintaining the piers and jetties that will be part of the ferry operation. But it has the potential to be a viable commercial urban transport service, albeit with some level of public funding support.

75. **BRT.** Bus Rapid Transit services are becoming more and more popular around the world as a solution for addressing urban congestion. They require a dedicated right-of-way, bus lanes aligned in the middle of the road, off-board fare collection with smart card ticketing, intersection treatments prohibiting turns across the busway, and platform level boarding. There are several potential BRT projects, some dating back to the 2006 CREATS study, but none is operational. These include those for 6th October West, Metro Line 4 Corridor, and the Ring Road Corridor, from Cairo to 10th of Ramadan City and Cairo to the New Capital City. GCTRA has also planned some smaller scale BRT lines, connecting some high-income urban areas to large university campuses. These are mostly radial routes, although some have sections that use the ring road. All have several metro interchanges. Progress has been slow as the GCTRA has been grossly understaffed and underfunded. Further study will need to be undertaken to develop a complete BRT network. Though Greater Cairo may need a total of 20 or so corridors in total, five carefully selected corridors should be initially chosen. There will need to be careful marketing and work with public media to ensure the success of this new model to the public. In May 2015, the Institute for Transportation and Development Policy (ITDP) supported by UN Habitat Cairo initiated a pre-feasibility study for BRTs in Greater Cairo. The results reflected that there was sufficient demand for BRTs on many roadways in Greater Cairo, specifically: Giza, Nasr City, and New Cairo. The study prioritized two corridors. The first corridor was developed with the Giza Governorate and runs from Remaya Square to Ahmed Oraby. The second connects New Cairo City through Nasr City to Cairo. A fleet of 240 articulated buses with frequencies of 50-60 buses per hour are approximated for these lines. The implementation cost is estimated to be US\$ 250 million. UN Habitat is currently conducting the feasibility and design studies. This can be explored for PPP structuring if the institutional arrangements can be clarified.

76. **Bus Services.** Cairo’s existing buses currently service about 13 million passengers per month on 166 bus lines, or 10,650 passengers per bus per month. There are five potential high priority bus corridors in the Cairo Governorate (Table 2.9). These corridors were carefully selected based on initial investigation and physical road inspections, followed by a Multi-Criteria Analysis. Bidding documents have been prepared. However, no decision has been made to move forward. This project is ready for PPP structuring if the institutional arrangements can be clarified and a decision can be made. On a positive note, a new privately-operated bus service initiated in 2017 by a private company, Mwasalat Misr, with UAE and Egyptian private sector funding and after purchasing existing CTA licenses, has been operating successfully with high-quality buses and service, and is poised for expansion, demonstrating the potential demand and market potential.

**Table 2.9. Key CMA Bus Corridor Details**

No.	Corridor	Length (m)		
		Direction A	Direction B	Total
1	<b>Autostrad</b> from Cairo-Suez Intersection to Ring Road	15,930	15,930	31,860
2	<b>Gesr El Suez</b> from Alf Masakan to Abassia Square	7,450	7,400	14,850
3	<b>Mo’assasat El Zakah</b> from Ring Road Intersection to Horayah Square	8,160	8,160	16,320
4	<b>Port-Said Street</b> from Saidah Zaiab to Intersection of Church El Malek Mikael St.	6,050	6,300	12,350
5	<b>El Methaq St.</b> from Ring Road to Intersection of Abdalh El Arabi	7,300	7,300	14,600
<b>Total Length</b>		<b>44,890</b>	<b>45,090</b>	<b>89,980</b>

77. **‘Fast Away’ buses or ‘BRT Light’.** In January 2017, the Global Environmental Facility (GEF) and United Nations Development Program (UNDP) invited international bus operating companies to install, operate and maintain an intelligent transportation system for the potential bus operator of a new High Quality Bus (HQB) service on five “Fast Away” routes in and linking Cairo Metro and 6<sup>th</sup> of October City and Sheikh Zaied City. Each bus line will serve a limited number of stops inside each city, and then go non-stop along a lengthy “line haul” expressway to connect to a Metro Station on the fringes of Greater Cairo in Giza City. The type of service has some similarities to a BRT but with a much lower investment cost as it does not have the same exclusive bus lanes. This service would be one of the first in Cairo to be designed to connect metro stations to destinations outside the main urban area. It is not clear how the service would be contracted, or which agency would be responsible for its operation (the routes would pass through two Governorates, Cairo and Giza). It has the potential to be a successful PPP, if the institutional arrangements can be resolved.

78. **High-Speed Rail.** The MoT has inquired about possibilities of developing High Speed Rail (HSR) for some key corridors in Egypt including between Cairo-Alexandria, and Cairo to Upper Egypt. The key principles for successful High-Speed Rail include: (i) High volume, dense traffic: typically, of 15-20 million passenger-kilometers per route-km; (ii) Integrated into mass transit system. For example, Morocco integrated HSR service into the mass transit fare; (iii) Fares must be affordable to and serve mostly Egyptian users; (iv) while being sustainable for the operator; (v) and by definition operate at high speed which means at least 250 km/hr and therefore limits the number of stops. Experiences around the world, including in China and Morocco, have shown that land value capture can enhance the economic and financial feasibility of HSR investments which can be expensive. China and Morocco leased storefront and other high value real estate at modern multi-use stations to help finance for their HSR investments. Given the high-density traffic, including of domestic business travelers, between Cairo and Alexandria, a high-speed service along this corridor may be feasible but requires further study, preferably, as part of the development of the Integrated Mass Transit Plan. A prefeasibility study was conducted in 2010 and found the project economically viable with an EIRR of 11.8 percent if the Government were to finance almost all the infrastructure costs while the private operator would manage the railway service and purchase the rolling stock, and cover future maintenance and operational costs. The estimated demand was 10.3 million passengers for 2025 (requiring 27 pairs of trains: fleet of 6 train sets + 1 reserve) and 20.3 million passengers by 2040 (requiring 43 pairs of trains: fleet of 9 train sets + 1 reserve), not counting tourists. The travel time would be reduced from the current 2.5 hours to 1 hour.

*Recommendation Action Plan*

79. **Tariff policy for public service obligations needs to be developed, and there is also a need for a comprehensive and integrated mass transit and urban transport strategy.** The development of an integrated mass transit strategy is a priority for addressing the hurdles for investment in urban transport and mass transit in Egypt. Without such a strategy, there is no comprehensive basis on which mass transit and urban transport projects can be prepared. Much of what was generally proposed in the 2002 Cairo Regional Area Transportation Study (CREATS) is still valid, but many of the details, prioritization, and sequencing need to be revised, particularly to take account of what projects have already been implemented, the changing pattern and scale of development since CREATS was prepared, and to adopt modern technologies especially for the development of an integrated fare system.

**Table 2.10: Timeline and Actions/Investments to Support Integrated Mass Transit in the GCMA**

Timeline	Actions/Investments
<b>Year 1</b>	<ul style="list-style-type: none"> <li>• Developing a Cabinet Steering Committee for Transport including to make decisions on urban transport institutional/governance structure</li> <li>• Developing the Integrated Mass Transit Strategy and Action Plan, including public transport network planning for GCMA</li> <li>• Reviewing the role of TRA, and empowering it as an Authority (including to collect and allocate public funding for public transport projects in Egypt, and to award concessions)</li> <li>• Staffing and operationalizing TRA</li> <li>• Creating Park-and-Ride facilities at suburban locations as feeders to public transport</li> <li>• Implementing one Park-and-Ride project</li> <li>• Designing, and seeking required financing for initiating implementation, of a region-wide parking improvement plan</li> </ul>
<b>Year 2</b>	<ul style="list-style-type: none"> <li>• Announcing a region-wide plan to improve walkability, and implementing necessary studies to solicit proposals/designs</li> <li>• Designing and coordinating the implementation of an integrated fare collection system across modes within the GCMA</li> <li>• Initiating the design and implementation of one or two terminals to facilitate easy inter-modal transfer</li> <li>• Announcing one or two big projects that may emerge from the Integrated Mass Transit Action Plan and ensuring its implementation (including assigning it to one or other of the existing institutions, overseeing its implementation, providing support in arranging for financing, and so forth)</li> </ul>
<b>Year 3</b>	<ul style="list-style-type: none"> <li>• Developing about 10 to 15 routes for operating high quality (express/ deluxe) inter-governorate bus services to connect key areas within Cairo with those in Giza and Qalubiya, drafting an implementation plan including financing mechanisms, and initiating the implementation of these routes</li> <li>• Managing the Mobility Subsidy Scheme</li> <li>• Coordinating and overseeing the implementation of a mass transit project such as the BRT to connect Ramses Square with New Cairo and the American University in New Cairo</li> </ul>

*Cross-cutting issues deterring private investment*

80. **The realization of a sound multimodal transportation system in Egypt is a sine qua non condition for successful implementation of the ambitious policies of the GoE for achieving accelerated economic development of the country.** As previously stated, the pace at which private sector finance has been welcomed into the transport sector in Egypt has varied by sub-sector. The aviation and ports sub-sectors have been more advanced, while railways and urban transit have lagged behind, with inland waterways somewhere in between. While the ability of the transport service to collect commercial fees – as opposed to being viewed as a Public Service Obligation (PSO) – is a fundamental reason that explains the speed of private sector engagement in the sub-sector, other key reasons that continue to hamper the progress of private sector participation across the transport sector include: (i) an excessively complex institutional structure

that does not facilitate decision making nor independent and transparent regulation; (ii) antiquated laws that require updating to permit private sector investment; (iii) the absence of an integrated multimodal freight transport strategy; (iv) the absence of an integrated mass transit strategy; and, (v) insufficient qualified staff to strategically or operationally manage services or sub-sectors/modes properly. The Government of Egypt is well aware of these deficiencies, and is starting to address these issues in earnest. If the cross-cutting issues above can be addressed within one year, it is conceivable that private sector investments that can transform the quality of freight and passenger transport services in Egypt can be realized within the next five years.

**Table 2.11 Summary of Potential Transport PPP Projects in Egypt.**

**PPP projects that are close to being ready for presentation to private sector**

- 6th October Dry Port (already close to be offered as a PPP with EBRD support)
- Rail access from ports of Alexandria to to 6th of October Dry Port (under preparation as a PPP with World Bank-IFC support)
- Nile passenger Ferries in CMA (already offered but being revised to make the project more attractive to potential bidders)
- Cairo Airport Cargo Terminal (Concept Note for IFC transaction advice already prepared)
- Two BRT lines: (i) Giza Governorate line from Remaya Square to Ahmed Oraby; (ii) Cairo Governorate: New Cairo City through Nasr City to Cairo
- GCMA 5 Bus Corridors
- Abu Tartour Industrial Port

## ELECTRICITY AND RENEWABLES

*Governments Objectives and Priorities*

81. **Until recently, Egypt had been experiencing shortages of electricity generation caused by several factors, one of which is reduced availability of domestic gas supplies for power generation.** The GoE adopted an aggressive program to increase generation capacity by 18 Gigawatt (GW) by 2018, applying a target of approximately 5 GW in a conservative scenario, and 10 GW in an optimistic scenario, most of which will be provided under an agreement with Siemens to construct 14 GW of publicly-financed gas-fired generation.

82. **In parallel, the GoE has embarked on an ambitious program to develop renewable energy capacity in the country equivalent to 20 percent of generation by 2022.** It is worth noting that the recent tariff adjustment, and public campaigns promoting energy efficiency, have helped maintain the peak demand at the same level for the last two years. Under this program, feed-in tariffs (FiT) were adopted in 2013-14 (Round I) and revised in 2016 (Round II). More than 30 projects developed under the FiT regime have reached financial close. Assuming, in the best-case scenario, that 1,400-1,500 Megawatt (MW) is anticipated to be developed under Round II, the FiT Program would still fall short of its initial target of 2,300 MW for new solar capacity. Apart from solar, a 250 MW Build-Own-Operate (BOO) wind project has been created. Overall, the renewable energy projects implemented by the New and Renewable Energy Authority (NREA) add up to approximately 3,900 MW of committed renewable energy projects.

83. **The rationale for renewable energy development in Egypt goes beyond the need to maximize use of the country's domestic natural resources and to increase energy security by diversifying the generation mix that is currently dominated by natural gas.** Increased reliance on renewable energy also helps reduce demand on domestic natural gas resources, which can then be exported to generate much needed foreign exchange at prices that are likely to exceed the transfer price for domestic electricity generation.

84. **Moreover, the sector's financial position has suffered due to low retail consumer tariffs that did not cover the average cost of supply.** Currently, the true cost of power generation in Egypt is estimated to be approximately US¢ 8-9 per kilowatt-hour (kWh) (including fuel subsidies), slightly lower than neighboring Jordan, compared to the current average end-user tariff of US¢ 3.5/kWh. This mismatch, covered by state subsidies, constituted a high fiscal burden and was contributing to mounting financial imbalances for the state-owned utilities and arrears among institutions. In 2015-16, direct electricity tariff subsidies amounted to US\$3.4 billion and indirect sector subsidies through subsidized fuel supply were estimated at US\$6.3 billion, combining to a total economic subsidy to the electricity sector of approximately US\$9.7 billion, equivalent to 3 percent of Egypt's Gross Domestic Product.



85. **Additionally, short- to medium-term solutions are needed to reduce reliance on government guarantees.** Although sovereign guarantees will be required during the transition to a financially sustainable power sector, the GoE, Ministry of Electricity and Renewable Energy (MERE), the Ministry of Finance (MoF), the Egyptian Electricity Holding Company (EEHC), and the Egyptian Electricity Transmission Company (EETC) can make use of several mitigation measures that allocate risk effectively, reduce uncertainties, and lessen the prospect that any government guarantee would be called upon.

*Opportunities and options for leveraging commercial capital or private investment*

86. **Egypt has a history of successful private sector participation in the sector, - under specific conditions.** The majority of sector investments has been and continue to be channeled through public financing, whether through government bond offerings or loans/grants from bilateral and multilateral development financing institutions. Nonetheless, from 1996-2003, three independent power plants (IPPs) were developed (namely, SidiKrir, EdF Suez and Port Said, with a total capacity of 2048 MW) under a Build-Own-Operate-Transfer (BOOT) scheme with 20-year PPAs with EEHC, as the sole off-taker. These plants were based on steam turbines technologies burning natural gas. The selection of the companies was done based on tender and direct negotiations for the PPAs between the IPPs and EEHC. EEHC assumed a number of the important project risks (e.g., agreed prices for energy purchased from the plants were denominated in US dollars, increases in fuel costs were passed through to EEHC, and EEHC paid for deemed generation up to a plant utilization rate of 65-70 percent). The PPAs were guaranteed by the Central Bank of Egypt (CBE) - sovereign guarantee for all off-taker's obligations at the time - and IPPs were protected from future changes in law. As a result, GoE was able to attract high-quality developers financed by both multilateral development agencies and commercial debt from local and foreign banks, thus secured PPA tariffs that were very low by international standards - although the effective tariff increased substantially after devaluation of the Egyptian Pound. Despite the currency devaluation and changes in ownership, the three IPPs continue to perform well, both in terms of technical and financial performance; capacity factors are far above the guaranteed 70 percent level; and availability is above 92 percent.

87. **This being said, with the exception of 265 MW of power plants serving captive loads, no additional equity investments have been made in Egypt since these three-BOOT projects were financially closed.** Since the new Banking Law No. 82 restricted CBE guarantees to “public juristic entities” was promulgated in 2003, CBE was no longer legally allowed to provide sovereign guarantees to EEHC (a private juristic entity) or its affiliated companies. In 2013, a law was passed that gives the MoF explicit authority to guarantee EEHC and its affiliates, but, until

## RENEWABLES

*Opportunities in the generation subsector are the most prevalent*

*It is anticipated that the GoE will continue to pursue additional solar and wind projects based on an auction system for at least 600MW of solar photovoltaics (PV) at the initial stage plus a stream of BOO and Build-Operate-Transport (BOT) projects for wind and solar. In addition, a 200 MW solar bid is currently being reviewed. Much of these new developments can be undertaken by the private sector which would help to diversify ownership of generation assets, in line with the GoE's vision in the Electricity Law. In doing so, this would also reduce reliance on public financing.*



recently, the contours of guarantees offered by the MoF left significant uncertainties uncovered that are typically in the sovereign's domain. As discussed further below, this issue seems to be getting resolved, within the overall framework of the second round of feed-in tariffs for solar power projects.

#### **Short- to Medium-Term (1-2 years) Opportunities**

88. In the short- to medium-term, opportunities in the generation subsector are the most prevalent, including private investment in generation assets, particularly renewables, to diversify generation providers.

#### **Siemens Gas-Fired Plants (Box 4)**

89. **The GoE is considering options to increase private sector participation in the ownership of these plants for several reasons.** Depending on how the transactions are structured, such a move could be an initial step in implementing the Electricity Law's liberalization mandate and means to begin diversifying ownership of generation assets in the sector. Further, it could potentially help reduce reliance on the MoF guarantees supporting the plants' debt, thus freeing public borrowing capacity for other purposes.

90. **The two primary options under consideration involve an initial public offering (IPO)** of a minority (<20 percent) equity interest in special purpose vehicles (SPVs) created to own, operate, and maintain each of the Siemens plants or a strategic partnership involving the sale of up to 49 percent of the SPVs' equity interest. Both options have benefits and weaknesses that are the subject to further feasibility analysis.

#### **Box 4. Siemens Gas-Fired Plants**

In June 2015, the GoE awarded Siemens, together with Egyptian companies Orascom Construction and Elseweedy Electric, a €6 billion contract to construct on a turnkey basis three gas-fired combined cycle power plants in Beni Suef, Burullus, and New Capital, each with a capacity of 4.8 GW, for a total capacity of 14.4 GW. The three power plants will be powered by 24 Siemens H-Class gas turbines, selected for their high output and efficiency, 12 steam turbines, 24 heat recovery steam generators, and 3 500 kilovolt switchgear systems. The deal was part of the MoERE's plan to address power supply challenges in the country on a fast-track basis. The first of these mammoth plants was commissioned in the summer of 2017 and the balance is expected to be commissioned in May 2018. At that time, Egypt is expected to enjoy generation supply surpluses that are expected to last until 2022.

Financing for the megaproject was underwritten on preferential terms under a Euler Hermes export credit guarantee from the German Federal Government, and provided by a consortium of 17 international banks, led by Deutsche Bank, HSBC, and KfW IPEX-Bank. The loans were guaranteed by Egypt's Ministry of Finance (MoF) and financially closed in November 2015 (Beni Suef) and March 2016 (Burullus and New Capital). The transaction's structure follows the traditional publicly-financed engineering, procurement and construction (EPC) contract approach used by EEHC to finance expansion of its generation capacity in the past several decades. The plants are expected to be operated by a private sector contractor under a long-term operations and maintenance contract with EEHC.

#### **Renewable Energy Program:**

91. **Despite having some of the highest solar radiation in the world, solar energy in Egypt is limited.** With the desert accounting for 95 percent of its territory, Egypt has enormous potential

to produce solar energy. The country has an annual global solar radiation ranging from 1,750 to 2,680 kWh/ m<sup>2</sup>/year from north to south and annual direct normal solar irradiance ranging from 1,970 to 3,200 kWh/ m<sup>2</sup>/year from north to south, with relative steady daily profile and small variations. Estimates made by the Solar Radiation Atlas and the German Aerospace Centre reveal that *solar energy could generate up to 74 million GWh/year*, a potential that dwarfs the country's 174,875 GWh gross energy generation in 2015.

92. **The 2006 Wind Atlas for Egypt prepared by NREA provides an eight-year wind-resource assessment of the country's wind potential in six designated regions that have great area state-owned land.** For example, the western Gulf of Suez is home to some of the country's best wind resources, with an average yearly wind speed surpassing 7 meters/second and potential for some 20,000 MW of wind energy. Most of the short- and medium-term plans for wind energy developments focus on this region. The deal the GoE entered with Siemens for the gas-fired plants also included development of a manufacturing facility to produce wind turbines in Egypt to supply at least 600 turbines for 12 new wind farms around the country. *It remains unclear whether these new wind farms will be publicly or privately-financed.*

93. **The GoE adopted a feed-in tariff (FiT) Program in 2014 to ramp up development of these deep renewable resources.** Round I of this program set the FiT at US¢ 14.3/kWh to encourage rapid private sector development of 2,300 MW of new solar photovoltaic capacity and 2,000 MW of wind capacity. There was enthusiastic response from the private sector, with 175 companies submitting prequalification material to participate in this round. For solar, 55 memoranda of understanding were signed to secure land plots made available by NREA across three different publicly-owned solar parks. However, as Egypt's macro-fiscal challenges increased, disagreement with international financial institutions making available financing for these projects over mainly arbitration provisions in the PPA, *most of the Round I projects were cancelled when the financiers withdrew their support, except for three projects with an aggregate capacity of 150 MW.*

94. **Developers that were unable to finance their projects in Round I were offered the opportunity to rollover their projects into Round II of the Program,** which was approved by the Cabinet in September 2016, at a substantially reduced FiT. *It is estimated that 1,300 MW of capacity, comprising 20, 30, and 50 MW plants, are likely to be signed under Round II.* Aside from the significantly reduced FiT and more bankable PPA terms, a key difference between Round I and II of the FiT Program is that all Round II projects are expected to be consolidated at a single government-owned site at Benban, near the southern city of Aswan. A third-party facility management contractor has been retained to manage and coordinate among all projects at this Benban site.

## MEETING DEMAND BEYOND 2022

*It is estimated that over 25 GW of additional generation capacity may be needed by 2022 to meet the demand.*

*The need for new capacity, particularly flexible gas-fired generation, is likely to be substantial. Yet, various options (to increase capacity) would need to be carefully weighted due to new technological developments, and the cost reduction trends in*

### Medium-Term (2-5 years) Opportunities

95. **The need for new capacity to meet demand beyond 2022 is likely to be substantial, and it would be reasonable to expect project preparations for new capacity capabilities to commence within the next 1-2 years.** Egypt is expected to enjoy surpluses of generation supply lasting until 2022, which accounts for there being a limited generation investment pipeline. Nevertheless, electricity consumption in Egypt has increased over 6 percent per year during the period from 2008-2010. Although consumption has fallen to 4 percent since 2011, it is nevertheless expected to grow at 5.1 percent annually in the coming years. It is worth noting that the recent tariff adjustment and energy efficiency campaigning has helped maintain the peak demand at the same level in the last two years. Although some of this additional new capacity may be supplied by renewable energy facilities currently under development or in planning stages, and may potentially come from neighboring countries through regional interconnections currently expected to be commissioned in the 2018-19 timeframe, the need for new capacity, particularly flexible gas-fired generation, might still be substantial. Given the anticipated need for new supplies after 2022, and considering the normal 3-5-year cycle for the development, procurement, financing, and construction of new gas-fired generation facilities, it would be reasonable to expect project preparations for new capacity capabilities to commence within the next 1-2 years.

96. **These new projects could be located on either greenfield or brownfield sites** (i.e., sites that currently have an operating power plant). EEHC's generation fleet includes a mix of plants with varying ages, including approximately 10,000 MW that are 20 years or older. Some of these plants will likely be decommissioned and replaced with greenfield ones, once they reach the end of their economic life. Nonetheless, depending on the environmental conditions of the sites where these plants are located, they could present ideal conditions to add new capacity by rehabilitating or re-powering the old plants. These sites are already publicly-owned and would not include the typical social impacts involved in new sites; have existing transmission and fuel infrastructure in place; and may even have facilities that can be re-purposed to support a new power plant.

97. **Some private sector companies recognized the potential of brownfield sites and announced plans to take advantage of this low-hanging fruit.** ENI, for example, announced plans to invest millions of euros on installing PV systems on brownfield sites the company owns adjacent or near its existing oil and gas facilities and electricity distribution infrastructure in Egypt, Pakistan, and other countries. ENI plans to build hybrid solar-natural gas power facilities, capitalizing on these sites' access to natural gas facilities and existing infrastructure. Given the size of EEHC's generation fleet that could qualify for brownfield development, there is a good opportunity for private sector participation in this area to invest in new generation capacity to meet Egypt's future demand, while, at the same time, helping to diversify ownership of generation assets in the sector and reduce reliance on public financing to support the new developments.

### Long-Term Opportunities (>5 years)

98. **EEHC's distribution system has a significant impact on the quality of electricity service to almost all customer categories. The system is suffering from a myriad of challenges,** including over-staffing, poor management, poor billing and collections, lengthy and cumbersome new connections processes, poor customer service, high technical losses because of poor system maintenance and reinforcement, among others. There have been past attempts to deal with some of these challenges, but, because of the political nature of reforms at the distribution

subsector, these attempts did not lead to appreciable improvements. With the current burgeoning political momentum behind reforms, there is an opportunity to begin addressing some of these challenges through management contracts, service contracts for billing and collections, and other forms of private sector participation that does not involve divestiture of public ownership.

*Binding constraints to achieving sector objectives*

99. **Implementation of the Electricity Law, and the laying of groundwork for competition in the energy sector, would be essential next steps.** Egypt formally unbundled the sector in 2000, which, at the time, had been organized under the Egyptian Electricity Authority (EEA) pursuant to Law No. 12 of 1976. EEA was restructured into a joint stock company under Law No. 159 of 1981 and Law No. 164 of 2000 into the Egyptian Electricity Holding Company (EEHC). EEHC became the de facto national, vertically-integrated electricity utility, responsible for electricity services in Egypt, under the control of the Ministry of Electricity and Renewable Energy (MoERE).<sup>15</sup> EEHC owns 90 percent of Egypt's generation capacity, 100 percent of its transmission capacity through the Egyptian Electricity Transmission Company (EETC), and 99 percent of the distribution capacity (Figure 2.11). In 2015, the Government promulgated *Law No. 87 of 2015 (Electricity Law)* that provided for, among other things, increased private sector participation in electricity generation and distribution for the first time in many decades. This law was intended to pave the way for gradual liberalization of the Egyptian power sector, short of full retail competition, with a key ingredient being the unbundling of the EETC from EEHC and its restructuring as an independent Transmission System Operator (TSO) by 2018 to plan, expand, operate, and maintain the transmission system on a nondiscriminatory basis.

100. **While this does not necessarily mean that EETC needs to be financially independent as well, financial independence would certainly add to the organization's autonomy and provide more predictability to transmission system planning and operation.** Moreover, financial independence would also reduce the burden on the GoE's balance sheet for supporting transmission investments by allowing EETC to raise debt on its own balance sheet that it would repay from transmission service charges received through approved electricity tariffs. It would also better align tariff policies by ensuring that electricity customers pay the full costs of the services they receive.

101. **In order to achieve this financial independence, EETC will need to be appropriately capitalized and have clear sources of ring-fenced cash flow through clear tariff policies that identify transmission charges and how they will be collected and paid to EETC.** The fact that the GoE still retains tariff-setting authority would likely require government guarantees to ensure that the rules governing EETC's cash flow would not change to adversely affect the company's ability to recover its costs. EgyptERA's oversight role, particularly in respect of EETC's operations and methodology for determining just and reasonable transmission costs to be included in the tariffs, will likely need to be clarified in a manner where there is a clear track record of transparent, consistent application of agreed rules.

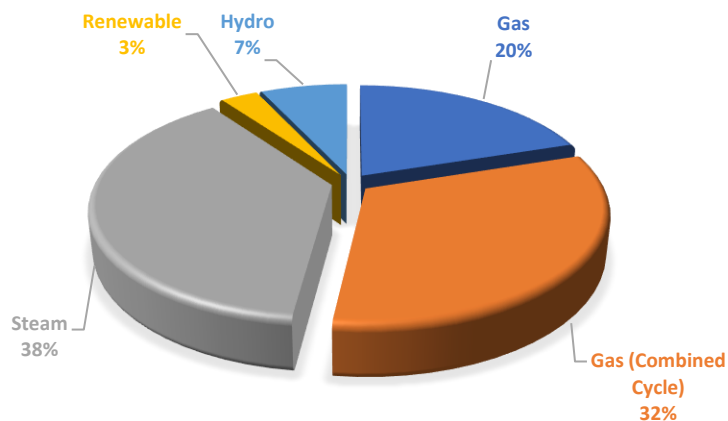
102. **Once EETC's restructuring and recapitalization is completed, and the tariff setting methodology is clearer,** particularly in respect of ring-fencing transmission service cash flow, **there could be opportunities for commercial lenders to lend funds directly to EETC for**

---

<sup>15</sup> The Ministry of Electricity and Renewable Energy (MoERE) is the principal policy agency in the sector.

**transmission system capital investments.** This corporate financing of EETC’s investment plan would not only relieve demand on public financing, but could also help instill commercial discipline in the company’s operations to ensure compliance with loan covenants and adherence to lender requirements, and to clarify management accountability for the company’s performance.

**Figure 2.11 – EEHC Installed Capacity (2016)**



103. **With electrification levels nearly universal (99 percent), the electricity sector is organized around the single-buyer model, with EETC acting as the sole bulk power purchaser to sell electricity to** (as of 2015) approximately 24 million residential customers; 2.5 million shops; 165,000 small and medium enterprises; and 27,000 public lights (municipalities and districts). The vast majority of this retail load is served by the 9 publicly-owned distribution subsidiaries of EEHC, but there are also 11 private distribution companies serving localized or remote loads. EETC also directly contracts with approximately 100 consumers connected to the extra high voltage and high voltage transmission networks, and is responsible for regional electricity trading with neighboring countries.

104. **Strengthening institutional and coordinating capacity.** The opportunity costs of procuring old technology are rising significantly. The pace of the relative cost curves appears to indicate that within 3-5 years, solar will be significantly cheaper than gas, and it is likely that low-cost energy storage will become available in a five-year horizon. From this perspective, strengthening institutional and coordinating capacity will be essential for the Government to be able to assess the trade-offs and take advantage of the technological developments.

105. **Project’s contractual arrangements, sector uncertainties, and the political landscape are the three main areas of investor concern.** To reduce the government’s exposure to guarantees, the following measures can be undertaken simultaneously:

- *Contractual and Structural Enhancements.* There are numerous contract provisions that EEHC and EETC can use to allocate and manage risks among independent power project (IPP) and PPP parties (risks need to be transferred to an entity best positioned to mitigate them), and limit the government’s exposure under a power purchase agreement (PPA). Some provisions can also be structured to minimize the MoF’s direct liabilities, or to characterize the liability as contingent, thereby achieving more favorable balance sheet treatment. It is important to note here that a reduction in guarantees can only be accomplished after significant credit enhancement is achieved.

- *Payment Security and Liquidity Enhancements.* The government can also implement strategically targeted sector-wide enhancements to minimize the payment risks associated with EEHC/EETC. The enhancements are not project specific, but when implemented in conjunction with a high-profile, front-runner project, they can provide a valuable demonstration effect of the government’s capacity to meet financial obligations that derive from private investment, its commitment to ongoing sector reforms, and its ability to successfully implement budgeting and payment controls. The benefits of these measures are evident across the entire sector value chain, establishing practices that will build investor confidence, improving revenue collection, and enhancing the environment for further investment.
- *Political Risk Mitigation Mechanisms.* Mechanisms offering risk protection against regional and political volatility can be introduced that can then be structured to be phased out and reduced in scope upon the achievement of certain milestone events.

*Recommendation Action Plan*

**Table 2.12 Opportunities for Private Sector Participation**

<b>Project</b>	<b>Description</b>	<b>Timeline</b>
<b>Leverage private investment/commercial capital to Siemens gas-fired combined cycle power plants</b>	The GoE is considering options to increase private sector participation in the ownership of these plants. The two primary options under consideration involve (i) an initial public offering (IPO) of a minority (<20 percent) equity interest in special purpose vehicles (SPVs) created to own, operate, and maintain each of the Siemens plants or (ii) a strategic partnership involving the sale of up to 49 percent of the SPV equity interest.	1-2 years
<b>New renewable generation IPPs</b>	Competitive solar auction for 600 MW, based on alternate payment security mechanism, for needed additional capacity after 2022; IPPs expected to be contracted under long-term PPAs by EETC through auction process.	1-2 years
<b>Management of distribution companies</b>	With the current burgeoning political momentum behind reforms, there is an opportunity to begin addressing some of these challenges through management contracts, service contracts for billing and collections, and other forms of private sector participation that do not involve divestiture of public ownership.	5+ years



*Government's Objectives and Priorities*

106. **Egypt is an important non-OPEC (Organization of the Petroleum Exporting Companies) oil and gas producer. The sector represents around 20 percent of GDP and provides more than 220,000 direct jobs.** At the end of 2016, according to BP data, Egypt was the sixth largest provider of oil reserves in Africa and the 16th largest gas reserve-holder globally, followed by Kuwait and Norway. The country was also the second-largest dry natural gas producer in Africa in 2016. The country is generally viewed as a world-class oil and gas country with active drilling in four basins, including offshore Mediterranean, where approximately 65 percent of the country's total gas reserves are located. In addition, Egypt serves as a major transit route for oil shipped from the Persian Gulf to Europe and to the United States.

107. **Oil production peaked in 1993 and has since steadily declined as the country's major oilfields matured and investment incentives reduced.** As a result of this drop in oil production and Egypt's continual demand growth, the country became a net oil importer in 2009.

108. **Egypt's natural gas sector boomed in the early 2000s with reserves and production quadrupling since the 1990s.** Following the construction of liquefied natural gas (LNG) export terminals, Egypt *became a significant gas exporter*. Between 2010 and 2012, however, natural gas production slowed down due to a number of factors, including: the lack of political stability and security; reservoir maturity; mounting fiscal deficits and deteriorating external liquidity; no new petroleum agreements; and decreased investments. Moreover, except for the facility operated by the Middle East Oil Refinery (MIDOR), the refinery sector has suffered over the past few decades from significant underinvestment, which resulted in low utilization rates that caused Egypt to export crude oil that cannot be processed domestically and to import refined products.

109. **After the country restored political and security stability in 2013, the government adopted a series of measures to reverse the decline of Egypt's oil and gas sector's reserves and production.** This included taking steps towards energy subsidies' reform, increasing gas sales prices from new blocks by 40-120 percent to incentivize production, auctioning of large exploration acreage at competitive terms, allowing onshore producers to export 50-75 percent of the oil share the state can claim, reducing EGPC's arrears by half to \$2.5 billion as of February/March 2018. In parallel, to restore supply-demand balance, Egypt secured LNG import contracts to bridge the short-term supply-demand gap, through a Floating Storage and Regasification Unit (FSRU) that has been in operation since March 2015 and a second one being commissioned from October 2015, fulfilling c.25 percent of Egypt's domestic demand.

110. **The restart of Egypt's natural gas sector came about with the discovery of the Zohr gas field (Eni) in August 2015.** Zohr with a total potential of 850 bcm of gas in place, is the largest natural gas field ever discovered in the Mediterranean. The fast track development of Zohr, combined with that of the West Nile Delta (BP) and the smaller Noroos (Eni), North Alam El Shawish (Shell) and Atoll (BP) have allowed Egypt to replenish most of its gas production, on track to regain a gas surplus by 2019. This positive momentum allied with the country's established oil and gas infrastructure, low cost fields and attractive terms within the existing production sharing contracts (PSCs), have all boosted investor confidence and attracted new entrants to the sector.

111. **While Egypt’s hydrocarbon demand is set to continue to grow – even as the government makes efforts to diversify its energy mix away from hydrocarbons (currently 95 percent of the energy matrix) – the future of Egypt’s gas supply capacity is less clear.** After a brief period of oversupply anticipated to begin in 2019, gas imports are expected to have to restart in 2022 in order to keep up with demand growth. Some producing legacy gas fields experienced high rates of decline in production (12 percent annual average), while the new discoveries have varying production plateaus ranging from 11 to 18 years (Atoll, Zohr) to a much shorter 3-5 year span (Noroos, West Nile Delta). Egypt can sustain or expand its gas supply capacity only if further discoveries are made and are subsequently developed.

*The Government has initiated the “Oil and Gas Sector Modernization Project” with the aim to develop a modern and efficient oil and gas sector. A reform of this magnitude is about more than redefining responsibilities and reporting lines, - it is a cultural change in the way the sector has*

112. **Much of the territory (>70 percent) is unexplored, and there is high potential for unconventional reserves.**

Tapping into this potential, however, will require, among other things, regular repayments of EGPC arrears to provide the needed certainty for private exploration and production (E&P) investments, more investment in innovation and research, simplification of processes and policies dealing with concessions, and less duplication of upstream activities across small companies. Additional supply will be coming from Israel Leviathan field by reversing the existing pipeline flow.

113. **The Government has an ambitious vision for the sector.** The “Oil and Gas Sector Modernization Project” (Modernization Project) was launched in June 2016 by the Government of Egypt. It enjoys strong political support and ownership at the level of the Minister of Petroleum, the Prime Minister as well as the President of Egypt. It has a reform agenda including: i) *Increasing FDI inflows to the country*, with additional license rounds and new fiscal models which are expected to attract more FDI; ii) *Improving financial stability and the fiscal balance*, - the Project is expected to enhance the sector’s profitability in three years from: profit (US\$2 billion), enhanced production (US\$3 billion), operational excellence (US\$3 billion), demand management (US\$3 billion); and iii) *Enhancing governance and accountability in institutions* through introducing a clear demarcation of roles and responsibilities between the Ministry of Petroleum as a policy maker, an independent regulator for regulations and operating companies focusing on running viable commercial operations. The Project expected to generate several opportunities for private sector participation (See Table 2.12 for a list of anticipated investments for the oil hub).

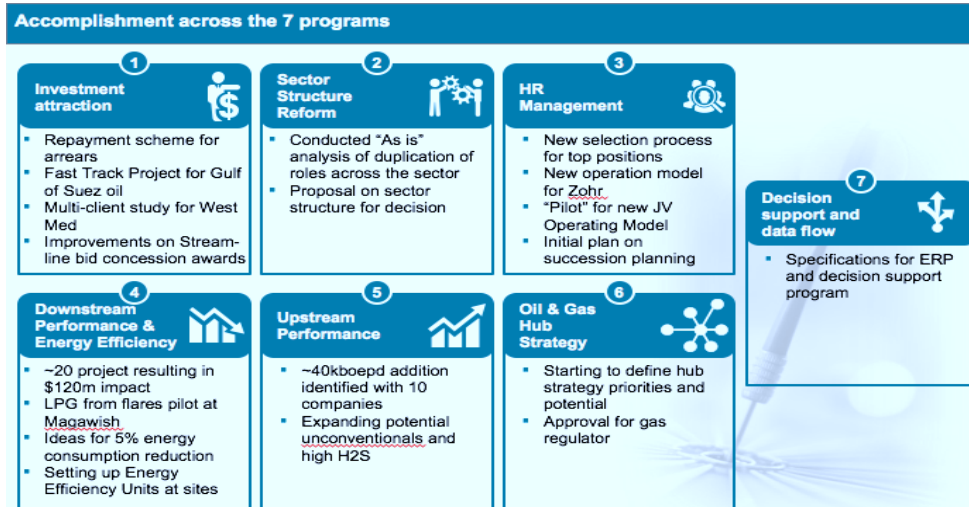
114. **In addition, Phase I of the Modernization Project articulated the vision for the sector as:** “by 2021, continuously unlock the sector’s full value chain potential as a growth and a sustainable development engine for Egypt, achieve financial sustainability, become a leading regional Oil and Gas hub and be a role model for the future of modernized Egypt”. It also identified the core values for the sector as “safety, innovation, ethics, transparency and efficiency”. Phase I culminated with the comprehensive design of seven programs and activities for the Modernization Project (Figure 2.2). It also laid out a comprehensive institutional structure to support it with a Realization Office (“RO”) to drive implementation. The RO reports to a Steering Committee, which is headed by the Minister of Petroleum and comprised of Chairmen of key State-Owned Companies as well as senior officials of the MOP.



*Opportunities and options for leveraging commercial capital or private investment*

115. **Phase II of the Modernization Project has, thus far, primarily focused on achieving quick wins and launching improvement efforts to create change early, maximize impact and achieve the desired results.** Implementation of phase 2 of the Modernization Project – supported by the World Bank and the United Kingdom’s Strategic Partnership for Egypt’s Inclusive Growth (SPEIG) UK Trust Fund has started in early 2017. The main accomplishments of the first months of phase 2 of the Modernization Project – up to August 2017 - are compiled in figure 2.2 below.

**Figure 2.2 Main Accomplishments of the First Months of Phase II of the Modernization Project**



116. **The Modernization Project is expected to generate several opportunities for private sector participation** – even if not outright privatization which is politically not acceptable – in Egypt’s oil and gas sector. For one, as per the proposed new sector structure, the sector’s 105+ investment companies established under the framework of the Investment Law are to be consolidated under four holding companies (see Figure 2.3). Once the consolidation takes place and the respective balance sheets are clean (with assets and liabilities) these new holding companies could be considered for enhanced private and commercial financing. This is particularly true for the downstream companies, since for the upstream and the JVs, all CAPEX and OPEX is supplied by private contractors.

117. **Program Six (6) of the Modernization Project – the oil and gas hub strategy – is also set to generate several opportunities for private sector participation.** Inspired by Egypt’s unique geographical location, good ties with the Middle East and direct access to maritime distribution channels, the Egyptian government is seeking to develop a regional oil and gas hub that creates export opportunities, improves regional integration, encourages upstream investment and promotes market-prices in Egypt. While no decision has been made yet as to the how to develop a regional oil and gas hub in Egypt, the Modernization Project has put forth strategic options that are currently being analyzed (Box 5).

Figure 2.3. Proposed consolidation of existing investment companies

Upstream Oil & Gas company <span style="float: right;">44</span>	Downstream oil company <span style="float: right;">28</span>	Gas downstream company <span style="float: right;">9</span>	Projects and services <span style="float: right;">25</span>
<ul style="list-style-type: none"> <li>42 joint ventures focused on Oil &amp; Gas (Gazwarina, Petrozenima, PetroSinal, Gulf, Waspitco, Osoco, Comompo, Marina, Petrofauvem, Petromalaha, Fanpetco, Petrozeti, Alamiem, Mansoura, Bed-1, Maqapetco, Capco, Hamra oil, Burapetco, Zaitco, West baker, Petrosannan, South Dabaa, Eshpetco, Gempetco, Amapetco, Petroquif, PetroSilah, Norpetco, PetroDara, PetroAmir, Suco, Petroshahed, Bapetco, Qarun, GPC, Agiba, Cupco, Petrobel, Khalda)</li> <li>2 operating companies, one fully owned and one with external shareholders (GPC and Tharwa)</li> </ul>	<p><b>Refineries</b></p> <ul style="list-style-type: none"> <li>8 refineries with 100% ownership (APRC, SOPC, APC, CORC, ASORC, NPC, Tanta)</li> <li>2 refineries with external shareholders (MIDOR, ANRPC)</li> </ul> <p><b>Petchem</b></p> <ul style="list-style-type: none"> <li>7 petchem investment companies (SIDPEC, Ethvdco, Elab, Estervnics, MOPCO, Emethanex, EIPT)</li> <li>1 fully owned petchem plant (EPC)</li> </ul> <p><b>Oil transport</b></p> <ul style="list-style-type: none"> <li>5 crude &amp; product transport companies (PPC, Sumed, Altube, Petroleum Arrows, MIDTAP)</li> </ul> <p><b>Retail</b></p> <ul style="list-style-type: none"> <li>3 fuel retailers (Misr Petroleum, COOP, Petroneel)</li> <li>2 natural gas stations (Petrogas, Butagasco)</li> <li>2 gas bottling companies (Car Gas, Gas Tech)</li> </ul>	<p><b>Gas transport &amp; storage</b></p> <ul style="list-style-type: none"> <li>1 grid company 100% owned including processing plants (Gasco)</li> </ul> <p><b>Gas distribution</b></p> <ul style="list-style-type: none"> <li>5 gas distributors for different regions (Town Gas, Egypt Gas, Cairo Gas, ReGas, Sinai Gas)</li> </ul> <p><b>Gas processing</b></p> <ul style="list-style-type: none"> <li>3 companies for processing plants (UDCG, SeGas, EGBDCO)</li> </ul>	<ul style="list-style-type: none"> <li>2 Drilling cos (EDC, Sino Tharwa)</li> <li>4 Oil field services (EPSCO, Tanmia, Sinai for mining &amp; petroleum, ECGS)</li> <li>4 manufacturing companies (IDM, EPHH, TBPSCO, EVACO)</li> <li>2 maintenance service cos (Petromaint, San Masr)</li> <li>4 construction and projects companies (Petroiet, ENPPI, EPROM, PMS)</li> <li>4 other (Gas Cool, PAS, Petrosafe, OGS, Petrotrade)</li> <li>5 non-core companies (Petroport, Aquaparis, WGS, SSO, Sianco)</li> </ul>
O&G value chain companies are all core and will stay			Managed by PE portfolio

### Box 5 Options for the Oil and Gas Hub

#### Options for the Gas Hub

For the gas hub, the proposed strategic options are reforms-heavy and investment-light due to existing gas infrastructure over-capacity in Egypt. They are:

- **Option A - Constrained Opening of the Gas Market by 2020 (Large I&C sector):** Involves combination of Egyptian production and other EastMed production; includes LNG export. Investments include pipelines from East Med production (e.g. Cyprus) to Egypt, which is a candidate for private and commercial financing.
- **Option B - Power Play:** Builds on option A and brings larger gas volumes to IPP's and state-owned generation companies into the trading market. No gas investments anticipated apart from systems development.
- **Option C – Fully Liquid, Traded Gas Market:** Options A and B are prerequisites. It includes the full industrial sector and the establishment of a virtual hub with many more players including from neighboring markets, offering a basis for a paper market. No gas investments anticipated apart from systems development.

#### Options for the Oil Hub

Five options have been identified. Options A, B and D are investment heavy (IH), and options C and E are reforms-heavy (RH).

Options that can start immediately:

- **Option A – International Bunkers (IH):** This option sets to explore an expected bunker deficit in the international market, leading to higher prices and margins. It involves the construction of 200-300 km<sup>3</sup> terminal at East Port Said and possible interconnections between Port Said and Marine Teminal in Suez and Ain Sukhna, plus upgrade of existing pipeline.
- **Option B - Transit Med-Suez and Transit Suez-Med (IH):** This option aims to explore the opportunities linked to breaking bulk for northbound traffic, building arbitrage cargoes

southbound and cargo trading/blending/contango and seasonality plays. It requires construction of a new port facility on the Mediterranean Coast (e.g. Al Hamra); pipeline links from Ain Sukhna to Suez; construction of 1,000,000 cubic meters oil terminals at both Suez and Med Coast/El Hamra as a first phase (up to 5,000,000cubic meters).

- Option C: Domestic and International Markets integration (RH): This option requires downstream sector unbundling, supply chain optimization and prices based on free competition. Risk for competitiveness of existing refineries.

Options that can be subsequently developed:

- Option D: Development of Regional Trade (IH): This option requires unbundling of downstream oil to invite open access along the supply chain, supply chain optimization between local production/import/export, marketing prices based on free competition. It could involve investment in a competitive (i.e. complex) refinery (e.g. Midor).
- Option E: Development of Paper and Derivative Markets (RH): This option requires a robust and well-functioning physical market, with price discovery for principal traded grades, unbundled downstream markets and private equity refining. No new oil investments anticipated apart from systems development.

118. **Finally, Program Four (4) has planned to conduct a strategy (or Master Plan) for the downstream refinery and petrochemical sub-sectors that is expected to uncover additional opportunities for private sector participation.** Egypt currently has eight refineries with a low complexity and consequently low or negative commercial margins (Midor being an exception). In case these refineries would have to compete with foreign refineries for the market in Egypt, they would likely be uncompetitive. EGPC has planned several billions of dollars of investment for various projects to increase the efficiency and quality of the refineries, all of whom make sense on a stand-alone basis, but are in fact uneconomic sub-optimizations. The strategic options that need to be considered in light of both commercial and supply of jobs considerations are: i) Continue with the current infrastructure and its optimization; ii) Restructure the sub-sector to create a more limited number of more competitive refineries; iii) Construct a complex state-of-the-art refinery and close the remaining refineries (in 5-6 years' time a second refinery would be required to meet demand); or iv) Close all refineries and import all petroleum products for the domestic market from competitive refineries in the region. Each option would have a different investment profile. A similar strategic review of the 7 petrochemical companies is to be conducted.

*Binding constraints to achieving sector objectives*

119. **Despite the successful developments in recent years, Egypt's oil and gas sector is still facing significant challenges, both nationally and internationally.** *At the international level,* Egypt's oil and gas sector prospects are affected, among others, by low global prices, with limited prospect for recovery, by the geo-political and economic instability in MENA region, by the acceleration of development activities in competing countries, by Iran's reentry in the global oil and gas market, and by the rise of alternative fuels globally. *Domestically,* the sector is being undermined by its suboptimal structure and inefficient governance characterized by overemployment with underdeveloped skills and no clear development and succession plans. Furthermore, the oil and gas sector is structured around a single buyer model (SBM) whereby the Ministry of Petroleum holds the natural monopoly and the Egyptian Natural Gas Holding Company (EGAS) and the Egyptian General Petroleum Company (EGPC) have exclusive access rights. The promulgation of the Gas Law in July 2017 and its Executive Regulations in February 2018 are two major milestones in the modernization of the gas sector. LNG allows for private

participation, and passing ratification of the Gas Law paves the way for a competitive wholesale market for gas, supports entry of private investors, and introduces third-party access to the network. Still, end-user prices are discriminatory and independently determined (e.g. different prices by sector, subsidized pricing). As often is the case with these types of market structures, incentives are skewed in favor of political and/or administrative considerations, leading to complex, slow decision-making and suboptimal results for both the sector and the economy. Another important challenge is the large and growing domestic demand, especially for gas, which has been designated default supply priority in view of heightened public pressure.

**120. The Sector Structure Reform Program, in the context of domestic issues, will serve as a basis for a modernizing the sector by introducing new ways of working, and separating the execution, policy and regulatory roles.** The design principles that were adopted in developing a new sector structure for Egypt’s oil and gas sector include: 1) Improving governance across the sector; 2) Balancing social and commercial needs; 3) Focusing on value creation through increased efficiency and effectiveness; 4) Adopting agile decision making including improved resource allocation and use through redeployment; 5) Minimizing duplication of functions across levels; 6) Minimizing political interference, and maximizing role clarity.

**121. Additionally, for the opportunities mentioned in Programs Four and Six, to work, the following market reforms need to be implemented:** 1) Adoption of international pricing for petroleum products and chemicals, 2) Open access to the domestic market, 3) Alignment of the PSCs with international gas markets and pricing, and 4) An updated masterplan for the downstream.

**122. The success of this restructuring is not assured however.** Despite the effort made to engage the broader set of people, the Modernization is still not “real” for many people in the sector. Moreover, there is an absence of a strong handle on the financial aspirations and impacts of the Modernization, including baseline, target potential and specific ideas that generate value across multiple time horizons – short-term, medium-term, long-term. Furthermore, there are significant budgetary constraints – the funds required to attract sufficient capable leaders and external/experienced support to drive sector modernization are 10x higher than what is currently available.

#### *Recommendation Action Plan*

**123. New measures are underway to reverse the decline of Egypt’s oil and gas sector’s reserves and production and to improve investor confidence.** This includes taking steps towards reforming energy subsidies, namely by: increasing gas sales prices from new blocks by 40-120 percent to incentivize production; auctioning of large exploration acreage at competitive terms; allowing onshore producers to export 50-75 percent of the oil share the state can claim; liberalizing the gas market, including setting-up an independent gas regulator; and reducing EGPC’s arrears by more than half to \$2.0-\$2.5 billion by Q1 2018. The subsector is still highly dependent on subsidies (3 percent of GDP in FY’17). Tariff reform currently underway is expected to transition the sector toward cost recovery, while natural gas is already at full cost recovery. The Ministry of Petroleum (MoP) and the MoF together have recently developed an automatic indexation of tariffs to reflect international prices and to adjust prices more frequently. Still, end-user prices are discriminatory and independently determined. Sector reforms have already attracted large investments in recent years and investor interest remains high due to prospects of opening the domestic market and providing access to infrastructure. Going forward, the Government would

need to work closely with the sector to introduce high environmental standards and ensure its readiness to address and manage the associated risks appropriately.

**Table 2.12 Key Reforms Underway in the Oil & Gas Sector**

Priority	Objectives	Timeline
<b>Gas market liberalization, gas flaring reduction and energy efficiency across the sector</b>	<ul style="list-style-type: none"> <li>Private sector participants can access gas transmission services on a nondiscriminatory basis, and licenses will be awarded to import, store, and distribute natural gas</li> <li>Energy efficiency initiatives, including capital investments, are implemented throughout the sector.<sup>16</sup></li> <li>Following Egypt’s endorsement of the “Zero Routine Flaring by 2030” Initiative, gas flaring reduction projects including overhaul of the gas flaring regulatory, oversight and implementation framework</li> </ul>	2-4 years
<b>Financial restructuring of existing 105+ sector companies</b>	<ul style="list-style-type: none"> <li>New holding companies are considered for enhanced private and commercial financing. In the short term, this could entail an IPO and the strategic sale of key assets. In the medium term, there is potential for commercial corporate financing.</li> </ul>	3-7 years
<b>Program six – the oil and gas hub strategy</b>	<ul style="list-style-type: none"> <li>Strategic options for development of the oil and gas hub are analyzed, and the approach forward is chosen.</li> </ul>	Decision for the gas hub in the middle of 2018

**Table 2.13. Anticipated Investments for the Oil & Gas Hub**


Project	Description
<b>200-300 km<sup>3</sup> terminal at East Port Said and</b>	Possible interconnections between Port Said and Marine Terminal in Suez and Ain Sukhna, plus upgrade of existing pipeline.
<b>New port and storage facility on the Mediterranean Coast</b>	Construction of a (for example, Al Hamra); pipeline links from Ain Sukhna to Suez; construction of 1,000,000 cubic meters oil terminals at both Suez and Med Coast/El Hamra as a first phase (up to 5,000,000 cubic meters ).
<b>Refinery upgrades</b>	For example, Midor; SOPC (EBRD will be providing a US\$200 million sovereign loan for an overhaul in the refinery to improve its efficiency, utilization rate and processing capacity); Assiut refinery

<sup>16</sup> EBRD recently provided a US\$200 million sovereign loan to finance waste heat recovery in GASCO’s transmission network. Egypt also recently began the *Zero Routine Flaring by 2030* initiative.

---

<b>Cross border gas pipelines</b>	Construction of offshore gas pipelines from the Cypriot Aphrodite and the Israeli Leviathan gas fields to Egypt's gas network
<b>Rehabilitation and expansion of Egypt's gas export infrastructure</b>	Potential rehabilitation of Egypt's two major LNG export terminals in Damietta and Idku to resume gas exports and possible future expansions of those facilities

---





*Sector Overview and Government's Objectives*

124. **The United Nations predicts that by 2025, Egypt may reach the level of “absolute water crisis” of less than 500 cubic meters per capita which will be a serious constraint to the agriculture sector that accounts for over 80 percent of water use.**<sup>17</sup> Egypt has a relatively fixed availability of freshwater compared to the country's rapid population growth, leading to water scarcity.<sup>18</sup> Egypt's population in 1970 at the time of the completion of the Aswan High Dam was approximately 35 million and is currently just under 100 million. As a result, annual per capita renewable freshwater resources have declined steadily over the years from relatively abundant 2,526 cubic meters in 1970 to 663 cubic meters today – well below the critical point of 1,000<sup>19</sup> cubic meters per capita which is defined as water scarcity. While the efficiency of agricultural water use compares favorably with other middle income countries, Egypt's household water use, at 126 liters per capita, is 40 to 130% higher than countries at a similar income level.

125. **Water quality remains a major challenge.** As the vast majority of Egypt's population and economic activity take place in the Nile Basin, the flows and reflows from agriculture, industry and cities are fully linked into an interdependent system which requires strong attention to issues of water quality given their impact on downstream users – be they cities, industry or farms. However, large volumes of non-treated, non-point source contaminants drain into the river and canals, particularly from farms.

126. **Using the Suez Canal zone for industrial development and the Western Desert for agriculture, poses additional water challenges,** particularly when combined with population growth, geographic expansion of settlement and economic activities including expansion into coastal areas for tourism and trade. In all these cases, access to freshwater represents a major constraint to development, necessitating either expensive long-distance conveyance infrastructure for Nile waters, the use of desalination of sea waters, or exploitation of groundwater. The latter is constrained by a combination of limited recharge and depth to the water table.

127. **In terms of infrastructure, most services are currently provided through piped-in connections.** Approximately 2,715 water treatment plants are currently operating with a total capacity 25.3 million cubic meters/day with a network of 165 thousand kilometers. To date, the proportion of the population with piped drinking water reached 96 percent. From 2005, drinking water subscribers increased from 6.5 million to 14.6 million, or an aggregate increase of 125 percent. On sewerage infrastructure, 400 wastewater treatment plants are currently operating with a total capacity of 10.6 million m<sup>3</sup>/day. The sewerage network is estimated at approximately 54 thousand kilometers, connecting 7.37 million subscribers.

128. **More than 75 percent of rural communities have no wastewater treatment facilities and significant wastewater treatment will be required over the next decade to reduce the environmental degradation of the Nile river.** The World Bank estimated that \$14 billion will be

---

<sup>17</sup> <https://www.theguardian.com/world/2015/aug/04/egypt-water-crisis-intensifies-scarcity>, *The Guardian*.

<sup>18</sup> Egypt's renewable freshwater resources are essentially limited to its allocation of the flows of the Nile River. 98percent of Egypt's freshwater comes from the Nile, a transboundary river for which Egypt has an agreed allocation of 55 billion m<sup>3</sup> per year stored in Lake Nasser behind the Aswan Dam.

<sup>19</sup> United Nations Department of Economics and Social Affairs (UNDESA).

required in the wastewater sector to reach 100 percent sewerage coverage by 2022, particularly in rural communities where current coverage is currently at 15 percent. Egypt has targeted achievement of 40 percent connection to network sewerage in rural areas by 2021, and this is particularly important in the context where even rural areas represent dense settlement.

129. **In terms of desalination, most current installations are in Matrouh, the North Coast and South Sinai and along the Red Sea and most plants treat seawater but a growing number of installations are using brackish water.** The current capacities of the installations are generally small, ranging between 500 cubic meters to 10,000 cubic meters /day. Considering the vast reserves of brackish groundwater, there is also great potential for additional development which can be applied at a much lower cost. However, inland brackish water development requires special attention to the disposal of brine, (the highly saline by-product of desalination). Government has recently announced the development of 500,000 cubic meters/day primarily in El Alamein, Al Galla, and East Port Said over the next 5 years, with another 1.1 million cubic meters/day after 2027.

*Opportunities and options for leveraging commercial capital or private investment*

130. **Short-term, opportunities for private sector participation are more prominent in water (including desalination) and waste water.** Private development and financing of desalination installations has evolved spontaneously, largely out of the need to secure drinking water resources. Private developers have already built their own enclave desalination plants. Most of the installations are dedicated to tourist resorts or luxury vacation communities along the Red Sea and the Sinai, and there is a significant discrepancy exists between the user tariff applied between public and enclave projects. Despite the decision of the Government to put in place a higher tariff for consumers, the difference between the public rate and the enclave rate is quite significant. Moreover, the recent downturn in international tourism may impact demand for new capacity in enclave areas.

131. **There are currently 20 desalination plants under different stages of procurement under public ownership, with another 30 plants under planning** (total capital spending of upwards of US\$ 3-5 billion, with potential additional annual subsidy of anything above US\$ 500 million). Considering that the private sector has developed capacity in this area, it will be critical that the private sector alternative is successfully demonstrated. E.g. it is worth considering the DBO model for these plants where only the risk of construction and operation is transferred to private sector and financing remains public through concessional finance. Also, institutional accountability of managing desalination plants needs to be clarified, so as the risk sharing framework and contractual responsibilities.

132. **In the water and wastewater area,** the relative success of the New Cairo Wastewater Project has led to the announcement of several other initiatives, namely, the 6<sup>th</sup> of October Wastewater Treatment Plant and the upgrade of the 1.2 million cubic meters/day of Abu Rawash plant for an estimated cost of US\$500 million. That being said, the 6<sup>th</sup> of October plant had been cancelled for technical reasons, and the Abu Rawash upgrade was cancelled as a PPP and later publicly funded. Going forward, other issues need to be addressed first. They are further discussed in the binding constraints section.

133. **In the irrigation area,** Egypt, recently announced an ambitious plan to develop 1.5 million acres in Upper Egypt using groundwater, 700,000 acres of which would be used for agriculture, while the rest would be utilized for urban and industrial development. However, this undertaking



presents complex economic and social issues since it requires sizable infrastructure development as well as incentives for relocation of both industrial agribusiness, and agricultural activities in remote areas of the desert. A strategy of again tapping the Nile for horizontal expansion would seem more beneficial if the country improves its overall water efficiency in the Delta along with reducing the levels of consumption and water losses in the water and sanitation sector.

*Binding constraints to achieving sector objectives*

134. **The fractionalization of functions within the sector is still a problem, and more needs to be done to create additional investment planning capacity and decentralize functions.** The Egyptian Water and Wastewater Regulatory Agency (EWRA) was established in 2006 following Presidential Decree No. 136 as the single agency responsible for regulating WSS services. But since its establishment, the EWRA has not fully assumed all its mandated authority as an economic regulator in the conventional sense. For example, the EWRA still does not determine revenue requirements nor sets or adjusts tariffs, issue licenses, or sets standards or resolve disputes between customers and WSS providers. Instead, it is currently focused on monitoring compliance with technical standards, especially for service quality control and for protecting the environment. It also benchmarks financial and operational performance of WSCs and provides technical assistance for the development and assessment of both governmental projects and PPPs in the sector. Moreover, many functions of the EWRA overlap with those of the Holding Company as well as other units both within the MHUUC structure as well as with other ministries. There are now ongoing efforts to create more investment planning capacity and decentralize other key functions among 3 pilot WSCs. If successful, such a framework could be replicated to the remainder of the HCWW system.

135. **The Water Supply and Sanitation (WSS) sector has been in a very low state of financial self-sufficiency.** The WSS system does not fully cover the variable operations and maintenance (O&M) expenses. Except for the New Cairo Wastewater PPP, the central government currently finances all infrastructure needs in addition to allocating subsidies to shore up the operating financial gap. The holding company does not have the capacity to service debt, and as such, does not borrow on its own account. However, the individual water and sanitation companies (WSC), that provide wastewater services, may have some Viability Gap Financing (VGF) borrowing capacity. Several factors have contributed to this, including: (i) traditionally very low tariffs for all consumer blocks for both water and wastewater services, - far below levels regarded as international best practice for the poorest household consumers<sup>20</sup>; (ii) high per capita water consumption; (iii) poor collection performance; and (iv) high water losses in the water production and distribution process (Box 6).

136. **The GoE has made numerous attempts over at least several decades to address low cost recovery tariff.** In 1985 the Government adopted a National Water Pricing Policy to reach full O&M recovery for water by 1991. Yet, just before the recent tariff increase approved in August 2017, Egypt's water and wastewater tariffs were inordinately low. In 2014, the average tariff was just US\$ .08/cubic meter, and covered only 25 percent of water supply service and 10 percent of sewerage service (HCWW, 2014). Overall, fiscal transfers have been estimated to the total of US\$1.25 billion annually, or 1.25 percent equivalent of Egypt's GDP. Going forward, a more detailed analysis is needed of the trend and structure of costs to determine the actual "bottom line" financial impact, particularly given recent increases in coverage, the depreciation of the Egyptian

---

<sup>20</sup> The guidance is that the monthly water bill for this class of customer should roughly equate to 4percent of household income.

Pound, and the continued price inflation of many inputs. Insofar, the tariffs are still below international benchmarks with the average new tariffs for water and wastewater of just US\$10.4 cents and US\$7.8 cents, respectively. A US\$30 cents rate is typically needed to achieve creditworthy status for a large system implying a net return on revenues of 35 percent. Equally, tariffs for non-household classes could be increased substantially further since industrial and tourism establishments often consume more than 40 cubic meters of water per connection, and issues of affordability are traditionally less of a concern for these customer classes. Further improvements could also be made by eliminating the approval protocols for inflation related increases by indexing tariffs to the CPI, especially for electricity costs. Allowing the independent regulator to fulfill its tariff setting role, can significantly reduce political pressure to appease constituents by keeping rates low. The new tariff proposal aimed at setting—and linking—water and sanitation tariffs, subsidies, and cost-recovery goals is currently being considered. The rate revision was also supported by the IMF as part of its \$12 billion loan program, but was also driven by a recent tariff increases for electricity and fuel.

### **Box 6. Key Factors Contributing to Low Financial Self-Sufficiency**

#### Non-revenue Water

- Total water losses in the production and distribution cycle totaled 2.7 billion cubic meters or a total system average of 30.5 percent. Non-revenue water at the aggregate level can be regarded as within borderline performance.
- However, significant improvements can be tackled at the company level to reduce not only pumping and treatment costs, but also to slow down the need for new CAPEX development. Within such a large system, a reduction of NRW to say, 20 percent can free up almost 1 billion cubic meters, or an equivalent of five 500 mld drinking water treatment plants at a potential investment cost between \$.750 - \$1.2 billion, depending on installed rated capacity.

#### Collection Performance

- Collections of service revenues has also been a persistent problem with an aggregate collection ratio of just 52 percent<sup>21</sup>. Governmental accounts were cited as the major problem, which amounted to LE 1.4 billion in receivables outstanding. In turn, the WSCs have withheld payment for a total of LE 1.7 billion<sup>22</sup> for electricity charges to reconcile the deficiency in subsidy payments from the Ministry of Finance.
- Recently, measures have been taken to increase financial accountability at the level of the WSCs. Performance based transfers have been introduced on a pilot basis for WSCs in three governorates of Beheira, Dakahliya, and Sharkiya, While these measures are far from sufficient in and of themselves to move the WSCs significantly towards financial sustainability, they are unequivocally necessary.

#### Water Consumption

- For fiscal year 2015/16, the average consumption was 203.9 per capita liters per day, while in Cairo and neighboring Giza – 576 and 392, respectively. These are extraordinarily high figures against other benchmark countries, even under the assumption of an average household size of 5.8 individuals.
- Addressing this issue would require revising the block structure and charging substantially higher increases for households consuming 40 cubic meters and more.

<sup>21</sup> HCWW 2015/2016

<sup>22</sup> Tariff Restructuring, Potable Water and Wastewater Sector, November 2014.

*Recommendation Action Plan*

137. **The government has made numerous attempts over at least several decades to address low, cost-recovery tariffs, and in August of 2017 took another major step.** The GoE approved a one-time increase for all consumer classes and tariff blocks ranging from LE .45/cubic meter to LE 2.15/cubic meter for households to a top rate of LE 6.95/cubic meter for non-households. Going forward, while the new tariff regimen is a significant step forward for addressing the financial needs of the sector, additional interventions are needed (Table 2.13).

**Table 2.13: Key Reforms in the WSS**

Priority	Description
<b>Improving collection efficiency and reducing both technical and commercial water losses</b>	Improvement in these areas can substantially increase the financial viability of the WSCs, which would increase their own borrowing capacity. Measures have been taken to increase financial accountability at the level of the WSCs by introducing performance-based transfers in three governorates on a pilot basis, but more progress needs to be made. (including implementing PSP solutions under performance based contracts or other structures)
<b>Setting tariffs and modifying the tariff structure for drinking water to consider the ever-reducing per capita resource levels</b>	The rate of consumption is extremely high, and needs further attention.
<b>Tariff policy that better reflects water conservation objectives</b>	This would involve revising the block structure and charging substantially higher increases for households consuming 40 cubic meters and more. The individual block also warrants some review.
<b>Revision of tariffs for non-household classes</b>	These tariffs could be increased substantially further since industrial and tourism establishments often consume more than 40 cubic meters of water per connection, and issues of affordability are traditionally less of a concern for these customer classes.
<b>Strategic financial planning (SFP) exercise for the WSS sector</b>	A sector-wide dynamic financial model could be used to accomplish the objectives of the SFP: (i) evaluate how to make the most of the existing financial resources by extracting all potential efficiency gains from the system, including collections; nonrevenue water (NRW) as well demand management actions, (ii) define realistic targets for performance improvements and expansion of facilities within achievable timeframes; and (iii) identify the need and opportunities for and potential sources of additional financing. Additionally, the SFP exercise could focus on identifying low-cost effective wastewater treatment technologies with a view to adopting them longer term.
<b>Improving Governance</b>	Areas that deserve further attention involve: (i) allowing the regulatory agency to exercise its full powers to ensure that tariff adjustments are carried out on timely basis and are done on the basis of a transparent process and a cost-based formula; and (ii) providing further rationalization of the functions that are duplicative and increasing the capacity of WSCs for carrying out their own planning and financing arrangements.

*Sector Overview and Government's Objectives*

138. **Agriculture is an important sector in Egypt**, combined with agribusiness, these sectors contribute about 35 percent of economy's domestic product. Agriculture provides jobs for about 22 million Egyptians (which is above a fifth of the total population. The food system (including primary agriculture and agribusiness) contributes close to 20 percent of total exports from Egypt (agriculture contributes 2.5 percent of the total merchandize export). The sector has two dominant farming systems: while small scale (80 percent of farmers less than 3 feddans of farm land) and irrigated land are predominant in the old lands, state-of-art large farms are common in the new lands. The Government subsidizes the sector with a value of 6 percent of the country's GDP as of 2014.<sup>23</sup>

139. **A combination of key domestic reforms and brightening global prospects has opened an important window of opportunity for Egypt's agriculture and agribusiness sectors.** Recent initiatives, such as the floating of the Egyptian pound, subsidy reform, and reforms to investment and licensing processes (such as adoption of the new Investment Law and Industrial Licensing laws), have built a strong platform from which to lift the industry to a new level.

140. **Egypt's potential in the agriculture and agribusiness sectors is high.** Egypt has a negative agricultural trade balance, which was about US\$ 11 billion in 2014. Approximately 40 percent of Egypt's total export revenue—agricultural and non-agricultural export revenue—is spent on importing agricultural commodities. Although Egypt's agricultural exports have increased four-fold during the past 10 years, it is estimated that the untapped export potential in the agriculture and food sector is at least US\$10 billion.

141. **Agricultural products with the greatest export potential include fruits, vegetables, dairy products, and other food products** (such as food preparations and vegetable saps and extracts), with an untapped export potential of US\$ 1.6, 0.8, 0.8, and 1.3 billion respectively. Half to two-thirds of the export potential is not realized in these products. Among the specific food items with the largest export potential include oranges and processed cheese with an untapped export potential of US\$ 953 million (about twice the actual export value) and US\$ 552 million (almost three times the actual export), respectively. In agreement with the ITC database, a 2016 FAO report used data from FAOSTAT to show that edible vegetables; edible fruits and nuts; Lac

AGRICULTURE

*It is estimated that the untapped export potential in this sector is at least US\$10 billion*

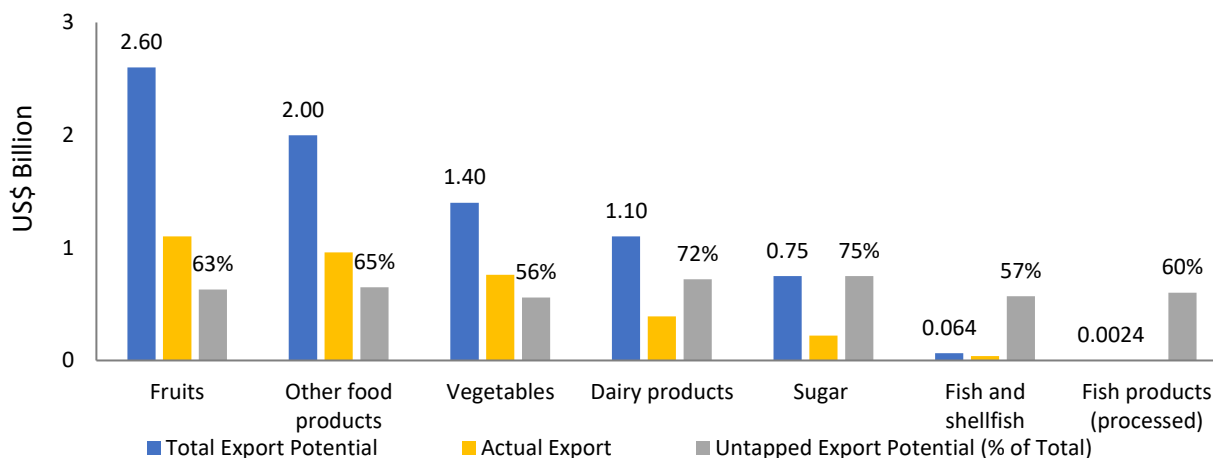
*Issues of water and land resource management are the two key constraints that prevent Egypt from realizing its full potential in the sector.*

*Key areas of challenges in Egypt's agriculture sector center on the need for more sustainable water and land resource management, along with the enhanced value addition, increased efficiency, and the need for reducing waste.*

<sup>23</sup> It should be noted that subsidies are under reform and have been reduced significantly over the past year

(gums and resins); preparations for vegetables and fruits; and sugars and sugar confectionary are the top five agricultural commodity groups with the maximum potential for export. This being said, just above half of Egypt’s agricultural exports is processed, with fruit and vegetable contributing about 56 percent of all the processed agricultural food export while dairy products have a share of 23 percent. Further developments are needed in the food processing sector as a sizable share of the processed food export is only semi-processed and with small value addition.

**Figure 2.4 Commodities and their corresponding export potential**



Source: <http://exportpotential.intrace.org>

*Opportunities and options for leveraging commercial capital or private investment*

142. **Egypt’s geographical location provides easy access to major markets in Europe, the Arab countries, Africa, South America and Asia**, with relatively well-developed port and sea transport infrastructure network. Egypt has a great climatic condition with long and multiple growing seasons. Overall, Egypt is considered an attractive and profitable investment destination by agribusinesses and other sector investors due to its sizeable domestic market and its proximity to many large markets.

143. **Egypt has a large and fast growing domestic market. Egypt has the biggest consumer market in the Middle East and North Africa region.** Total household consumption is estimated to reach around US\$300 billion by 2021 (up by 36 percent from 2016). Assuming food spending to represent on average 30 percent of the total household consumption expenditures, the total food market size is estimated around US\$90 billion equivalent. To fully respond to this significant opportunity, however, a new wave of reforms and public investments are needed to address the remaining binding constraints.

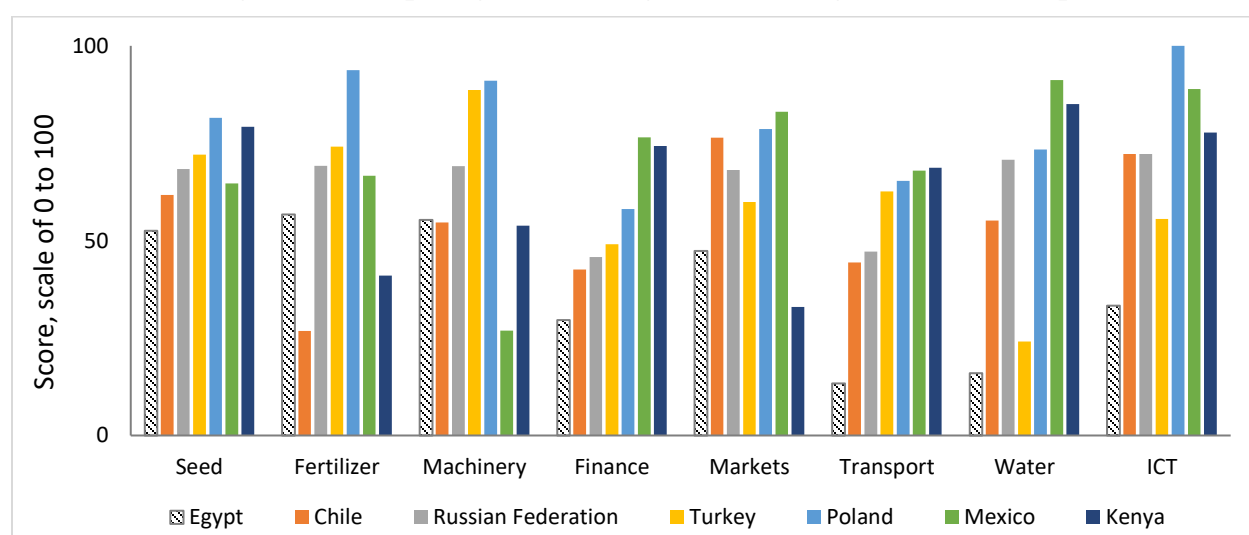
*Binding constraints to achieving sector objectives*

144. **Water resource scarcity and high losses along key value chains** (half of which comes from lack of logistics and marketing infrastructure) lead the challenges faced by the agricultural sector. While the Nile water resources have been decreasing due to a rapid rural population growth, climate change will have further reducing impact of the Nile water. Agriculture in the desert (drawing from the Nubian Sandstone Aquifer (NSA) carries the risk that markets, particularly in the developed countries, are becoming increasingly socially and environmentally responsible.

Losses along key value chains average at around 30 percent, ranging between 10 percent and 50 percent depending of the value chain. About half of the losses result from the poor, or lack of, access to logistics and marketing infrastructure.

145. **Transportation and access to agricultural finance represent two other major constraints.** The Enabling the Business of Agriculture 2017 report ranks Egypt 61 (out of 62) countries in terms of transportation facilities that are relevant to the agricultural sector, with a score of 1 (on a scale of 1 to 11) for trucking licenses and operations, for instance. Egypt’s score is also quite low for the indicators of finance and ICT in agriculture. Improving access to agricultural finance is key to transform the agricultural sector into an attractive commercial business sector. Addressing this challenge will increase investment in the sector as the estimated potential demand for microfinance stands at 10 million individuals and micro-entrepreneurs.

**Figure 2.5 Comparing the Enabling Factors for Agricultural Development**



146. **Other main constraints include:** (i) Fragmented agricultural land and lack of aggregation facilities. Such high fragmentation of land does not allow for increased production efficiency, and also limits access to markets for the smallholder farmers; (ii) Lack of a extension services does not allow farmers receive advice on good practices and suitable technologies, which would help them maximize productivity (iii) Underdeveloped farmer cooperation and connecting to value chains (iv) Lack of new technologies available to the sector participants, in particular the small farmers, which do not permit efficient production and transportation of the agricultural produce. (v) The share of processing in agriculture is still low, around 10 percent. (vi) Need for improved education and skilling in the sector, as the current level and sophistication of skills often do not meet requirements of the agriculture and agribusiness sectors; (vii) Climate change could further exacerbate the limited water resource issue and have significant adverse economic impacts in Egypt.



147. **Ultimately, driving enhanced value addition and reducing waste and inefficiency through high potential value chains would result in increased exports, higher incomes, and better jobs.** Introducing modern technologies would help increase efficiency and link smallholder farmers, who represent 80 percent of the agriculture sector, to markets. Overall, hastening the transition to more competitive and formalized agriculture and agribusiness sectors would maximize the employment and income payoffs for Egypt – particularly for youth and women. Exploring options for promoting Egypt as a global hub for product transformation and value addition in the agriculture and agribusiness sector would help relieve the strain on the country’s limited water and land resources, and improve the quality and quantity of jobs.

## PRIORITY INTERVENTIONS

1. *Improving clarity, predictability, and communication of government policies*
2. *Improving its food quality and safety systems by creating a market reputation for its produce*
3. *Drive local value addition and exploit economies of scale through targeted value chain strengthening and spatial solutions*
4. *Improving access to agricultural finance to allow for increased competitiveness*
5. *Land registration and titling to enable land holder to use land as collateral will enhance private sector lending.*

148. **Egypt has made strides over the past year or so to improve the attractiveness for private investment in Egypt.** For instance, the new Investment Law eases certain requirements for investors. The country It has also repealed a number of subsidies in agriculture and agribusiness sectors, increasing the sector competitiveness. Overall, Egypt is considered an attractive and profitable investment destination by agribusinesses and other sector investors due to its sizeable domestic and market and its proximity to a number of large markets. The recommendations, therefore, focus on selected key areas, which were identified as priority areas in need of intervention, to further encourage private investment in agriculture and agribusiness sectors, both domestic and Foreign Direct Investment (FDI). The following five areas were identified as such priority areas for intervention:

I. **Improving clarity, predictability and communication of government policies in Egypt could encourage commercial investment in the agricultural sector.** In this regards, Egypt could take the following measures: i) define the role of the state as creator and facilitator of an enabling environment and develop and adopt a streamlined, consistent, and transparent policy development and promulgation process; ii) ensure benefits from regulatory streamlining and harmonization of processes, ii) boost public-private dialogue (PPD) through a strengthened institutional structure facilitating inter-governmental cooperation and private sector dialogue, heightened accountability, and effective reporting directly to senior decision-makers; iv) improve coordination between the various structures as stated in the Investment Law, that is, the Supreme Council for Investments (overall level), the General Authority for Investment and Free Zones at the investment level and linked to the relevant national Ministries and Agencies; and v) create a multi-stakeholder dialogue forum to ensure transparency and increased response to solving any arising issues that impede investments.

II. **Egypt can transform its agricultural sector by improving its food quality and safety systems and by creating a market reputation for its produce.** It would include enhancing the capacity of the Food Standards Agency to develop a sustainable model; building local capacity



for certification of organic produce systems; and promoting adherence to Hazard Analysis and Critical Control Points (HACCP) and GlobalG.A.P standards to ensure access to global markets through availability of certification of GlobalGAP standards. Adherence to consistent market-responsive food quality and safety standards would encourage creation of “Brand Egypt”, backed by Egypt’s historic name recognition, will enhance its capacity to serve specific market windows; to utilize its processing capability and locational advantage.

**III. Egypt need to drive local value-addition, reduce losses, and exploit scale economies through targeted value-chain strengthening and spatial solutions.** Measures include i) facilitation of small farmer cooperation. This will allow farmers to be effectively include into value chains by enabling agribusiness processors and buyers invest in smallholder production through input supplies, pre-financing, procurement and training and advisory services. This will also increase efficiency of primary processing at farm level. ii) Development and application of an appropriate Information and communication technology (ICT) system to improve the efficiency of production and logistics along value chains. iii) Building new marketing and logistics infrastructure for key value chains. This will include exploration of feasible aggregation platforms and logistics requirements for each of Egypt’s key value chains, including inefficiencies within the supply chains and investment solutions such as strategically located agri-industrial parks. Egypt could learn from Thailand where agricultural value chains are inclusive of smallholders and where the agricultural sector is competitive at a global scale (Box 8).

**Box 8: Increasing agricultural competitiveness- lessons from Thailand’s agriculture**

While increasing labor costs reduced Thailand’s comparative advantage in upstream agriculture in the late 1980s, the competitive advantage at export level has shifted toward operations at the downstream segments of agriculture value chains that are of higher value and processed food products. The share of processed agricultural products made up 26 percent of the total agricultural export in 1992 (up from 20 percent in 2011). This agricultural transformation was possible because of the following reasons. i) *Public investments in enabling business environment and infrastructure*, which enhanced the efficiency of the logistic and business operations of Thai agriculture. ii) *A dynamic private agribusiness sector*. Private food standards such as Thai GAP and modern procurement system for fresh foods by the agro-industry and supermarkets have all contributed to building export competitiveness of Thai agriculture. The cassava industry, which Thailand has the largest world market share, is an example where innovative public-private partnerships led to a competitive sector. iii) *Modern supply chains which were created by processors and supermarkets and which were inclusive of farmers*. These supply chains were arranged in such a way that farmers supply the required products at the pre-determined quantities, standards (or quality) and prices, whereas the processors/contractors provide technology know-how and essential inputs. There is two-way information flow (besides goods and finance) that strengthen the business relations between farmers and contractors. iv) *Effective agribusinesses that could respond to changing food safety and quality requirements of high-income countries*. Foreign Direct Investment from advanced economies and joint ventures in food processing industry played a role to keep high quality standards.

**IV. Improving access to agricultural finance is key to transform the agricultural sector into an attractive commercial business sector.** The following measures would increase rural finance. i) Fully commercialize the agricultural bank of Egypt to ensure more level playing field for other commercial banks willing to finance agriculture; ii) develop microcredit for agricultural production purposes. This will increase investments to the sector as the estimated potential demand for microfinance stands at 10 million individuals and micro-entrepreneurs. iii) Adopt eWalet using ICT to integrate small and medium enterprises (SMEs), administer loan and

input packages, and to build credit history. This would help de-risk agricultural lending. iv) Promote value chain financing instruments to allow for improved cash-flow into the agriculture sector. v) Create structured finance to finance potential innovative PPPs, such as ‘land for desalination arrangements’, or irrigation. vi) Develop credit enhancement products: e.g., a well-designed credit guarantee scheme would further support credit penetration. This could be built on the current credit guarantee framework, which has a clear vision of developing and restructure the company to allow it playing a more active role in financing frontier market. vii) De-monopolize credit subsidies. The subsidies programs in the agriculture sector should be well targeted and subject to good monitoring and evaluation. The channeling of these government programs should be open to all banks and NBFIs.

V. **Land registration and titling will enable land holders to use land as collateral and will enhance private sector lending to the sector.** Estimates show that the total value of agricultural land that can be used as collateral for potential private sector stands at US\$ 84 billion.

*Recommendations and Action Plan*

**Table 2.14. Priority Actions in the Agriculture Sector**

Priority Area	Key Actions to be Taken
<b>Policy</b>	<ul style="list-style-type: none"> <li>• Establish a coordination body/mechanism for review and coordination of policies related to private investments in agriculture (for example, export bans)</li> <li>• Provide access to loans and other government support programs by a wide range of banks and nonbank financial institutions (NBFI), including microfinance institutions (MFI) and leasing companies</li> </ul>
<b>Regulatory</b>	<ul style="list-style-type: none"> <li>• Undertake a planning/zoning exercise to map the agricultural production, industrial manufacturing/processing zones, logistics hubs, and transport routes/systems</li> <li>• Issue regulations on issuance of land titles or long-term leases for new agriculture land, as well as on registering land rentals contracts</li> <li>• Amend Mortgage Law to allow administrative foreclosure for agriculture land</li> <li>• Revise the regulatory framework to promote use of highly efficient information and communication technology (ICT) systems</li> <li>• Ensure regulatory framework for value chain financing instruments</li> </ul>
<b>Institutional</b>	<ul style="list-style-type: none"> <li>• Build capacity of the new Investor Service Center, including a communication strategy</li> <li>• Build capacity (budget, clear mandate) of the Food Safety Agency</li> <li>• Strengthen the food quality certification system in the country</li> <li>• Facilitate smallholder-driven value chain development through farmer cooperation, advisory service development, and market access measures</li> <li>• Develop information system/map for investors: water resource availability, soil quality, ICT service and other support service availability</li> <li>• Develop framework for water resource management in agriculture using ICT and precision technologies</li> <li>• Allow the entry of private investors in the capital of the Agriculture Bank of Egypt (ABE)</li> </ul>

**Table 2.15. Key Priority Actions within the Next Six Months**

Priority Area	Key Actions to be Taken
<b>Government Policies</b>	<ul style="list-style-type: none"> <li>• Build capacity, closely supervise and support the new Investor Service Center</li> <li>• Establish a website under the Ministry of International Cooperation (MIIC)/Investor Service Center to support communications with private sector and investors</li> <li>• Establish a coordination body with representatives of ministries and other agencies setting policies for private investors to review and coordinate proposed policies (such as export bans)</li> </ul>
<b>Land</b>	<ul style="list-style-type: none"> <li>• Issue new regulations on issuance of land titles or long-term leases for new agriculture land</li> <li>• Registering land rentals contracts in the land registry</li> <li>• Review of options for establishing a single land agency that would be responsible for property registration, cadaster mapping, title issuance, property valuation, and provision of land information to government and other users</li> </ul>
<b>Food Safety and Quality</b>	<ul style="list-style-type: none"> <li>• Fully establish, ensure funding of, and empower the Food Safety Agency</li> </ul>
<b>Agricultural Value Chains</b>	<ul style="list-style-type: none"> <li>• Revise the regulatory framework to promote use of highly efficient ICT systems (GPS, satellite-based, and so forth)</li> <li>• Review the success of farmer cooperation modalities</li> <li>• Develop framework for water resource management in agriculture using ICT and precision technologies</li> </ul>
<b>Agricultural Finance</b>	<ul style="list-style-type: none"> <li>• Prepare framework and launch agriculture loan guarantee products</li> </ul>

**Table 2.16. Key Priority Actions for the Short- and Medium-Run**

Priority Area	Key Actions to be Taken
<b>Land</b>	<ul style="list-style-type: none"> <li>• Amend Mortgage Law to allow administrative foreclosure for agriculture land</li> <li>• Establish a single land agency that would be responsible for property, for registration of property, cadaster mapping, title issuance, property valuation, and provision of land information to government and other users</li> </ul>
<b>Food Safety and Quality</b>	<ul style="list-style-type: none"> <li>• Provide the Financial Regulatory Authority (FRA) with jurisdiction over capacity building.</li> <li>• Strengthen the food safety certification system</li> </ul>

---

### **Agricultural Value Chains**

- Make improvements to: (i) undertake a full agribusiness competitiveness diagnostic to explore options building out new marketing infrastructure for key value chains, aggregation platforms, or logistics hubs; (ii) undertake a planning/zoning exercise to map the agricultural production zones, industrial manufacturing/processing zones, logistics hubs, and transport routes/system; (iii) establish zones and issue permits for drone flying for agricultural purposes; (iv) adopt changes in the legal framework to encourage market-based farmer cooperation; (v) provide capacity-building to the public agricultural research system (including increased use of ICT); (vi) develop framework and feasibility of options to provide advisory services to smallholder farmers; (vii) establish regulatory framework for promoting agribusiness incubation
- Review options: (i) open options for promoting private research and development (R&D); and (ii) undertake a review of options for establishing water fees

---

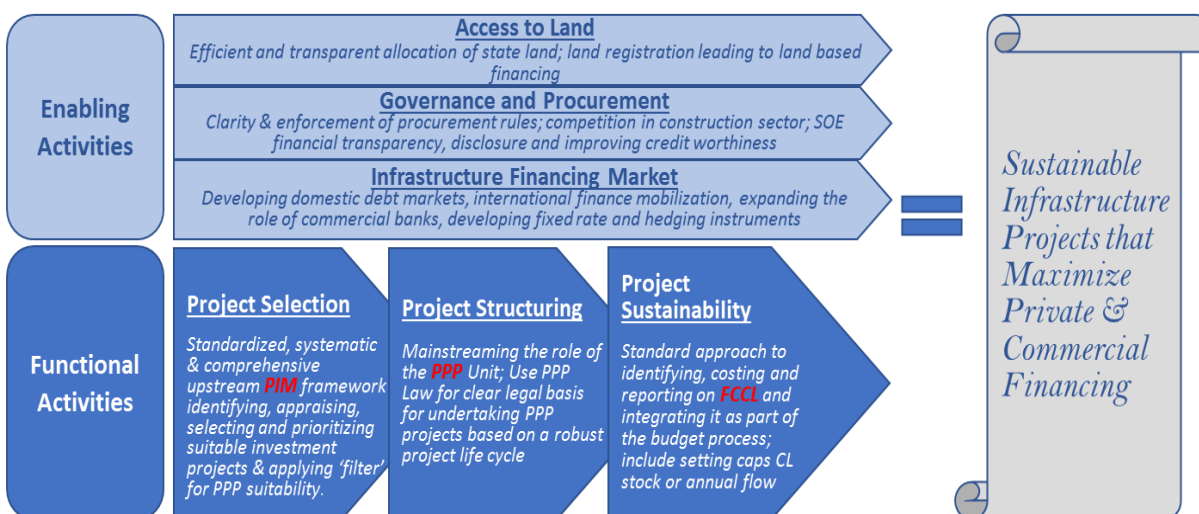
### **Agricultural Finance**

- Take steps to: (i) allow the entry of private investors in the capital of ABE; (ii) review the regulatory framework to encourage value chain financing instruments; (iii) review and adopt the regulatory framework for establishment of a commodity exchange or other electronic platform for price risk management
  - Provide access to subsidized loans and other support programs by a wide range of banks and NBFIs
-

## ADDRESSING CROSS-CUTTING ISSUES: PATHWAYS TO DEVELOPING ROBUST PROJECTS

149. The sector transitions described in Section 2 need to be complemented by actions to strengthen the cross-cutting enabling framework as well as to ensure projects are efficiently prepared and supported by the government (Diagram 3.1). This section looks at areas – access to land, procurement, SOE governance, and infrastructure financing – that are important to all of the sectors considered earlier. It also reviews the steps needed to ensure that only priority projects that can leverage private finance, and are fiscally prudent and sustainable, are offered to the market.

**Diagram 3.1: Addressing cross-cutting issues**



### ENABLING ACTIVITIES

#### ACCESS TO LAND

150. Availability of suitable land with title that is free of any encumbrances, as well as clear land acquisition processes and procedures, is a pre-requisite for building infrastructure, establishing the right-of-way and creating access to infrastructure, as well as expanding the agricultural sector.

#### *Key Findings*

151. Most of the land in Egypt is owned by the Government, and its control is fragmented across different government entities. This makes the process of acquiring land complex. The Egyptian civil code regulates the buying, selling, leasing, or mortgaging of a property, which are essential elements of land tenure systems. Currently, there are two systems for registering properties: a title registration system and a deeds recordation system. The title registration system (*sejel ainee*, introduced by Law 142 of

*According to Doing Business 2018 Egypt stands at a rank of 119 out of 190 economies world-wide for registering property as the processes are complex and lengthy; there is little automation in the property rights system.*

1964) has been applied in rural areas since 1976. The Real Estate Publicity Authority estimates that around 90 percent of agricultural lands is covered by the title system. The second system is the deeds recordation system (*sejel shakhsee*, regulated through Law No. 114 of 1946), which historically covered the whole country, but is now primarily in use in urban areas. The government is aiming to replace it with the title system.

152. **Legal and institutional frameworks governing state-owned land availability for development**, derive from presidential decree No. 62 of 2018 on Land Development Map of Egypt, and sets prerequisites for expanding the custody of key governmental entities to privately-owned state land. The decree stipulates that any land coverage expansion should be: within the framework of the integrated strategic vision and approved strategic plan of the national project; or within the framework of approved sector plans for one of the ministries, governorates or administrative bodies. The decree also clarifies the role of the National Center for Planning State Land, the GOPP, and the Supreme Council for Planning and Urban Development in the process of allocating state-owned land to relevant governmental entities. It should be noted that under the new Investment Law No. 72 of 2017 which replaced the Investment Guarantees and Incentives Law of Egypt No. 8 of 1997 and its Implementing Regulations, the allocation procedures of private land held by the state for investment projects are in line with good global practices. Investors can obtain private land under certain conditions by way of sale, rent, lease or usufruct. Investors are also allowed various types of landholding rights including full ownership. Land may also be given to investors for free if investment projects are solely for development purposes and the land is in one of the areas outlined in the Law.

153. **Egypt has been progressing in improving the land acquisition legal framework.** Law No. 10 on eminent domain has been recently amended to introduce compensation at market price in addition to morale compensation. Two sets of sector level guidelines for land acquisition for both the electricity sector and the petroleum sector were prepared and operationalized by the MoE and the Ministry of Petroleum respectively. The application of the sector guidelines is expected to help in adopting a structured, transparent and effective method for compensation. In the sanitation sector, and as part of the Sustainable Rural Sanitation Program, land acquisition standard operations procedures have been developed and adopted.

154. **Current land value sharing instruments including** Betterment Levy (Law 222/1955), Height Bonus (local administration law 43/1979), and Developer Exaction and Changing Land Use (building law 119/2008) are not being properly deployed.

155. *Key Constraints*

- a) Land value capture sharing instruments are not being effectively applied due to weak institutional capacity at the local level, thus hindering the recovery of investment cost. Also, any revenue generated and collected by a local government, is transferred to the treasury and cannot be used by the local government to finance needed infrastructure and services, thus creating a disincentive for collecting them<sup>24</sup>.

---

<sup>24</sup> The Egyptian government has undertaken several measures to advance fiscal decentralization in the last three years, in accordance with the principals presented in the 2014 constitution. The Parliament is currently scrutinizing the new local administration bill, which is expected to enable local governments to collect and maintain their own revenues and expand the revenue base of the local government. The Minister of Local Development has also issued decree No. 247/2017 with the aim of identifying the legal and institutional reforms needed to enhance local revenues, and the Prime Minister has issued decree No. 2582/2017 to reform the process of undertaking detailed plans and insuring their ability to be implemented, including means to finance needed infrastructure presented in these plans.

- b) Current legal and institutional framework for land registration and property titles are not efficient, and cadaster maps are outdated and incomplete.
- c) The Government is encountering many challenges related to the widespread encroachment on state owned land. It is a major challenge and most of the lands that are assigned for infrastructure projects could have had encroachers that were evacuated without accounting for the potential social risks associated.
- d) There is also a big challenge related to the institutional capacity for conducting Environmental and Social Impact Assessments (ESIAs) and for developing and managing compensation plans.

156. *Key Recommendations (for the next three years)*

- a) Ministry of Justice and the MIIC together with the Land Survey Authority to develop a roadmap that would identify the key legal and institutional reforms that should take place to enable local governments to enhance their ability to apply different land value capture instruments. In this roadmap, existing instruments would be reexamined and the relevance of additional instruments would be explored. In the process, legacy issues related to land should be carefully examined.

*A recent analysis carried out by BMI Research, a Fitch Group company, demonstrated the potential growth of the overall construction sector, with a project pipeline comparable in value to the UAE and Saudi Arabia. Similarly, the transport infrastructure construction segment shows a promising pipeline of projects at the planning or feasibility study stages. A review of market shares by company nationality in the transport infrastructure construction segment shows 59 percent of market share for Egyptian firms, followed by firms from China, France, and the United States.*

- b) GALDP and MoF to organize a roundtable discussion to engage with different actors at the national and local levels to discuss the legal and institutional improvements that could be reflected in the executive regulations of the local administration law, as well as for generating ideas on how to create synergy in the implementation of this law with other related laws, such as building law No. 119/2008 (dealing with the preparation of strategic plans for villages and detailed plans for expansion areas).
- c) GALDP and GOPP to identify local authority pilot areas for developing master plans for the planned expansion and provision of needed infrastructure by applying land-based financing instruments to recover the cost of financing.
- d) GALDP and MoF to draft a new bill that replaces the Better Levy Law with a more relevant and focused land value sharing instruments legislation.
- e) It is proposed to conduct a full diagnostic of the country environmental capacity and readiness and initiate programs for bridging gaps and strengthening local capacities.



*Key Findings*

157. **Limited market competition for the provision of infrastructure and services in certain sectors of the Egyptian economy is resulting in higher costs, reduced efficiency, less innovation and restricted productivity growth.** Limited market competition stems from: (i) the discretionary application of regulatory frameworks that inhibit the entry and operation of new firms, and; (ii) ineffective competition policy enforcement. Transparency and competitiveness will create value for money for contracting authorities and provide confidence to private investors.

158. **The objectives to shift towards private sector-led models in infrastructure require attracting new market participants.** This is in some cases explicit, where the aim of attracting private investment is, in part, to enable competition among providers in the interest of driving efficiency (e.g. in electricity generation). Additional market participants and competition also encourages the entry of those with the skills and experience needed to deploy newer technologies efficiently (e.g. desalination). Moreover, in order to achieve the objective of reducing the fiscal burden from providing infrastructure, risk needs to be shifted to private investors and lenders, rather than to a different set of public sector entities operating in the construction or finance sectors.

159. **Although unified procurement frameworks (Tender Law or PPP Law) apply to the procurement of construction works, the sole sourcing of state owned construction companies crowd out the private sector in practice.** As a result, Egypt's infrastructure construction markets are highly concentrated, and SOEs have a high market share.

160. *Key Constraints*

- a) The Procurement Law does not apply to procurement by SOEs, even though a very significant volume of expenditures in which there is a public interest flow through SOEs, which may be supported by public funds. SOEs may also be exempted from the PPP Law based on the definition of what constitutes an Administrative Authority.
- b) Procurement rules adopted by SOEs are not enforced, or they are by-passed by obtaining exemptions when sole sourcing other SOEs.
- c) Neither the Procurement Law nor the PPP Law establish a hierarchy of procurement methods or a sufficient range of procurement methods. An open, advertised procurement process is not designated as the default method in either case.
- d) The PPP Law mandates dispute resolution through the Petition Committee, whose decisions are final and binding. This may be read as precluding arbitration and other forms of dispute resolution, though the availability of arbitration and other non-judicial means of settlement of disputes in contract execution may be agreed when allowed by the Supreme Committee on PPPs. If arbitration and other forms of dispute resolution are not the default option, it may add an element of uncertainty and be seen and costed as a risk by the private parties.
- e) There is an apparent overlap between the new draft Procurement Law which refers to PPP projects and PPP Law. This may cause confusion and uncertainty in the Contracting Agencies and open up unwarranted causes for challenges and disputes. It would also be seen and costed as a risk by private parties.

- f) Both PPP Law and Procurement Law need stronger provisions related to: transparency, record of procurement proceedings, procedural safeguards for the use of registers of suppliers/contractors, and the requirement to publish a notice of award.

161. *Key Recommendations (for the next three years)*

- a) Egypt Competition Authority should proactively enforce antitrust rules and advocate against bid rigging practices, in addition to raising awareness of the detrimental effects of the lack of competition.
- b) General Authority for Government Services (GAGS) to develop stronger regulations on procurement governance, independent appeals mechanism, procurement audit mechanism and transparency and disclosure requirements. The key areas that need to be addressed are: the further development of legal frameworks; the institutional apparatus for policy making and the oversight of public procurement; the modernization of procurement procedures and methods, and; capacity building.
- c) GAGS and MoF to clarify the applicability of the Procurement Law and PPP Law on SOEs and make legislative amendments accordingly.
- d) GAGS and MoF to remove the overlap between the new draft Procurement Law, which refers to PPP projects and PPP Law.

IMPROVING GOVERNANCE - SOE PERFORMANCE

*Key Findings*

162. **Historically, SOEs in Egypt have had strong political interference, limited autonomy and a lack of transparency;** however, the Government is keen to proactively reform the sector with 475,000 workers in 125 enterprises<sup>25</sup> and has recently reestablished the Ministry of Public Enterprises (MoPE).

163. **Most SOEs don't have strong balance sheets and are not independently creditworthy enterprises** able to access commercial equity (partial or full divestiture; IPO or strategic investor) or debt without sovereign credit guarantee. Creditworthiness is also a concern for private parties entering PPP agreements with SOE.

164. **Key constraints include:** (i) weak corporate governance and state interference in SOE; (ii) that fact that many SOEs are insolvent and thus not creditworthy; and (iii) the current tariffs levels charged by SOEs are usually set below cost recovery levels.

165. *Key Recommendations (for the next three years)*

*The OECD guidelines on SOE governance provide an international benchmark of best practices. Agreed between OECD member states in 2005 and further developed in 2015, the guidelines are recommendations to governments towards efficient, transparent and accountable operation for SOEs. They aim at professionalizing the state as an owner, making SOEs operate with good practices similar to private enterprises, and ensure competition between public and private firms on a level playing field. These guidelines would provide a good template to improve the governance of SOEs in Egypt.*

<sup>25</sup> As stated at: <http://www.egyptindependent.com/state-owned-business-sector-gets-its-own-ministry-new-cabinet/>

- a) MoF in coordination with MoPE should recapitalize insolvent SOEs through an injection of equity capital and the payment of any outstanding arrears as a means of equalizing their balance-sheets.
- b) MoF in coordination with MoPE should enforce good corporate governance structures and practices, with balanced board composition (having an adequate number of independent directors with sector knowledge and finance, audit and legal expertise).
- c) MoF in coordination with MoPE should require SOEs to produce reliable financial statements with adequate disclosures (prepared in conformity with high quality financial reporting standards) which are publicly available together with the external auditors' report. This would entail abolishing the Unified Accounting System currently used by SOEs and adopting the Egyptian Accounting Standards used by listed companies, which are generally in line with International Financial Reporting Standards.
- d) MoF in coordination with MoFE and relevant regulators should work on rationalizing tariffs, where possible, and bring them closer to cost recovery levels. Subsidies should only be targeted towards segments of the population who cannot afford full cost recovery tariffs. Subsidies should be transferred in a timely manner to SOEs if social considerations necessitate selling certain goods and services to citizens below cost.

*Key Findings*

166. **In recent years, Egypt has funded investments in infrastructure mostly through the government budget (in turn funded by the issuance of government securities) and bank loans to SOE guaranteed by the MoF.** There has hardly been any domestic project finance lending. Egypt's leading domestic banks (National Bank of Egypt, Banque Misr, Commercial International Bank, and QNB Ahli Bank) also participated in local tranches of project finance transactions totaling up to US\$ 200 million per project. Local banks lending for project finance has largely been participants in transactions led by international arrangers. When financing PPP transactions that do not involve international arrangers, local banks prefer lending on a corporate finance basis, with the project finance structure wrapped by a full recourse to the shareholders. Other financial instruments such as project bonds, mezzanine debt, asset securitization, swaps and hedging, are not commonly used in Egypt.

*Indicatively, if domestic banks allocated 10 percent of their assets to infrastructure, the associated loan book could amount to US\$ 24 billion. Assuming an average loan life of 8 years (2 years construction plus 12 semi-annual repayments), the top five banks could support an annual financing of US\$ 2 billion equivalent in long-term loans to infrastructure obligors. Assuming infrastructure obligors have a debt-to-equity of ratio 60:40 on average, long-term bank loans could support an annual project volume of US\$ 3.5 billion, equivalent to 1 percent of GDP. In recent years, local banks have not engaged in project finance lending, hence there are no pricing references for such loans.*

167. **Egypt's commercial banking sector is large** (compared with economies of similar size and income per capita), with assets totaling US\$ 260 billion (127 percent of estimated GDP) as of June 2017. The five largest banks (led by 3 state-owned banks) account for 65 percent of sector assets. While liquidity is abundant for local currency loans, domestic lenders have little access to

<sup>26</sup> Egypt historically closed significant project finance deals, notably three large independent power projects (IPPs) in the late 1990s and early 2000s. During the years of 2007-2016, Egypt closed 14 international project finance transactions worth US\$ 11.8 billion, however only two of these deals (Damietta International Port and New Cairo Wastewater) were in the infrastructure sector. All other project finance transactions closed during the last decade were in heavy industries, manufacturing, and oil and gas. Volumes in 2017 were encouraging, with 29 solar PV projects financed in the last quarter, including 13 projects with total cost of US\$ 823 million financed through IFC A and B loans totaling US\$ 650 million, 15 projects financed by EBRD, one by Proparco, and 3 by ICBC (commercial bank). MIGA supported 12 projects both covering equity sponsors and debt by ICBC with exposure up to US\$ 210M. Project finance has been restricted due to lack of creditworthy counterparties and a robust pipeline of bankable projects.

medium-term foreign exchange resources. Hence local banks incur a maturity mismatch in their long-term foreign currency denominated loans.

**168. Most international project financings in Egypt have been undertaken by IFC, EBRD, and other commercial windows of international development agencies.** International commercial banks that have adopted the Basel 3 framework can hardly lend to obligors in countries rated “B” (like Egypt) unless comprehensively covered by export credits or similar guarantees. Once Egypt originates a larger volume of infrastructure finance transactions, international development partners may eventually reach their country limits, and it will be essential to catalyze lending by international commercial banks (which could include Chinese and Middle Eastern banks), export credits from Egypt’s equipment supplier countries, and possibly complemented by foreign-currency lending from domestic banks.

*Egypt’s international peers (economies selected for their comparable size, income level, and long-term credit ratings) achieve annual infrastructure project finance debt volumes ranging up to 1.0 percent of GDP, with a sample average of 0.5 percent of GDP for countries rated between B- and B+ (close to Egypt’s “B” rating). For Egypt, a target of 0.5 percent of GDP would translate into an annual debt volume averaging US\$ 1.5 billion, equivalent to an annual project volume of US\$ 2.1 billion including equity.*

*The Islamic financial market has become increasingly important for financing PPPs. Egypt has an estimated US\$ 15-20 billion worth of Islamic finance resources (7 percent of the banking system). Domestic demand for Islamic instruments is expected to increase when assets with suitable yields become available in the market. There is also scope for regional investors from GCC countries to switch some of their current US\$ 17 billion holdings in EGP-denominated government debt from conventional to Islamic securities.*

**169. Egypt’s securities markets are not well developed.** As of the end of 2017, financial assets in the form of securities were equivalent to only 30 percent of GDP, a level lower than many other MENA economies. Debt securities in Egypt overwhelmingly consist of Treasury bills and bonds (98 percent). Non-government debt securities listed on the Egyptian Exchange (mostly car loans and real estate securitization) amount to less than US\$ 800 million. Corporate bonds are theoretically well-suited to infrastructure, but have not been used by Egyptian obligors since the mid-2000s due to: (i) the lower interest rates prevailing on bank loans (partly because of excess liquidity in the banking system, partly because banks rely on total relationship return, thus loans to prime borrowers are cross-subsidized by non-lending products); (ii) public disclosure requirements; and (iii) the long delays (up to 6 months) required for a bond issuance in Egypt.

**170. Domestic debt securities in Egypt are mostly held by banks.** Non-bank institutional investors are believed to manage investments to the order of US\$ 40 billion, and include: the social security fund (estimated at US\$ 30 billion), pension funds, insurance companies and mutual funds. Assets are mostly invested in government securities, particularly in treasury bills due to the current inverted yield curve.

171. *Key Constraints*

- a) The underdeveloped project finance market and the preference of local banks to lend on a corporate finance basis, with the project finance structure wrapped by a full recourse to the shareholders.
- b) Financial instruments such as project bonds, mezzanine debt, asset securitization, swaps and hedging, are not commonly used in Egypt.
- c) The lack of bankable credit counterparties, except for telecom and certain port operators; most infrastructure obligors are in the public sector. In turn, most state utilities (with the notable exception of the Suez Canal Authority) depend on state subsidies to support their financial standing. Under the current circumstances, few state utilities would be considered credit-worthy by banks without state guarantees - commercial banks are not lending up to their single obligor limits with guarantees due to corporate credit and risk management considerations.
- d) The lack of projects suitable for local banks. Under current regulations, domestic banks can only lend in foreign currency to projects with foreign exchange revenue. Infrastructure mostly provides domestic services and receives domestic revenues<sup>27</sup>.
- e) High, volatile interest rates. At the prevailing interest rates, infrastructure projects would not be able to service long-term local-currency loans except for projects with tariffs allowing for an interest-rate pass-through to the government<sup>28</sup>.
- f) Non-bank financial assets (pension funds, insurance etc.) are mostly invested in government securities, particularly in treasury bills due to the current inverted yield curve.
- g) The potential for Islamic project financing is not being fully utilized.

*Hypothetically, should **non-bank institutional investors** allocate 10 percent of their portfolios to infrastructure, this would translate in holdings of US\$ 4 billion, or an annual investment volume of US\$ 500 million (in EGP equivalent), assuming an average 8-year duration.*

172. *Key Recommendations (for the next three years)*

- a) MoF and CBE to proactively develop a robust project finance market by creating awareness and by ensuring that only viable, bankable and sustainable PPPs are brought to the market.
- b) MoF and CBE to structure a wholesale scheme providing risk-sharing or refinancing facilities to domestic commercial banks engaged in long-term infrastructure finance, such as a contingent subordinated facility supporting senior debt in case of project cashflow shortfall.
- c) NIB<sup>29</sup> to play a more proactive role in mobilizing finance for projects by effectively leveraging the funds it has been provided. An asset recycling facility could be set up using

<sup>27</sup> Accordingly, the domestic banks did not participate in the financing of the recent second-wave solar PV projects (the feed-in tariffs are 70percent indexed, but not payable in, foreign currency).

<sup>28</sup> State utilities that previously borrowed in local currency (at variable rates indexed on the Central Bank's Corridor reference rate) are now saddled with onerous debt-service obligations.

<sup>29</sup> Egypt has a state-owned financial institution dedicated to infrastructure lending and long-term finance, namely National Investment Bank (NIB). NIB's sources of funds include the National Bank of Egypt's investment certificates and Egypt Post deposits. NIB has total liabilities in the order of US\$ 25 billion. NIB finances public infrastructure projects, with no obvious catalytic impact on commercial infrastructure finance; this needs to change



NIB for completed projects, to recycle development capital by issuing local currency project bonds.

- d) MoF and FRA to encourage and facilitate development of fixed-rate and hedging instruments in commercial debt markets allowing both lenders and obligors to minimize their exposure to interest rate mismatch and fluctuation risk
- e) MoF and FRA to proactively support Islamic Financing for infrastructure by finalizing and implementing the regulations setting national norms for instruments such as government and corporate sukus, which are both eminently suitable for infrastructure finance. Originate assets suitable for infrastructure sukus (initially vanilla government sukus, followed by corporate sukus in the medium term).

## FUNCTIONAL ACTIVITIES

### PROJECT SELECTION: CREATING COHERENT STRATEGIC INVESTMENT PLANS: KEY FINDINGS

173. **Currently, the decision-making process for publicly financed projects is not integrated with that of investment decisions made by SOEs, or decisions being made to pursue PPPs;** there is no unified public investment framework for capital projects.<sup>30</sup> There is also no requirement to show that the recurrent cost implications of new investments can be accommodated within the medium term macroeconomic-fiscal framework.

174. **Overall, the public-sector structure in Egypt is extremely complex.** The budget process involves the central Government comprised of 33 ministries and entities under those ministries; local Government which includes 27 governorates as well as the deconcentrated directorates of 11-line ministries, and more than 150 Public Service Authorities (PSAs). The extent of extra-budgetary investments may be considerable. In addition to budgetary investments, there are publicly funded and/or guaranteed investments being made through 48 economic authorities, many of which are themselves the owners of companies and have their own financial accounts and balance sheets; 125 SOEs under 18 holding companies with their own financial accounts and balance sheets; the military and their enterprises, and public ownership stakes in 600-plus enterprises. Of the economic authorities, the major ones include the Suez Canal Authority, the

*Malaysia adopted an outcome-based approach to integrated development planning. The state Economic Planning Unit (EPU) undertook reforms to implement systematic and structured planning mechanisms to improve development results under the 10th Malaysia Plan 2011-2015. This involved the creation of an integrated planning framework encompassing five National Mission Thrusts as a basis for national planning in the country, with Key Result Areas (KRA) identified under each Thrust, along with their related Key Performance Indicators, and ultimately cascading to the implementation level. Strengthening the monitoring and evaluation systems, along with change management reforms, were integral to the adoption of the planning mechanisms.*

<sup>30</sup> The MPMAR assigns the public investment budget allocation to competing capital projects and capital programs, this includes public investment spending that is entirely “on budget”, for implementing agencies that are line ministries, local administration or public service authorities. The MoF prepares the macro-fiscal framework and determines the overall budget ceilings including the breakdown for recurrent and development (capital) projects. It decides on guarantees for SOE and EAs, and on all PPP financed projects. The MIIC decides on concessionally financed public investment projects. Line ministries and PSAs are responsible for pitching their capital projects and programs to MPMAR for inclusion in the annual public investment program.



Egyptian National Railways Authority, the New Urban Communities Authority as well as the Egyptian General Authority for Petroleum.<sup>31</sup>

175. *Key Constraints*

- a) *National and Sector-level Prioritization.* MPMAR makes decisions on capital project selection without requiring standard documents to demonstrate links to either national level (Vision 2030) priorities; or sector priorities. Many sectors do not have strategic plans which would be used to guide strategic project selection, and as such there is a potential disconnect between the overarching national objectives and the allocation of public resources. E.g. sustainability in general and environment in particular are totally absent from the transport agenda despite some pilot, scattered and discontinued efforts led by the environmental authority in the past years.
- b) *Alternative Delivery Mechanisms and Financing Options.* There is no requirement to demonstrate that a project requires financing from the budget because this is an appropriate public-sector role that the private sector cannot or should not do, and alternative financing options are not available. Nor is there a requirement to demonstrate that private financing options have been sought and if they have been unsuccessful, or whether a public-private partnership might be considered.
- c) *Project-level Prioritization.* The MPMAR makes decisions on prioritizing capital projects based on information provided by the line ministries which is not standardized. There is currently no requirement to show a cost benefit analysis using standard techniques which would make it clear that a project has a positive net present value.
- d) *Politicized project-selection.* In the absence of established criteria and standard information to be provided for decision making purposes, resource allocation decisions become open to the influence of other factors, including political imperatives etc.
- e) *Fragmentation of capital and recurrent spending decisions.* With capital and recurrent expenditure decisions being made separately, there is a tendency to over invest in new projects without regard due to running costs and operations and maintenance expenditures.
- f) *Lack of rigor in monitoring and oversight.* There is a need to strengthen the monitoring and oversight of projects, once approved. The MPMAR has a key role to play in ensuring projects stay on track, and line ministries should be held accountable for regular monitoring. In some sectors, there is an under-execution of the budget, implying that there could be considerable efficiency gains from having allocated this budget elsewhere. On the other hand, the pressure for full utilization of the budget allocation before the end of fiscal year can create incentives for the inefficient use of funds. The closer monitoring of disbursements as well as monitoring on-the-ground progress would allow for a swift

*In Jordan, the Cabinet approved a PIM-PPP Framework in May 2018 that provides the basis and conditions for the government at national and local levels to forward only those initiatives that are demonstrably the most economically attractive for the society. The governance framework develops the project life cycle, which is the process to transform a project idea into a concrete solution, through an economic analysis of alternatives to select the most profitable solution to meet the country's economic development goals.*

---

<sup>31</sup> Egypt: maximizing the development impact of public investment (forthcoming)

reallocation from slow-performing to high-performing projects. There is also no comprehensive asset registry for completed projects.

- g) *Lack of transparency and information availability on state support for sectors.* The decision of state support for sectors should not be changed on an ad-hoc basis, as it makes private investment planning more difficult and costly. Information regarding Government subsidies should be readily accessible for the private sector.

176. *Key Recommendations (for the next three years)*

- a) MPMAR should develop a standard project template and manual for project preparation to ensure consistency in appraisal<sup>32</sup>.
- b) MPMAR should start issuing capital budget ceilings at the time of the initial budget circular, to allow time for line ministries and other spending units to prioritize their projects. In addition, MoF should adopt a practice of convening joint budget planning meetings, where the recurrent cost implications of new and ongoing capital projects are discussed and evaluated.
- c) MPMAR's decision-making process for publicly financed projects should be integrated with that of the investment decisions made by SOE, or decisions being made to pursue PPPs. There should be a unified public investment management (PIM) framework for all capital projects that evaluates projects based on development and sector priorities, as well as their technical and financial feasibility, and fiscal sustainability.
- d) MPMAR and the PPP Central Unit should develop a 'filter' through which all approved investment projects pass to test their suitability for commercial financing or for following the PPP path.
- e) The MoF and SGC should ensure that FCCL management processes are linked to the project life cycle of PIM. This means strengthening and supporting the SGC and working closely with the MPMAR at the time of investment project approval. The MoF would also need to strengthen its PPP Central Unit to provide technical support to SGC.

---

## PROJECT STRUCTURING: MAINSTREAMING PPPS

### *Key Findings*

177. **While there is a PPP framework, PPP implementation has not yet taken-off in Egypt<sup>33</sup>.** Salient features of the Egypt PPP Law facilitate private financing, provide comfort to the private sector, and protect the public sector by providing a clear process are presented in Box 7 below:

---

<sup>32</sup> The Bank is currently undertaking a PIM analysis as part of the Public Expenditure Review process.

<sup>33</sup> Egypt launched a PPP program in 2006 and started drafting a PPP law in 2007 which was approved in July 2010 (law No.67/2010 regulating Partnership with the Private Sector in Infrastructure Projects, Services and Public Utilities). It was followed by Executive Regulations in 2011. The GoE established a PPP Central Unit<sup>33</sup> within the MoF in 2006, which was intended to establish a program to improve public infrastructure through PPPs, and was intended to be a center for support and expertise to identify pilot projects with line ministries, and monitor PPP projects during implementation. The Director of the Unit reports to the Minister Finance. There has been no increase in PPP investment since the PPP Law has been passed.

### Box 7: Salient Features of the PPP Law

**The PPP Law provides a sound basis for PPP processes, structures, and institutional framework:**

- Flexible to **cover all arrangements for private participation in infrastructure and public utilities**, including: financing, rehabilitating, constructing, equipping, operating and maintenance
- **Provides clear and specific legal basis for PPPs**—projects under law NOT subject to Law no.129/1947 (public utilities concessions), Law no. 61/1958 (natural resource concessions), or Public Tenders Law no. 89/1998
- **Defines robust project cycle** based on sound viability and implementation options analysis to ensure affordability and value for money
- **Establishes sound principles and processes for investor selection:** transparency, free competition, equal opportunity and fairness
- **Standardizes and provides legal basis for key project structuring elements;** e.g. allows:
  - Authority to make **direct agreements** with project’s financing institutions and Project Company, **to regulate methods of payment for financial obligations**
  - MoF to **guarantee Authority's payment of contractual financial obligations**, including a provision regulating the right of the financing institution to step in, or to appoint a new Investor
  - Private party to **provide Common Securities for financing or re-financing purposes**—e.g. commercial mortgage, assignment of proceeds, assignment of insurance policies.

**But coverage of PPP law is limited:**

- Definition of contracting Administrative Authority per PPP Law excludes Government owned private companies, such that PPP law provisions do not apply to PPPs undertaken by many infrastructure SOEs

#### *Key Constraints*

178. Discussions with stakeholders have brought to surface the following challenges to the PPP framework in Egypt:

- a) There is a lack of systematic identification for projects suitable for PPPs at the time of project formulation. Projects that are potentially attractive for the private sector to participate in, such as airports, roads and highways, desalination plants, etc. have been procured through public procurement and financed by the budget.
- b) There is a lack of an appropriate filtering system for the review of capital expenditure investments at the MOP to decide if public procurement or PPPs are the most appropriate option.
- c) There is a perception among line ministries that EPC contracts with debt financing are easier and faster alternatives to PPPs and deliver similar results.
- d) There are PPP and project finance capacity constraints in the PPP Central Unit, the MPMAR as well as line ministries.

- e) Project preparation is not streamlined, resulting in inefficiency. For example, some line ministries have their own governing laws, such as the Ministry of Electricity (e.g. for IPPs) and the MoT (e.g. for Ports) with each conducting their own PPP projects separately from the PPP Central Unit. This results in potentially confusing signals to the market, different risk allocation and dispersion of knowledge.
- f) The treatment of SOEs raises significant issues about the scope of application of the legal framework for PPPs; the definition of what constitutes an Administrative Authority in the Law may preclude SOEs (discussed earlier in the procurement section as well).
- g) The choice of bidding method, conflict resolution and transparency clauses are not aligned with global good practice.

**PPPs can bring significant benefits for governments in the delivery of public services.** By allocating the management of risks optimally between the public and private sectors, a well-managed PPP preparation and bidding process can enable a more efficient use of resources over the lifetime of the asset, as the private partner has an incentive to consider the long-term implications of the costs of design and construction quality or the costs of expansion in the case of existing facilities. At the same time, the long-term nature of the contract can generate greater certainty (or even a reduction) in the price of service delivery, in real terms. This also ensures budgeting for proper long-term maintenance of assets, which is often omitted in traditional forms of public sector procurement to the detriment of the asset and the taxpayer. Finally, the explicit exposure of capital to long-term performance risk gives the private party an incentive to design and build the asset on time and within budget and to take into account the costs of longer-term maintenance and renewal. It underpins the required allocation of risks.

179. *Key Recommendations (for the next three years)*

- a) MoF should revitalize and capacitate the mostly dormant PPP Central Unit and hire requisite additional professional staff and expertise. Create, strong Satellite PPP Units in key line ministries/SOE where there is strong potential for building a PPP pipeline.
- b) MoF to assign PPP Central Unit as the technical secretariat to SGC.
- c) MoF to assign PPP Central Unit as the technical support unit to MPMAR to apply the PPP ‘filter’ on qualified investment projects.
- d) MoF and MPMAR to ensure compliance with PPP Law for all projects that fall under its jurisdiction to ensure ‘value for money’, ‘fiscal affordability’ and ‘risk management’ in undertaking infrastructure investments; as well as for providing the legal and contractual basis for structuring payment security to support private investment (allowing a move away from full blown sovereign guarantees.)
- e) MoF to amend PPP Law to clarify its applicability to SOEs and to align bidding, conflict resolution and transparency clauses with global best practice.

*Key Features*

180. **Government debt levels have been on an upward trend for the past five years, reflecting the challenges of the post-2011 economic downturn.** Total government debt (including domestic budget sector debt and external government debt) has reached an estimated 108.7 percent of GDP by end- of 2016/17, a twelve-year high and more than 30 percentage-points higher than the end-of-2011/12. While government debt remains largely dominated by domestic debt, the external debt component has significantly increased in the last fiscal year.

181. **Of all the factors affecting the change in the debt-to-GDP ratio, chronic primary deficits in addition to the episodes of exchange rate depreciation, were the main drivers of the rising debt-to-GDP ratio.** On the contrary, extended periods of recent growth and negative real interest rates have helped in containing the debt-to-GDP ratio.

182. **The Ministry of Finance has taken significant steps to analyze and manage fiscal risks to help ensure sound public finances.** In July 2017, the Ministry established a *Sovereign Guarantees Committee* (headed by the Minister of Finance) it included senior Ministry of Finance officials, with the mandate to review requests for new guarantees, assess associated risks, and decide on the guarantee requests. Along with the IMF program that was approved in November 2016, the Ministry prepared a comprehensive fiscal risk statement covering all key areas including macroeconomic risks, public enterprises, debt management, pensions and contingent liabilities. To enhance fiscal transparency, the published FY 2017/18 budget statement included for the first time a section on risks to budget implementation. The risks covered included changes in underlying macroeconomic assumptions, contingent liabilities (including loans and facilities guaranteed by the treasury), international arbitrations, PPP projects, and risks related to short-term debt. These actions underscore the government's ongoing effort toward strengthening fiscal resilience.

183. **The Government intends to strengthen fiscal planning by introducing a medium-term expenditure framework,** which will set multi-year expenditure ceilings organized by major spending categories. Annual disseminations of the pre-budget statement were launched a couple of years ago. Greater prominence will be given to a functional classification of spending plans in budget discussions and budget documentation. As part of the 2018/19 budget process, the Ministry of Finance is developing a fiscal strategy paper that will include a discussion the of medium-term fiscal objectives of the government.

*The high level of public debt and limited fiscal buffers are important factors that are constraining Egypt's sovereign ratings. Despite major economic reforms that were adopted over the past two years the key ratings agencies have not made any changes to Egypt's sovereign ratings, although Standard and Poor's and Fitch have revised the rating outlook to positive in recent months. The last rating upgrade occurred following the 2015 investor conference in Sharm el Sheikh when Moody's and Standard and Poors upgraded the rating by one notch. Egypt is presently rated five (Fitch, B) to six notches (Moody's, B3; S&P, B-) below the lowest investment grade category with both Fitch and Standard and Poor's having a positive outlook. Factors that could lead to a rating upgrade include an accelerated implementation of measures to lower fiscal deficits and government debt, a sustained growth recovery to pre-revolution levels, combined with a sharper reduction in inflation and further improvement in the domestic security situation.*



## 184. Key Constraints

**Infrastructure investment—whether public or private—inevitably involves fiscal costs and risk.** The fiscal commitments that the government accepts in privately financed infrastructure can be of four types: direct, contingent, explicit and/or implicit liabilities. (1) *Direct Explicit Liabilities*, are obligations whose outcome is predictable. In general, they correspond to specific obligations, created by law or contract, that governments must settle. These kinds of obligations are those in which conventional fiscal analysis tends to concentrate. (2) *Direct Implicit Liabilities*, are often a presumed, longer-term consequence of public expenditure policies and are not captured in government balance-sheets. For example, in countries with a pay-as-you-go pension scheme, future pensions constitute direct implicit liabilities. (3) *Contingent Explicit Liabilities*, are legal obligations for governments to make payments only if particular events occur. Because their fiscal cost is invisible until they come due, they represent a hidden subsidy, a drain on future government finances and can complicate fiscal analysis. (4) *Contingent Implicit Liabilities*, are not officially recognized until after a failure occurs. The triggering event, the value at risk, and the amount of the government outlay that could eventually be required are all uncertain.

a) The overall debt management framework is weak in terms of the institutional set-up, coordination between sovereign entities, debt-recording systems, technical skills/capacities and oversight.

b) Debt management strategy is not updated and published regularly (last MTDMS dates to Oct 2015).

c) The disclosures presented on contingent liabilities in the budget statement largely focused on the composition of loans and facilities guaranteed by the state treasury and their concentration among the certain sectors and entities, without providing comprehensive information on cumulative exposure.

### 185. Key Recommendations (for the next three years)

a) MPMAR should regularly publish the debt management strategies to increase the confidence of market participants and rating agencies, and reduce the cost of borrowing.

b) The SGC should play a broader role in

monitoring the reporting and mitigation of Contingent Liabilities, supported by the PPP Central Unit (as it's secretariat) and assisted by the Budget office and the Public Debt Management office. The Regulations and Operation's Manual for the Committee could reflect this institutional arrangement. Specifically, Debt Management functions related to investment projects should include:

- Assessment and management of an investment project's long-term fiscal risks and their impact determining whether they are acceptable, given other priority national needs;
- Government support: confirming the appropriateness of the project for sovereign guarantees (debt or specific-event) or other kinds of government support.

**Long-term or contingent commitments are often not subject to the usual affordability checks** on government expenditures provided by the annual budget or a medium-term planning processes, since payments occur outside the budget and planning horizon. This means decision makers may not fully consider the cost to government of such commitments. Risks associated with contingent liabilities for the government need to be proactively managed over the lifetime of the project to achieve value for money. Uncertain payment obligations expose the government to fiscal risk that can create budgetary uncertainty and may put the public debt on an unsustainable path in turn creating uncertainty among private partners as to whether

c) To enhance the bankability of infrastructure projects with minimum Government support, and hence reduce contingent fiscal exposure, it can be helpful to design Payment Security Mechanisms that reduce the investor's risk perception. The Government may consider introducing mechanisms beyond PPP contractual arrangements to provide security to investors, highlighting the mechanism of how the Government counterpart's payment obligations will be met in timely manner, or showing the management process of Government's liabilities arising from those obligations. These include:

- *Sector-wide revenue collection/escrow accounts*: where revenues accrue to an entity other than the direct contracting authority (e.g. in the electricity sector), a portion of those revenues can be automatically set aside into an escrow account to ensure cash is promptly available to meet the obligations of sector entities. This structure has been informally used in the electricity sector for earlier IPPs, and has successfully ensured a 100 percent payment record for those projects. It is important to note that although this mechanism ensures resources are available to meet specific obligations, it does not reduce net Government exposure to overall financial shortfalls for the sector or contracting authority while tariffs remain below cost-recovery levels
- *Prioritized payment arrangements within the contracting agency*: a payment "waterfall" can be defined to prioritize payments of certain obligations from the revenues received by the contracting agency. As with the point above, this is simply prioritizing funds for a certain use and needs to be undertaken in line with an overall financial strengthening of the sector.
- *Guarantee funds*: some governments have chosen to establish funds to back stop guarantees provided to infrastructure projects by transferring liquid resources to an independent entity (various institutional structures) which will make payments should a guarantee be called (typically with a counter-guarantee from a contracting agency). Some portion of this transfer may come from charging fees for guarantees. It provides security to investors, as payment for guarantee calls are not subject to the availability of the contracting authority's resources, or the vagaries of the budget process. For the

*In response to the global financial crisis and as opposed to Basel II, the capital and liquidity requirements have gone up in Basel III<sup>1</sup> requirements (so the cost of lending is likely to go up and the availability of funds is likely to go down) although the full implementation does not take place until 2019. However, capital and liquidity provisioning is linked to the quality of assets as well. Therefore, regarding the project finance market: there will be a much bigger role for International financial institutions (including MIGA and World Bank) guarantees as they reduce the riskiness of the loans which would in turn requires less provisioning (or no additional provisioning) to meet the requirement for Basel III; there is an enhanced and renewed interest in Infrastructure Finance Facilities that are set up as Non-Banking Finance Institutions and are thus not required to follow Basel III capital and liquidity requirements, and; there is potentially an enhanced role for project bonds. Highly rated bonds are treated relatively favorably under Basel III. Firstly, they require a relatively lower proportion of stable funding. Secondly, bonds of sufficiently high rating can themselves be used as short-term liquidity covers, because they qualify as high-quality liquid assets. It is therefore quite likely that project financiers will seek to increase the proportion of debt that is offered in bond form, as opposed to loans. However, there are many challenges to be overcome if the bond market is going to assume this greater role. For example, it can be challenging to persuade bondholders to accept construction risks in the early phases of a project, although these may not be insurmountable. In any case, International financial institution's guarantee products are tried and tested credit enhancement tools.*



Government, it can help overcome the inflexibility of the budget process, and/or protect other priorities from the impact of unexpected calls on guarantees.

- Supplement the above measures by exploring the options of third-party guarantees or credit enhancement support, including from MDBs or other DFIs which may continue to be necessary for certain sectors and/or projects.

## SUMMARY AND CONCLUSIONS

186. **In 2016, the GoE introduced transformative economic reforms, that have played a vital role in restoring macroeconomic stability.** The positive outcomes of these reforms, have led to a new development model, which is increasingly shifting its focus towards the private sector as an engine of growth and job creation. To ensure that the macroeconomic stabilization achieved is sustained, the GoE must take the necessary steps to provide support in creating an enabling environment to accommodate the aforementioned shift towards private sector led job creation.

187. **The transition towards private investment or commercial finance in large infrastructure investments, and increased private investment in agriculture, could introduce efficiencies** by inducing competitive pressure, transferring risks, and introducing new technologies and management expertise. However, this requires sufficient funding at the project level. This funding can be provided by user fees or government payments, and facilitated by an increase in funding streams for public infrastructure. While public finances are on a firmer footing, Egypt's infrastructure financing gap cannot be met on a "business as usual basis". In addition to continuously demonstrating a healthy investment climate, the GoE will also require sector level transitions and a robust framework for structuring bankable and sustainable investment opportunities. Project development in each sector will thus require strong functional capacities in the GoE for:

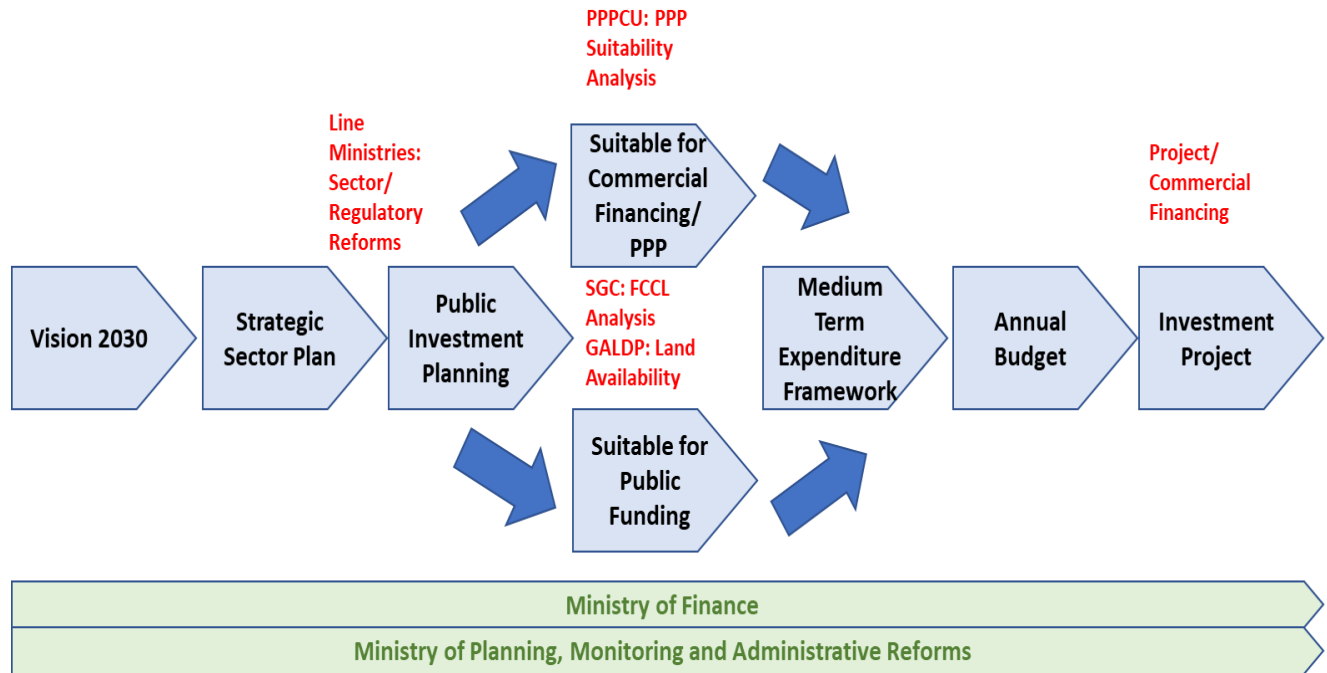
- *Project Selection:* Creating standardized, systematic and comprehensive public investment management frameworks for identifying, appraising, selecting and prioritizing suitable investment projects and applying the 'filter' for PPP suitability
- *Project Structuring:* Mainstreaming the role of the PPP Unit and application of the PPP Law to provide a clear legal basis for undertaking PPP projects based on a transparent project life cycle;
- *Project Sustainability:* Creating a standard approach to identifying, costing and reporting on fiscal commitments and contingent liabilities arising out of these projects and integrating this into the budget process; this will include setting caps on contingent liability stock or annual flow.

188. The key enabling cross-cutting activities needed to create viable and bankable investment opportunities for the private sector require that projects in each sector are effectively and efficiently able to:

- Transparently obtain and register land, and avail land-based financing.
- Compete in procurement processes that are fair, transparent and competitive.
- Enter into agreements with Contracting Authorities that are creditworthy.
- Obtain long-term, fixed rate local currency financing.

Diagram 4.1 provides an illustrative flow of, and linkages in, various enabling and functional cross cutting activities showing very clear roles for the Finance and Planning ministries.

**Diagram 4.1: Illustrative flow/linkages in cross cutting activities**



189. **Enabling and attracting private financing and investment in infrastructure will also require creating legislatively and institutionally stronger sectors.** The overarching constraint identified in all sectors is the complexity of institutional structures, and weak communication channels. These result in a lack of coordination and grave inefficiencies. The summary below (Table 4.2), highlights the sector-by-sector findings in terms of key binding constraints and strategic actions.

190. **There are strong linkages between the sectors.** On the one hand, this presents an opportunity in providing comprehensive integrated solutions, but on the other hand this interconnectivity may pose a difficulty when it comes to the sequencing of priority actions, as the decisions are then left contingent upon one another. For example, to move towards Egypt being an agribusiness transformation hub and realize its export potential, the GoE needs to focus on improving logistics, and water quality. In the section below, the sector readiness and key features for each sector are presented separately.

**Table 4.2: Summary of Binding Constraints and Strategic Objectives and Short-Term Priority Actions**

<i>Sector</i>	<i>Binding Constraints</i>	<i>Strategic Objectives</i>	<i>Short Term Priority Actions</i>
<i>Energy</i>	<p><b>Electricity:</b> The sector’s financial position has suffered due to <b>low retail consumer tariffs</b> that did not cover the average cost of supply. This mismatch, covered by state subsidies, constituted a high fiscal burden and was contributing to mounting financial imbalances for state-owned utilities and arrears among institutions. In addition there are some <b>shortages in generation capacity</b></p> <p><b>Oil &amp; Gas:</b> At the international level, Egypt’s oil and gas sector prospects are affected by <b>low global prices</b> with limited prospects for recovery, due to geo-political and economic instability in MENA; the acceleration of development activities in competing countries, Iran’s reentry into the global oil and gas market thanks to the lifting of sanctions; and the global <b>rise of alternative fuels linked to climate change considerations</b>. Domestically, Egypt’s oil and gas sector faces multiple challenges. The first and perhaps foremost set of these are linked to the <b>politicization/socialization of the sector</b>, its <b>suboptimal structure</b> as a SBM, and <b>inefficient governance</b>.</p>	<p><b>Electricity:</b> Opportunities in the generation sub-sector (e.g. in renewables) and in the implementation of Electricity Law</p> <p><b>Oil and Gas:</b> Modernization Project (7 sub programs) and ultimately Egypt becomes a regional gas hub.</p>	<p><b>Electricity:</b> implementation of the Electricity Law,  <b>Oil and Gas (O&amp;G):</b> (i) implementation of the O&amp;G Sector Modernization Project, particularly the financial restructuring of the 105+ existing sector companies; and (ii) finalization of the Oil and Gas Hub Strategy; and (iii) stimulating / maximizing energy efficiency and gas flaring reduction initiatives.</p>
<i>Agriculture</i>	<p>Approximately 40 percent of Egypt’s total export revenue—agricultural and non-agricultural export revenue—is spent on importing agricultural commodities, due to its <b>large and fast growing domestic market</b>. Another constraint is <b>water resource scarcity and high losses along key value chains</b> (half of which comes from the lack of logistical and marketing infrastructure). While Nile derived water resources have been decreasing due to a rapid rural population growth, <b>climate change</b> will further reduce its availability.</p> <p>Other main constraints include: (i) <b>Fragmented agricultural land</b> and a lack of aggregation facilities. Such high fragmentation of land does not allow for increased production efficiency, and also limits access to markets for the smallholder farmers. (ii) <b>Lack of extension services</b> inhibits farmers from receiving advice on good practices and suitable technologies, which would help them maximize productivity (iii) <b>Underdeveloped farmer cooperation and lack of connections to value chains</b>, and a need for improved education and skills in the sector (iv) <b>Lack of new technologies</b> available to sector participants, in particular small farmers, which stunts efficient production and the transportation of agricultural produce.</p>	<ol style="list-style-type: none"> <li>1. Egypt becomes efficient agricultural producer and supplier and</li> <li>2. Increases its role as an agribusiness transformation hub.</li> </ol>	<ol style="list-style-type: none"> <li>(i) Establish a mechanism for review and coordination of policies related to private investments in agriculture;</li> <li>(ii) review of options for establishing a single land agency;</li> <li>(iii) fund and empower the food safety agency;</li> <li>(iv) develop the framework for the use of ICT systems for water resource management and precision farming;</li> <li>(v) facilitate smallholder-driven value chain development through alternate sources and modalities (digital) of finance (e.g. MFIs and NBFIs), and access to knowledge.</li> </ol>

## *Transport*

The Transport sector in Egypt is governed by an **excessively complex institutional structure** which makes it difficult for potential concessionaires. The current institutional structure of the (MoT) is based on an expanded agency/authority model with at least 15 agencies each of which is responsible for a specific mode or activity. This issue of complexity is exacerbated by weak communication channels between the authorities. Additionally, **each transport sub-sector operates under its own legal code** such as the Civil Aviation Law, the Ports Law and the Railways Law. Urban transport has a decentralized legal structure wherein the Governorates have more responsibilities than the national government. There is **no formal regulation of concessions** in the transport sector and until recently little evidence of coordination in the development of concessions with the PPP Central Unit under MoF nor the Supreme Committee for Public Private Partnership Affairs, of which the Minister of Transport is a member. **Focus on the sustainability dimension, with respect to the environment, have been absent from the transport agenda** despite some pilots, and scattered and discontinued efforts led by the environmental authority in the past yearsb

1. Regulatory Reform;
2. Multimodal Freight Strategy;
3. Integrated Mass Transit Strategy

**Airports:** improve coordination and assess and prioritize options for accommodating future capacity and levels of service requirements, especially in cargo

**Ports:** The National Ports Development Strategy should be finalized to improve efficiency and connectivity to inland dry ports and production/consumption centers, and to facilitate transparent concessions

**Railways:** Develop freight business through private sector investment/PPPs, key reforms of Egyptian National Railways (ENR) further strengthening of the Legal and Regulatory Framework, and through addressing competition with road transport

**Inland waterways:** Strengthen collaboration between relevant ministries and expand the capacity of the River Transport Authority (RTA) and address infrastructure bottlenecks to efficient transport on key Nile waterway corridors

**Urban Transport:** a comprehensive mass transit and urban transport strategy needs to be developed, in addition to streamlining the institutional structure.

## Water

**Water quality** and health concerns remain a major challenge, the flows and reflows from agriculture, industry and cities are fully linked in an interdependent system. In addition, both solid waste and sludge from on-site septic tanks are often illegally disposed of in irrigation and drainage canals. As a result, Egypt continues to face the risk of cholera outbreaks and there are concerns in both domestic and export markets regarding the safety of locally produced horticulture products.

**Geographic expansion** of settlement and economic activities poses additional water challenges, especially with respect to access to **freshwater, which represents a major constraint to development**, necessitating either expensive long distance conveyance infrastructure for Nile waters, the use of desalination for sea water or the exploitation of groundwater.

At the institutional level the sector has a **complex institutional structure**, and there is the need for further rationalizing duplicative functions and increase the capacity of WSCs for carrying out their own planning and financing arrangements.

1. Regulatory reform and new tariff structure;
2. Desalination;
3. PPP in Water and Wastewater

(i) Revising the tariff structures for drinking water, considering the ever-reducing per capita resource levels; (ii) conducting a sector strategic financial planning exercise; (iii) addressing NRW and local water distribution companies' creditworthiness; (iv) enabling and fostering private sector participation in water (including desalination) and waste water.

## Sector Readiness

191. **Energy: Electricity:** With electrification levels nearly universal (99 percent), the electricity sector is organized around the single-buyer model. The majority of sector investments have been, and continue to be, channeled through public financing; whether through government bond offerings or loans/grants from bilateral and multilateral development financing institutions. There has been renewed interest for increased private sector participation in the sector, especially as the GoE embarked on a comprehensive reform plan. In 2015, the GoE promulgated Law 87 (Electricity Law) that provided for, among other things, increased private sector participation in electricity generation by both local and foreign investors under simpler legal licensing procedures; private sector participation in electricity distribution for the first time in decades; the concept of a competitive electricity market and the framework for market liberalization by demonopolizing generation and distribution activities; restructuring the role of EgyptERA to ensure nondiscriminatory treatment and more competition in the sector; and the codification of principals for permitting and licensing for sector activities.

**Oil & Gas:** Egypt's oil and gas sector is a main driver behind many economic activities representing around 20 percent of GDP and providing more than 220,000 direct jobs. The exploration and production segments are critical for the balance of payments as it traditionally contributes two-thirds of FDI with at least four oil majors among the top ten foreign investors in Egypt.

192. **Transport:** The pace at which private sector finance has been welcomed into the Transport sector in Egypt has varied by sub-sector. The aviation and ports sub-sectors have been more advanced in this regard, whereas railways and urban transit have lagged, while inland waterways lay somewhere in between. The inability of the transport service to collect commercial fees – as opposed to being viewed as a PSO – is a fundamental reason for the speed with which the private sector engages in each sub-sector. Other key reasons continue to hamper the progress of private sector participation across the transport sector, and include: (i) an excessively complex institutional structure that does not facilitate decision making nor independent and transparent regulations; (ii) antiquated laws that require updating to permit private sector investment; (iii) the absence of an integrated multimodal freight transport strategy; (iv) the absence of an integrated mass transit strategy; and, (v) insufficient qualified staff to strategically or operationally manage services or sub-sectors/modes properly. The GoE is aware of these deficiencies, and is starting to address these issues in earnest. If the cross-cutting sectoral issues above can be addressed within one year, it is conceivable that private sector investments that can transform the quality of freight and passenger transport services in Egypt can be realized within the next five years.

193. **Water:** Egypt's renewable freshwater resources are essentially limited to its allocation of water from the Nile River. 98 percent of Egypt's freshwater comes from the Nile, a transboundary river for which Egypt has an agreed allocation of 55 billion cubic meters per year stored in Lake Nasser behind the Aswan Dam. Egypt also has significant groundwater, with a major portion from the Nubian Aquifer; however, exploitation of this aquifer is constrained by a combination of limited recharge and the depth of the water table. This relatively fixed availability of freshwater contrasts with Egypt's rapid population growth and consequently leads to water scarcity. Egypt's population in 1970, at the time of the completion of the Aswan High Dam, was approximately 35 million and is currently just under 100 million. As a result, annual per capita renewable freshwater resources have declined steadily over the years, from a relatively abundant 2,526 cubic meters in 1970, to a mere 663 cubic meters today – well below the critical point of 1,000 cubic meters per



capita (which is defined as water scarcity). By 2025 the UN predicts that Egypt may reach the level of “absolute water crisis”, defined as having less than 500 cubic meters per capita

194. **Agriculture:** Recent initiatives, such as the floating of the Egyptian pound, subsidy reform, and reforms to investment and licensing processes, have built a strong basis for sector transformation. There are several opportunities for the Egyptian agriculture and agribusiness sectors to grow. Egypt’s geographical location and its relatively port and sea transport infrastructure network allow for easy access to major markets in Europe, Middle East, Africa, South America and Asia. Moreover, Egypt has a great climatic condition with long and multiple growing seasons. Leveraging these opportunities and making use of the country’s multiple multilateral and bilateral trade agreements, the country can increase export demand and investment inflows. Additionally, the reform in its subsidy programs, and its investment and licensing processes (such as adoption of the new Investment Law and Industrial Licensing laws) will greatly improve the competitiveness of the sector, and provide it with a better international standing. In conclusion, by seizing these opportunities and hastening the transition to more competitive and formalized agriculture and agribusiness sectors, Egypt will maximize its employment and income payoffs— particularly for youth and women.

195. **Based on this sector diagnostic, the team has identified five transformational opportunities**, which have the highest potential to mobilize private capital and investments, whilst achieving the GoE’s objectives for each of the selected sectors (details are summarized in Table 4.4). These recommendations are also in line with the overarching WBG MENA strategy which supports economic stabilization and employment creation. With the aim of maximizing finance for development, engaging in sectoral reform, and addressing the cross-cutting areas, will consequently create creditworthy private investment, financial stability, and enhanced strategic planning processes, all of which create a sustainable development trajectory.

#### BOX: 4.3: FIRST MOVER PROJECTS

##### *Five transformational opportunities:*

1. *Regional Oil and Gas Hub*
2. *Solar Auctions*
3. *Desalination*
4. *Agribusiness Transformation Hub*
5. *Multimodal Freight Logistics and Maritime Strategy*

**Key cross-cutting areas include (a) Land; (b) Governance of SOEs; and (c) Digital Development**

*Table 4.4: Five Transformational Opportunities*

Description	Output
<i>Regional Gas Hub</i>	
<ul style="list-style-type: none"> <li>• Build on announcement of Israeli (USD 15 billion) and Cypriot gas deals</li> <li>• Private financing of upstream gas, international gas pipelines, coupled with public finance of enabling domestic gas transmission investments</li> <li>• WB IFC to set Egypt led East Med Gas Hub</li> </ul>	<ul style="list-style-type: none"> <li>• Program for <b>unlocking more than USD 25 billion of regional gas trade</b>, bringing peace dividend to the region</li> <li>• Committing to a 3 year implementation plan, the project will outline a road map which will facilitate <b>efficiency gains of USD 5 billion</b> and additional private investment of more than US\$ 20 billion</li> </ul>
<i>Move to Solar Auctions</i>	
<ul style="list-style-type: none"> <li>• Building on the success of USD 2 billion in private investment (including IFC and MIGA), solar auction would bring greater transparency to price discovery and more competitive pricing (reducing the need for nuclear and coal plants in future)</li> <li>• WBG has undertaken design of auctions in multiple countries already</li> </ul>	<ul style="list-style-type: none"> <li>• Joint WB-IFC will <b>facilitate US\$ 600 million of private sector investments</b> mobilized through the implementation of solar auctions.</li> <li>• This would contribute to 100% climate co benefits</li> </ul>
<i>Private Sector Solution for Desalination</i>	
<ul style="list-style-type: none"> <li>• Demonstrate alternate model of private sector solution for desalination plants (particularly for managing technology and long term fiscal risk).</li> <li>• Clarify institutional accountability for managing desalination plants, risk sharing frameworks, contractual responsibilities and managing financial performance</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Strategy</b> for role of private sector to be approved by the President of Egypt</li> <li>• Demonstration of private financing led desalination plan (jointly by IBRD and IFC), eligible for 100% climate adaptation benefits</li> <li>• <b>Institutional matrix</b> of accountability and responsibility</li> </ul>
<i>Agriculture and Agribusiness Transformation Hub</i>	
<ul style="list-style-type: none"> <li>• Addresses bottlenecks directly impeding agriculture development by: (i) driving local value addition and smallholder inclusion, through spatial solutions value chain strengthening; (ii) improving food quality and safety systems; (iii) maximizing the efficiency of use of natural resources (water and land); and (iv) creating jobs and sustainable incomes.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop strong value chain linkages and spatial solutions, and enable increased trade and quality job creation.</li> <li>• <b>Realize the US\$10 billion</b> of untapped export potential after currency devaluation, and import substitutions for other food items.</li> </ul>
<i>Multimodal Freight Logistics Plan and Maritime Strategy</i>	
<ul style="list-style-type: none"> <li>• Build on initial success of legal approval of PPPs in Railways to develop Multimodal Freight Logistics Plan and National Maritime Strategy to (i) provide policy clarity to potential private sector investors, (ii) increase the efficiency of freight logistics, and (iii) diversify Egypt’s export profile</li> </ul>	<ul style="list-style-type: none"> <li>• The multimodal freight logistics <b>strategy</b> adopted by Cabinet, could <b>facilitate private sector financing of over US\$10 billion</b> over a 5-year period</li> <li>• There will be the first ever integrated maritime strategy combining inputs from different ports, which will be part of the Integrated Multimodal Freight Logistics Plan</li> </ul>

