Policy Paper

ACCELERATING IMPLEMENTATION OF INFRASTRUCTURE PROJECTS

By

National Planning Authority

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Abbreviations

AIG	Africa Investment Fund
BOU	Bank Of Uganda
CAA	Civil Aviation Authority
CMA	Capital Markets Authority
DFI	Development Finance Institutions
GDP	Gross Domestic Product
MEMD	Ministry of Energy and Minerals Development
MFPED	Ministry of Finance, Planning and Economic Development
MOICT	Ministry of Information Communication and Technology
MOWT	Ministry of Works and Transport
MWE	Ministry of Water and Environment
NDP	National Development Plan
NPA	National Planning Authority
NWSC	National Water and Sewerage Corporation
PAIDF	Pan African Infrastructure Development Fund
PEC	Presidential Economic Council
PPDA	Public Procurement and Disposal of Assets
PPP	Public Private Partnerships
SPV	Special Purpose Vehicle
UETCL	Uganda Electricity Transmission Company Limited
UIF	Uganda Infrastructure Fund
UNRA	Uganda National Roads Authority
USE	Uganda Security Exchange

1 Introduction

Over the recent past, the Government has devoted much attention to ensuring that there is guided development in the country. Accordingly, policy documents have been prepared such as the National Development Plan (NDP) and the draft Vision 2040. To further guide Government in fostering economic development, institutions such as the Presidential Economic Council (PEC) have been established. The Council in its first sitting identified infrastructure and its associated services as a constraint to economic growth and tasked NPA to develop a paper on how the country can attain the required stock of infrastructure.

The policy documents (NDP and vision 2040) have emphasized the role the infrastructure in economic development in Uganda. The documents have prioritized the type of infrastructure to be developed in the next years, provided cost estimates, and prioritized the projects. Therefore this paper will not repeat what is in those documents but will make them a basis for further discussion.

Under the current set-up, infrastructure in being implemented mainly by Government entities likes UNRA, NWSC, CAA, MWE, MEMD, ICT and others. These Government agencies are limited by funding, procurement systems, inadequate human resource and bureaucratic government procedures. Estimates show that funding needs to be **quadrupled** if the projects outlined in the NDP are to be implemented and for the country to meet its targets. The projects outlined in the NDP 2010/11-2014/15 require at least US$ 19 billion to be implemented against the MTEF provisions of US$ 5 billion.

This Paper proposes strategies to increase the stock of infrastructure through strengthening and complimenting the current financing and implementation modalities. The proposed approaches are informed by best practices used in other countries to meet infrastructure needs. It can be implemented within the current legal framework and the Private Public Partnership Bill before Cabinet.

The main objective is to leverage private sector resources through increasing private investments, and utilizing private sector ambition, expertise and technologies in the implementation of infrastructure projects and, avail cheaper credit to contractors. It is further proposed to utilize infrastructure bonds in financing infrastructure development.

It also notes the need for improvement of institutional set-up and systems such as creation of new units to: (i) prepare, structure and implement high magnitude PPP infrastructure projects, (ii) regulate, monitor and manage Government investment in “Special Purpose vehicles”. As done in many countries, it proposed use of alternative procurement system for infrastructure projects due to complex, customized, with often economic, political and social considerations over a long period.

2 Infrastructure and Economic Development

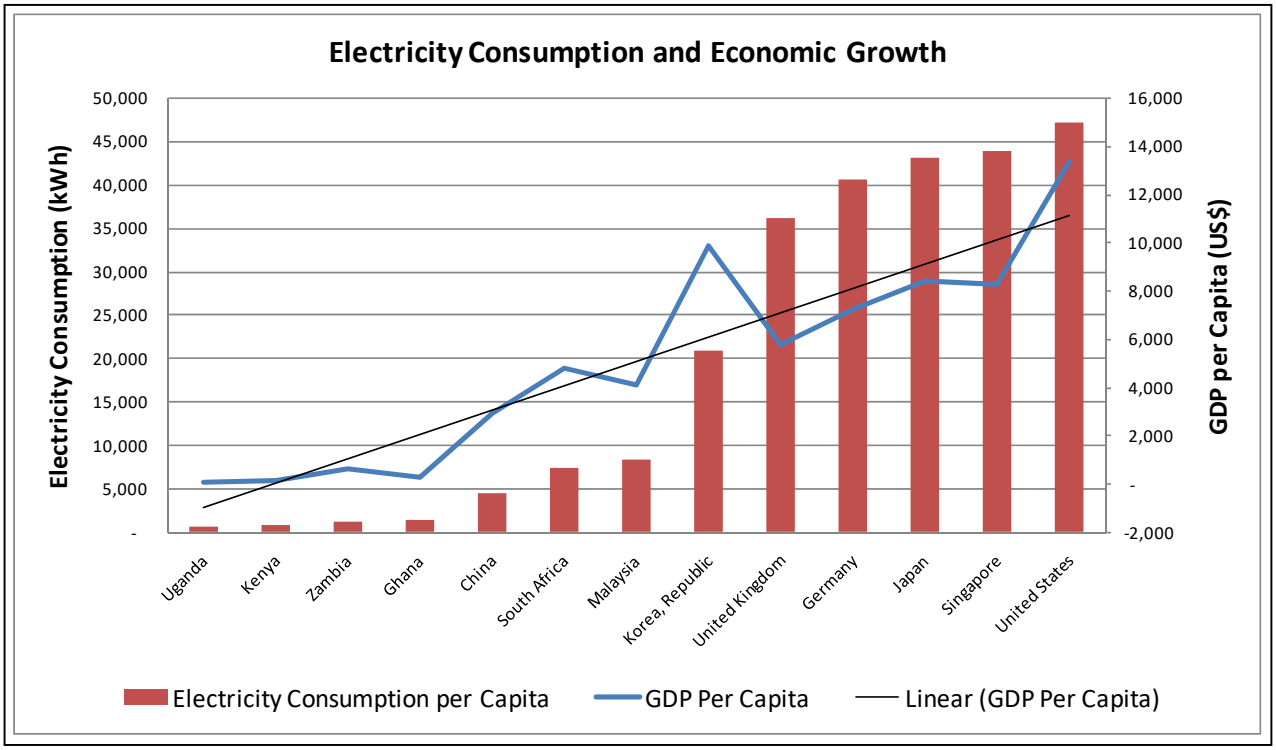
Poor infrastructure impedes a nation's economic development and international competitiveness (The World Bank, 2006). Insufficient infrastructure also represents a major cause of loss of quality of life, illness and death (Willoughby, 2004). This therefore raises infrastructure services from being a good investment to a social and economic imperative. In order to stimulate growth and reduce poverty, it is essential to improve the supply, quality and affordability of infrastructure services.

The Global Competitive Report 2010 – 2011 of the 2010 World Economic Forum emphasized that extensive and efficient infrastructure is critical for ensuring effective functioning of the economy. This is because infrastructure is important for determining the location of economic activity and the kinds of activities or sectors that can develop in a particular economy. The report notes that Uganda's competitiveness is largely constrained by poor infrastructures and its services.

Well - developed infrastructure reduces the effect of distance between regions, integrating the national market and connecting it at low cost to markets in other countries and regions. In addition the quality and extensiveness of infrastructure networks significantly impact on economic growth and affect income inequalities and poverty in a variety of ways. A well-developed transport and communication infrastructure network is a prerequisite for the access of less developed communities to core economic activities. Investing in infrastructure constitutes one of the main mechanisms to increase income, employment, productivity and consequently the competitiveness of an economy.

The relationship between electricity as form of modern energy and GDP is illustrated in figure 1 below. The graph shows that countries with higher electricity consumption per capita also have higher GDP per capita thus improved welfare for their population. Uganda will need more electricity supply to facilitate growth and meet household consumption needs as well as save the environment.

Figure 1: Electricity Consumption in selected countries, 2010



Source: International Energy Agency 2011 Report

Similarly, many studies have shown positive relationship between public infrastructure (paved roads, telecommunications, water supply) and GDP. The Figures 2 and 3 below show the relationship between GDP (power purchase parity) and number of paved kilometers, GDP and telecommunication. The data used in these graphs was normalized due to different units of measurements.

Figure 2: relationship between paved roads and GDP

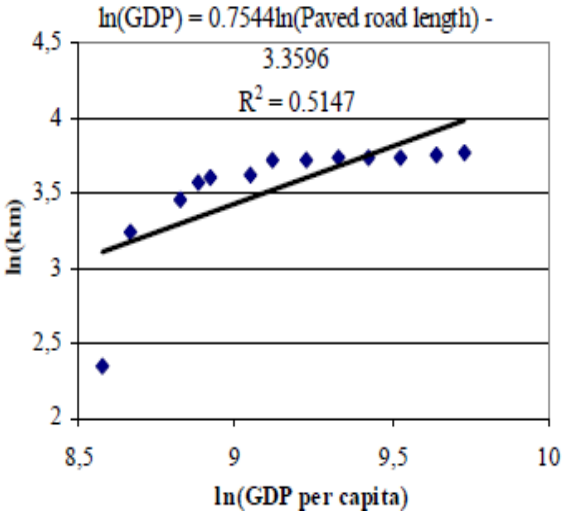
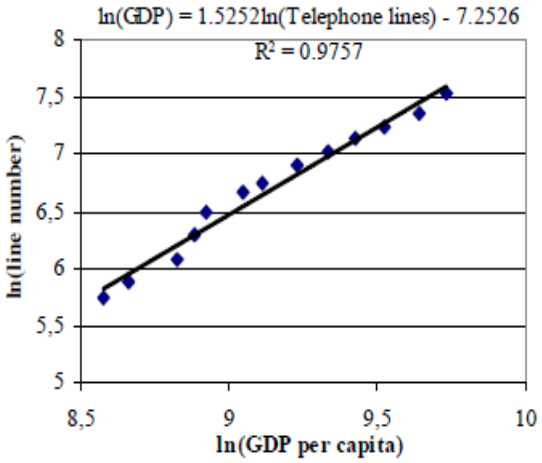


Figure 3: Relationship between telecommunications and GDP



For the railway sector, various economic models show a positive relation between freight volume and economic growth. Similarly, these models further show that the relationship between railway transportation and national economic development are strongly positive. In Uganda's case, a simple analysis below shows the effect of limited railway functionality on the economy. It is estimated[1] that USD 360 million (UGX 900 billion) are lost per year due to usage of road transport instead of rail transport on the route from Mombasa to Kampala. This is direct saving that does not take into consideration the multiplier effect on the reduced cost. In addition there are many benefits on the reduced capital, operation and maintenance costs on roads, reduced accidents, reduced travel times, and environmental aspects related to reduced pollution.

[1] Rail market share is 6%, rates by rail is USD 95 per tonne, rates per road is USD 90 per tonne. The assumption is that 80% of cargo is transported by rail.

3 Status of Infrastructure, Vision Targets and NDP Projections

3.1 Summary of the Status and Vision Targets

Table 1 summarizes the status of major infrastructure and its associated services. It further shows the gap between the Vision targets and the baseline illustrating the enormous challenge to overcome across all types of infrastructure.

Table 1: status and gaps in infrastructure development

Type of infrastructure	Status 2011	Vision Targets (2040)	Gap
Electricity	Consumption - 75 kWh per Capita (850 MW).	3668 kWh per Capita (41,738 MW)	40,888MW
	Electricity coverage 12 %	Electricity coverage 80%	Gap in coverage 68%
Roads	4% (3300KM paved) Road density 1.4 KM/ 100KM^2	80% (62,000KM paved 26.3KM per 100KM^2	58,700kM paved 24.8KM per 100KM^2
railways	Limited functionality within 20% of the line (250KM)	New standard gauge, new rolling stock	About 2400KM of standard gauge rail with good rolling stock
Water supply and sewerage	64% rural at 1km access; 69% urban access at 0.2km; Sewerage coverage 7% (Kampala)	100% urban and rural access to pipes systems	About 75% piped water system coverage Sewerage 70% for most urban centers
ICT	Fibre optic network covering 22 districts	Broadband network in all districts	Gap in about 90 districts
Petroleum	No refinery, no pipeline	Functional refinery,800 Km of pipeline	Functional refinery,800 Km of pipeline

Source: Sector Review Reports

3.2 Implementation of NDP projects

The NDP identified a number of infrastructure projects to be implemented during the period ending 2015. However, a quick review shows that most of the projects are unlikely to be implemented. This clearly shows the need to change the strategy to foster faster implementation of infrastructure projects.

Tables 2-7 indicate that the projects to be implemented required funding of about USD 19 billion. However the Government contribution over the five years was estimated at about USD 5 billion. The funding gap is approximately USD 14 billion. To bridge this funding gap, Government was expected to attract private capital into infrastructure development.

Some progress has been registered in the implementation of these projects. In the electricity sub sector, Bujagali HPP has been completed, Karuma HPP is under procurements, Ayago and Isimba are under feasibility study stage. In the petroleum sector, the refinery process is in advance stage with procurement of transaction advisor in the process. This transaction advisor will assist in structuring the projects and procurement of the partners in the refinery. In the roads sector about 879 KM roads were upgraded or rehabilitated to paved standards from 2007 to date. Some roads have also been done at district level. In the railway sub-sector, the feasibility of Kampala-Kasese was completed.

Electricity Projects

Table 2: Electricity Projects

Project	Estimated cost in Cost USD (millions)
Construction of three geothermal power plants at Katwe, Buranga and Kibiro (400 MW)	592.5
Construct of Karuma HEP project (600MW) [2]	2000
Construct of Isimba HEP project (140 MW)	140.34
Construction of Ayago HEP project (600 MW)	1093.59
Construct Ariang HPP (400 MW)	625.49
Construct solar thermal power plants (200 MW)	703.67
Construct biomass cogeneration plants (150 MW)	156.37
Construct mini hydropower plants (150 MW)	293.2
Rural electrification (Km)	200.27
Substations and transmissions	746.87
Construction of Muzizi, Yeriya/Makoma and Kakaka Mini hydro power projects	99.64
Construction of thermal plants to use Uganda oil resources	1,641.92
Total estimates	**8,606.6**

Oil and Gas Projects

Table 3: oil and gas projects

Project	**Cost**
Refinery development	2,200
Construct the interstate distribution pipeline (Mpigi to Eldoret)	1,072
Construct Gulu Petroleum Reserves	60.33
Total	3,332

[2] Karuma HPP is already under programming

Transport Projects

Table 4: Transport Infrastructure Projects

Projects	Cost USD (millions)
Roads	
Upgrade 1100km of national roads from gravel to bitumen	840.33
Reconstruct 1200km of paved national roads	448.49
Dualling 150km	210.58
Upgrade 9,000 district roads to national roads	217.57
Upgrade strategic roads for tourism, mining, oil and gas industry	113.96
Rehabilitate and maintain district, urban and community access roads	255.01
Improve transport infrastructure connectivity, transport systems and safety for greater metropolitan Kampala	126.35
Total – Roads	2,212.23
Railway	
Rehabilitate the existing railway line	258.86
Construct the standard rail gauge from Malaba to Kampala	433.11
Reconstruction of the northern Line	1,000
Construction of Gulu-Nimule-Juba	340
Reconstructing of Kampala-Kasese	1,032
Total for railway	**3,963.97**
Airports	
Upgrade Entebbe Airport to Class A	24.39
Upgrade the airdromes to entry - exit ports	39.4
	63.8

Water Transport Projects

Table 5: water transport projects

Project	Cost USD (millions)
Five ferries procured and operationalized	10.5
Improve Water Transport on Lake Victoria	18.75
Purchase of a multi-purpose ferry for wagons, cargo etc.	15.2
Revamp the second wagon ferry Pamba -	3.2
Construction of a port at Bukasa.	15.2
Construction of a ferry port in Entebbe to bring in aviation fuel from Mwanza and Kisumu	5.6
Total	**68.45**

Water supply, sewerage and water for production infrastructure Projects

Table 6: Water supply and production infrastructure

Project	Cost USD (millions)
Construction of five irrigation systems	28.1
Establish micro irrigation schemes at community level	13.03
Rehabilitate five irrigation schemes	14.89
Construct 15 dams	33.5
Construct 135 valley tanks	16.75
25 water supply systems to rural areas	4.65
Construct 3 bulk water supply systems	20.23
Rural Water Supply Projects (2850 springs, 5723 shallow wells, 6062 boreholes, 298 Valley tanks)	210.19
Urban Water Supply Projects	208.11
Extend Water Supply to Greater Kampala Areas	70.14
Total	**619.59**

ICT Projects

Table 7: ICT infrastructure

Project	Cost USD (millions)
National Fibre Optic roll-out	11.73
Information Technology Business Parks Construction	12.08
Total	**23.81**

4 Challenges Facing Infrastructure Development in Uganda

Detailed analysis of the challenges facing infrastructure development have been detailed in many Government documents especially the NDP 2010/11-2014/15, Annual Sector Performance reports 2010/11, and the Annual Government Performance reports 2010/11. Below is a summary of some of the challenges:

(1) Limited capacity to generate bankable projects with favorable PPP structures

(2) Inadequate financing

- Limited Government funding of infrastructure development: Government spends about USD 1 billion per year on infrastructure projects where as the estimates indicate that over USD 4 billion per year is required.

- Dependency on government revenues: Unlike in many emerging and developed economies, infrastructure in Uganda has mainly been done using government or Development Partners' financing. This does not only limit the quantity of financing into the sector but also propels use of bureaucratic Government systems and procedures in infrastructure developments.

(3) High cost of finance: The cost of finance in Uganda is relatively high with commercial banks charging above 25% for loans and individual money lenders (Loan sharks) charging over 120-240% per annum. This has crippled the local private sector since it does not have access to cheap credit like other international companies engaged in infrastructure. This indirectly translates to cost of infrastructure.

(4) Weak institutional structures and systems in Government setups: The restructuring re-designated ministries to implement the role of policy and planning. The regulation and development functions were placed in separate entities. However there's a mixture of mandates in many ministries some with separate development and regulatory bodies, some with either and others with none. Furthermore, the restructuring in Government never anticipated the use of PPPs that require different and diverse expertise especially in none traditional professions like investment analysis, credit analysts, actuaries, lawyers, engineers, negotiations and transaction experts with high business acumen.

(5) Unattractive and non-responsive environment for private sector investment:

- Inefficient government systems and procedures- long decision making time especially regarding the payment system and poor contract management.

- Long and cumbersome procurement process: The procurement process is very long with minimum period for infrastructure projects being between 1 and 1.5 years. This makes the project period from initiation to completion of construction about 5-7 years. The administrative reviews and use of government staff in evaluation of tenders are among the many challenges.

(6) The Government setup does not allow the acquisition and use of latest technologies in infrastructure projects. The focus is usually on the investment costs rather than total cost over the project lifespan

(7) Limited expertise in Government and poor remuneration of staff managing projects.

(8) Significant delays in procurement of land for infrastructure development.

(9) Corruption in procurement and management of infrastructure projects.

(10) Weak capacity of National Construction Industry – less completion against foreign companies leading to high unit costs.

5 Overall Strategy

5.1 Strengthen the use of Public Private Partnerships

(a) Introduction

Table 8 shows the 5 models of PPPs broads categorized under low-end and high-end PPPs. After the privatization and liberalization policy, government has been undertaking PPPs mostly in category one in Table 8. However, this requires more government involvement and therefore need to create an environment for upper end PPPs especially concessions, Private finance initiatives and private ownership of assets. These will greatly allow the country to quickly accumulate the needed infrastructure.

The government needs to urgently institutionalize the PPP framework and its attendant structures. This will include finalization of the PPP framework and its attendant structures. There is need to form a PPP unit in MFPED to regulate and monitor PPPs and Build capacity to manage PPPs in government entities

The partners in a PPP usually operate through a legally binding contract or some other mechanism, agree to share responsibilities related to implementation and/or operation and management of an infrastructure project. This collaboration or partnership is built on the complementary expertise of each partner that meets clearly defined public needs through the appropriate allocation of Resources, Risks, Responsibilities, and Rewards.

There are many types of PPPs as illustrated in Table 8.

Table 8: Classification of PPP models

Classification of PPP models Broad category	Main variants	Ownership of capital assets	Responsibility of investment	Assumption of risk	Duration of contract (years)
(a) Low end PPPs					
(1) Supply and management contract	Outsourcing	Public	Public	Public	1-3
	Maintenance management	Public	Public/Private	Private/Public	3-5
	Operational management	Public	Public	Public	3-5
(2) Turnkey	Public	Public	Private/Public	Private / public	1-3
(3) Affermage	Affermage	Public	Public	Private/Public	5-20
/Lease	Lease*	Public	Public	Private/Public	5-20
(b) High End PPPS					

(4) Concessions	Franchise	Public/Private	Private/Public	Private/Public	3-10
	BOT**	Public/Public	Private/Public	Private/Public	15-30
(5) Private ownership of assets and PFI type	BOO/DBFO	Private	Private	Private	Indefinite
	PFI***	Private/Public	Private	Private/Public	10-20
	Divestiture	Private	Private	Private	Indefinite

Each of these five categories has many variants. A categorization of the PPP/PSP models together with their main characteristics. While the spectrum of models shown in the table are possible as individual options, combinations are also possible such as, a lease or (partial) privatization contract for existing facilities which incorporates provisions for expansion through Build-Operate-Transfer. In fact, many PPP projects of recent times are of combination type.
The implementation of PPPs will lead to

- Increased efficiency in project delivery, and operation and management;
- Availability of additional resources to meet the growing needs of investment in the sector; and
- Access to advanced technology (both hardware and software)

Lack of Government funding should not be the main reason why Government decides to use PPPs. There are additional costs associated with borrowing from private sector, administration costs of management and transaction costs. All these pose explicit and implicit liabilities to government.

A project should not be considered for PPP unless there are efficiency gains from improved project delivery, operation and maintenance costs and their advantages offset additional costs as result of PPP approach. There must be a value for money criterion used to determine whether government should enter a PPP and what type of PPP. The implementation modalities of PPPs are summarized in Table 9

(b) Examples of PPPs IN Uganda

In Energy – Bujagali Hydro Power Plant (BOOT) and UMEME (concession)
Transport – Rift Valley Railway (Concession) and Face Technologies (BOT)
Water – Water Operators (O&M contracts) – dominant Public Private Parternships
Kalangala Infrastructure Development Project

(c) Challenges

1. **Structuring of the projects** attractive to private sector financing is a problem because of lack of expertise within government
2. **Financing** – Raising investment capital where the modality is corporate financing (RVR) has been a challenge leading to restructuring of the concession to bring in additional resources.

3. **Management** in government is characterized by bureaucratic red-tape and slowness in decision making which increases the cost of doing business.
4. **Lack of Capacity** on part of government to formulate and implement PPPs and as a result, risk allocation is largely to government.

6 Financing Options

Table 9: Summary of the financing options proposed

Modality	Financing Mechanism	Implementation	Remarks	Size
Private Financing Initiative (PPP-PFI)	Corporate financing	Special Infrastructure Development Unit, MDAs (<USD 50 m)	Recourse financing to the sponsors. Corporates and Governments take higher risks	>USD 50 SIDU <USD 50 million, MDAs
	Private financing (mutual funds and exchange traded funds)	Special Infrastructure Development Unit	Limited or no recourse financing (PPPs and Infrastructure Fund). Private sector driven system/ ambition	>USD 200 Mast favored for big term long term projects
Infrastructure Bonds	Government and Public	MDAs	Sovereign or local, project or multi-projects	If project > USD 100 or all for budget support
Infrastructure Credit Facility	Development Bank	Managed by Development Bank	Reduction of interest rates by around 20% Government	All local contractors (Bridge financing)
Budget	Government	MDAs	Need to increase funds to infrastructures sector.	All

6.1 Public Private Partnership- Private Finance Initiatives

(a) Private sector financing –Private financing

The main source of funding for infrastructure projects in developed and emerging economies has been private sector financing. These funds are mainly from mutual and exchange traded funds. Infrastructure investments are preferred because they are relatively stable plays often backed by

government projects, they have significant growth potentials, and the projects are natural monopolies and have been proved to have high profits (high upfront costs and relative marginal costs)

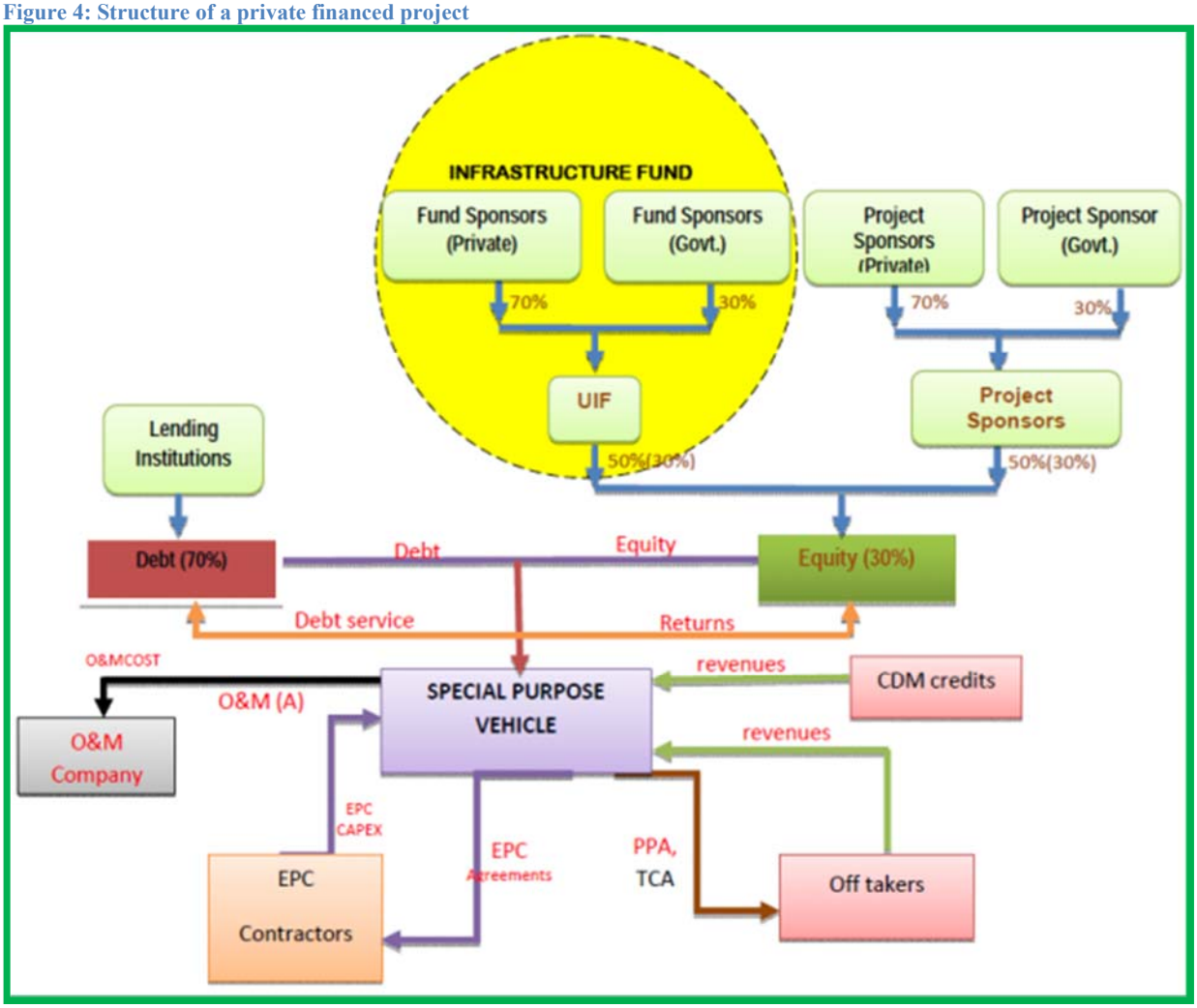
These funds are channeled through private sector and development finance institutions (DFIs). This mechanism of funding leverages Government investments by up to 20:1. This will bring the needed infrastructure development and financing expertise and gain a return on government investments on the projects.
Some of the known infrastructure funds include:

- Emerging Africa infrastructure fund currently estimated at USD600M in 47 countries across sub-Saharan Africa.
- Africa Investment Fund (AIG) estimated at USD407M
- Africa Infrastructure Investment Fund II estimated at USD464M
- Pan African Infrastructure Development Fund (PAIDF) estimated at USD625M

In order to attract private financing, there is need to create an attractive environment, systems and mechanisms that will provide use of private sector policies, private sector ambition with limited but assured government involvement. One of the best mechanisms is the establishment of an **infrastructure development entity** there in and after called an **infrastructure fund**. In case of Uganda, it is proposed to be called **Uganda Infrastructure Fund.** This will used to attract private financing with no or limited recourse to the sponsors unlike corporate financing that has recourse to the sponsors.

The figure below illustrates a typical structure of a project being financed by private financing with limited government contributions thorough established funds.

Figure 4: Structure of a private financed project



Using the above financing structure, for a project estimated to cost about US$ 2.2 billion, the Government contribution to the infrastructure development can be substantially reduced to affordable limits spread over the project life cycle. See table below.

Table 10: Typical infrastructure project

TYPICAL INFRASTRUCTURE PROJECT			**Remarks**
		USD	
Total estimated development cost		2,200,000,000	
Debt equity ratio	70:30	70:30	
Debt contribution	70%	1,540,000,000	
Equity contribution	30%	660,000,000	
Distribution of equity contributions			

Uganda Infrastructure Fund (UIF)	50%	330,000,000	The fund contributes over 50% or half of the funding of equity
Project Sponsors (Government and &private Entities)	50%	330,000,000	The sponsors provide the other half of funding
Private sector contributions	70%	231,000,000	From various DFIs, funds, project sponsors
Government contribution	30%	99,000,000	Government contribution
The Government contribution is spread over the implementation life cycle of the project		**99,000,000**	
	Year 1	29,700,000	30%
	Year 2	29,700,000	30%
	Year 3	19,800,000	20%
	Year 4	9,900,000	10%
	Year 5	9,900,000	10%

From the above explanation, it can easily be seen that using this approach will not put a lot of pressure on the government budget and with limited government participation can boost the infrastructure development.

(b) Uganda Infrastructure Fund

A detailed study was carried out on the feasibility of establishing the Uganda infrastructure Fund by Uganda Security Exchange. The study noted that it is feasible to establish a Uganda infrastructure fund to invest in infrastructure projects in Uganda. The fund will be a private entity that will be registered with about 70% private ownership and 30% government ownership.
The infrastructure fund will;

- Utilize funds from the private sector to increase overall funding for infrastructure development.
- Utilize private sector ambition for projects optimization thus cost effective project design and management.
- Utilize private sector process and procedure in procurement of works and services, remunerating and hiring staff, decision making and management of the projects.

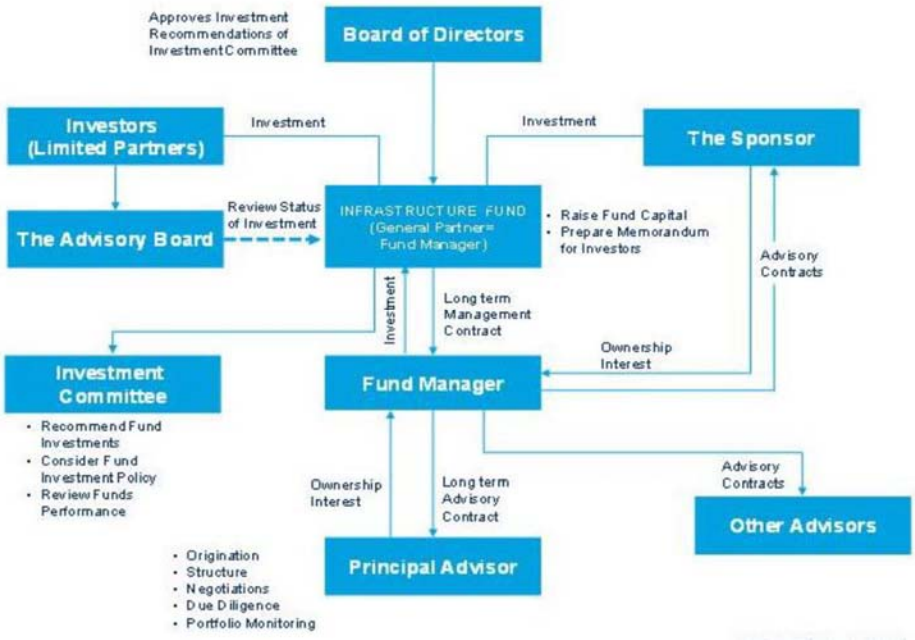
- Utilize high expertise in the development of the infrastructure projects.
- Access to advanced technology (both hardware and software).
- Leverage Government participation in supporting private sector growth up to 20:1
- Exploit the opportunities created by the crisis in Europe and America especially low interest rates, low profitability of projects etc.

DETAILS OF INFRASTRUCTURE FUND

The proposed infrastructure fund will have the following structure;

1) Structure of the Infrastructure Fund (a limited liability company)

Figure 5: infrastructure Fund



Source: USE study 2011

2) Operationalization of the infrastructure Fund

The fund is estimated to be about USD 1 billion with Government committing over USD 300 million over a period of 3- 5 years. The government commitment in the fund will be about 30% of the shares with 70% from private sector/ DFIs. It is proposed that

- An advisory Board has to be set-up urgently composed of BOU, NPA, USE, CMA, MFPED, and OPM. This Board will carry out the initial activities leading to the establishment of the fund.
- The advisory Board should be resident in MFPED (OPM) to enable multi-sectoral contribution.
- A total of about UGX 10 billion should be planned to initially kick off the process especially payment of fund manager before projects are realized.

(c) Public Private Partnerships-Corporate Financing

There are other PPP-PFI-corporate financing which involve mainly the corporate entity and Governments are the key players. This limits the number of the sponsors, there is recourse financing to the sponsors incase the project revenues fail to meet the lenders obligations and Government significant risks compared to the private sectors. The PPP-PFI private financing offers better options for highly rated projects especially electricity generation, oil and gas, and telecommunications. It enables better distribution of the risks to the various players in the projects including sponsors, contractors, lenders, consultants, operation and maintenance contractors and projects managers.

6.2 Infrastructure Bonds

This is an alternative method widely used to raise financing for infrastructure projects in many countries (Malaysia, India and Kenya). The idea is to create a pool of funds to support solicited projects for national development by generating funds from the private sector. These are usually long term investment bonds issued by designated entities. The bonds may have long-term maturity of 10 to 25 years or less depending on the terms or lifespan of the infrastructure project. It can be local or sovereign bond depending on the requirements. It can be raised for specific project or for general budget funding. A quick review shows that in many developed countries, these bonds are largely project specific while in emerging and developing economies prefer budget financing. In Uganda, for electricity, ICT, water and sewerage projects, bonds for specific projects can easily work since they will be revenues generated but in road sector, it may require some sector reforms to allow road tolls to work. In most countries, such bonds have many tax incentives thus attracting investors.

6.3 Establishment of the infrastructure credit facility in UDB and EADB

One of the biggest challenges facing the local contractors is the high cost of credit to finance the construction projects. Usually government pays for works done and incase advance payment is requested, it has to be guaranteed by bank guarantee. The contractors have to obtain credit form commercial banks at interest rates above 20% and usually varying within a lifetime of the construction project. The collateral requirements in addition to wide revenue swings make it rather challenging to meet the commercial banks requirement. The variation of interest rates over the lending period poses many challenges to contractor especially those carrying out smaller infrastructure projects with that do not have VOP clauses. In the last years, it has led to loss of property and closing of many local contractors. Though the cross roads programme under Ministry of Works is trying to build the capacity of the local contractors, its inability to solve the most pressing challenge which is lack of capital to finance the construction projects still impact on the local contractors.

These difficulties in attracting finance have strongly affected the outcome of public work, delays in operations, substandard works, wrong type of equipment, sudden and illiquidity problems. There are varying possibilities that government have done to support local contractors

- Lease or hire purchase of equipment
- Prepayment of equipment by project
- Equipment pools
- Bridge financing

Most countries have used one or a combination of many options to support local contractors. In Uganda, many options have been tested with varying success. But the success of the option of construction / investment Banks in Asia has led to many policy changes in many developed countries. In 2008, Obama pushed for establishment of national infrastructure re-investment bank after noting the role such banks have played in Asia and other emerging economies. In the long term, Government needs to have a dedicated investment bank for infrastructure projects. However for the short term, it's is proposed that bridge financing mechanism are established.
It is proposed that Government thorough Uganda Development Bank establishes an **infrastructure credit facility** that will benefit Local contractors by providing low interest rates of about 5-8%. These loans should be subjected to availability of contracts from Government institution, other collateral requirements and be only available to Local contractors.

7 Implementation proposals

To improve the infrastructure implementation in Uganda, there is need to strengthen the current implementation systems, skill the relevant professionals especially with business and investment skills, build capacity in PPPs, create special infrastructure Unit, and also improve the systems.

7.1.1 Institution and structures

The Government should strengthen the current systems with relevant skills especially in investment and business skills. The main challenge is that PPPs require more expertise that the traditional infrastructure development mechanisms. Although government view it as a public good, the contractors, fund managers and other players view infrastructure projects as Business venture. Therefore need to retool government officials in this area. The table shows the proposed implementation mechanism. For low end PPP with project value of less than USD 50 million, together with all projects financed by Government and donor budgets, should remain within the current implementation mechanisms. For PPP projects more than USD 200 million, Government should set up a unit to prepare the projects, structure them and hand them over to Uganda infrastructure fund for implementation. This is mainly based on the expertise and risk requirements but also need to have a sufficient stream of pipeline projects to facilitate the infrastructure fund.

Table 11: Implementation Modalities

Low end PPPs (Leases, supply and Management contracts, Operator O&M contracts)	Government with limited Private Sector participation	MDA regulated by Finance	Do not attract high interest on government but allow private sector participation
High end PPPs (Concessions, BOOT, DBFO, BOT)	Majority private with limited Government participation (70:30)	Special Infrastructure development Unit/Infrastructure Fund	Private sector ambitions and procedures used; require more business management, long term partnership between private sector and government
Creation of National Construction Corporation	Government and Private sector		

7.1.2 Creation of Special Infrastructure Development Unit for preparation of bankable projects (above USD 150 Millions)

After the restructuring of the public service, the ministries remained with mandates of policy and planning. Other Government agencies were created for regulation and development mandates but this varies from ministry to ministry. In some Ministries, the development was envisaged to be left entirely to private sector while in others development entities were developed. However, to date, there seems to be lack of development arms in MEMD, ICT, MWE, and even in MOWT, the railway subsector seems not to have a dedicated development arm.

The policy of Government to encourage use of PPPs is premised on Ministries preparing and structuring projects that are attractive to private sector financing. In the current Government setting, this will be challenging to achieve especially for infrastructure over USD 150 million that

are classified as high risk, upper end PPP-PFI and require diverse expertise. The PPP approach requires us to view infrastructure more as a business that an engineering feat.

In addition, PPPs require nontraditional expertise like investment, actuaries, credit analysts, industrial experts, financing, transaction and negotiation experts that may not be easily acquired and retained in ministry setting given the low levels of remuneration and human resource management systems. It should be noted the that PPPs require properly executed planning and development of a project which will allow better screening of options, and helps in deciding appropriate project structure and choice of technology considering cost over the whole life cycle of the project.

Therefore it is recommended that Government creates a PPPs infrastructure development Unit for large complex PPPs (preferably over USD 200m). This will be responsible for creating sufficient quantity of bankable potential portfolio investments and defining government basic standard of service - It should have sufficient business and engineering expertise and be responsible for preparation of bankable projects in consultation with the sector. It should be accredited to use alternative procurement systems if the projects have to be delivered on time. The unit will be responsible for determining the financing structure (in consultation with fund), type of PPP and the other areas of intervention government has to undertake to make the PPP attractive to Private sector. It should be noted that this Unit will handle projects that can be implemented as PPPs and other large scale projects that may not initially be attractive to private sector. The unit has to evaluate whether the efficiency gains from improved project delivery, operation and maintenance, access to advanced technology can off-set additional costs such as transactional costs of PPPs. This unit must operate like private entity with highly paid experts and using private sector processes and systems. It should be accredited from the start to use alternative procurement systems (short and less complicated like PPDA). The Unit should be resident in MFPED.

7.1.3 Regulation, monitoring and management of Government Investment in Institutionalized PPPs

As noted in the draft PPP bill, PPPs contracts especially the institutional PPPs where SPVs are formed have longer period ranging from 5-30 years need to regulated in their conduct. It is very important that the relationship between the private company and the implementing agency over the tenure is managed very well. It may be challenging where there is management of revenue streams from the SPV to the shareholders. Government should create a mechanism of monitoring the SPVs in various entities. Given the mandate of ministries after the restructuring, it may be difficult to monitor government interest in the SPV over the duration of the SPV. As earlier noted, PPPs will attract explicit and implicit liabilities to Government. There I need for strict monitoring and regulation to avoid high indebtedness.

7.1.4 Establish a Technical Assistance Fund to support preparation of bankable projects

Currently there is lack of bankable projects in government especially in the infrastructure sector. This is attributed to inadequate skills especially for large projects, limiting budget system and peculiar requirements of infrastructure projects. In most engineering projects, it is professionally acceptable if the projects is designed and thereafter implemented within the limited space of time at least not more than 2 years. Therefore sector cannot design projects that have no future funding prospects and the designs will be outdated. This has created scenarios where feasibility studies are carried out on projects with Government funding prospects.

It is proposed that pool of funds is established to support preparation of bankable projects especially payment of TA fees. In short run, it is envisaged that Government will rely on TAs

7.1.5 Creation of Infrastructure Construction Unit under NHCC

One of the major challenges affecting infrastructure development is high unit cost of construction. Large infrastructure development projects are dominated by foreign companies with limited competition and possible collusion to hike bid prices because many of the companies are a subsidiary of one entity. Besides these foreign companies repatriate foreign currency which affect our exchange rate and do not want to employ local people. The state needs to partner with serious local contractors or companies to create a National Construction Corporations which will compete with foreign companies to bring down the unit cost and create jobs for our people. The Chinese have successfully used this strategy not only to develop their infrastructure but also to compete for projects abroad.

It should be noted that there are many Programmes to build the capacity on local contractors but still due to financial and technological challenges, it is hard to compete with the international contractors unless special preference for local contractors is implemented.

It is proposed that the NHCC Act is reviewed and a construction unit is set up to support the construction of roads, electricity, and ICT and railway projects.

7.1.6 Strengthening of regulatory function in the Water Sector, Oil and Gas Sector and Roads sector

For Public Private Partnership to perform well, the sector reforms have to be carried out to ensure strengthening of the regulatory function in the sectors like Roads sector, Water Sector, and, oil and gas sector. The PPP require good regulatory systems to define standard services of infrastructure over a long period and monitoring compliance. The development arm of the sectors will be engaged in execution of the projects therefore need for separate arm to regulate the practice, quality and standards

7.2 Proposed Changes in the System

7.2.1 Improvement of Procurement of infrastructure projects

Infrastructure projects have particular challenges in public procurement because of they are complex, customized, and often require economic, political and social considerations over a long period of time. In some countries (Philippines, UK) alternative procurement systems have been set up for infrastructure projects. Infrastructure projects have limited and specific players unlike other procurements. One of the challenges is balancing and aligning the technological and engineering complexities and players within a project. In addition to financial requirements, there are many other entry barriers that limit participation. However, the current law provides does not take into consideration the unique requirement of infrastructure projects. Thus it has become a bottle neck in infrastructure project implementation in Uganda. This challenge will be further compounded as Government encourages PPP projects that will need Government to match private sector ambitions.

. A typical infrastructure project will undergo the following process before full completion. Currently the implementation cycle of infrastructure takes a minimum of 5 to start the construction of the projects. This process is not conducive to PPPs whether using corporate finance or private finance initiatives

Table 11: Procurement cycle for infrastructure project

Activity	Time period	Accumulated time
Initiation of projects (TOR)	2 months	2 months
Procurement of consultant for pre-feasibility/ feasibility	1 years	1 year 2 months
Carrying out feasibility	1 year	2 years and 2 months
Procurement of design consultant	1 year	3 years and 2 months
Carrying out of design consultant	1 year	4 years and 2 months
Procurement of contractor and supervising consultant	1year	5years and 2 months
Commencement on construction	3-5 years	8-10 years

This is a very rare scenario in infrastructure project procurement where there are no administrative reviews, complaints and even court cases.

The proposal is to review the implementation of the PPDA provisions and provide alternative procurement systems for infrastructure projects limiting the time of procurements and delays.

7.2.2 Review the land Act to enable demarcation of land for infrastructure projects

The long term proposal will require review of the Land Act and/or the Constitution to give Government more leverage over regulating land use and ownership. However in short term, Government can use spatial planning to earmark areas for future infrastructure development and encourage each institution to set up a land bank. The land can therefore be gazette to avoid compensation and re-settlement of the people few years before project. However, in the long run, the law requires some adjustment to allow Government access to infrastructure development.

7.2.3 Review the licensing regimes especially for hydropower projects and other infrastructures

The current licensing regime allows a lot of speculators to apply and obtain licenses without capacity to develop the projects. The speculators obtain licenses and sell them exorbitantly limiting genuine investors. The proposal is to review the licensing regime especially setting tough conditions for license holders to meet the criteria. If no substantial progress leading to fruition of the project is realized within six months, then the license should be cancelled.

8 Policy proposals

Strengthening Public-Private Partnerships

1) Expedite and strengthen the use of Public Private Partnership (PPP) in infrastructure development. This entails the finalization and operationalization of the PPP legal and policy framework. The draft bill is under discussion.

Financing options

2) Establish and operationalize the Uganda Infrastructure fund (UIF) (Private entity with government interest) to attract more private sector financing and develop infrastructure based on private sector ambition, expertise, technologies, procedures and systems.

3) Utilize infrastructure bonds to raise funds to finance infrastructure projects in Uganda and East Africa

4) Create an infrastructure development credit facility in Uganda Development Bank and East African Development Bank to provide credit to Local contractors at favorable rate of about 5% per annum

Implementation modalities

Structures

5) Create a special unit to regulate, monitor and manage Government investment in various Special Purpose Vehicles (SPVs). This should be resident in MFPED. This is provided in the PPP bill but under discussion.

6) Create a Special infrastructure development Unit to prepare and structure bankable projects that can attract private sector financing. This unit will deal with projects above USD 150 million. It is proposed to be under MFPED but should be separate from regulatory unit proposed above

7) Establish a technical assistance fund (TSF) in MFPED to support the preparation of bankable projects using Technical Assistance from experienced countries. Each Technical Assistance will be required to build capacity of the local counterparts. All MDAs will be required to assess this pool of funds for TA especially in PPP projects.

8) Review the National Housing Construction Company Act (NHCC) with an objective of setting up an infrastructure construction Arm (Roads, electricity transmission, ICT, Water supply and sewerage projects). The company will also undertake responsibilities of building the capacity of local contractors through equipment hire mechanisms and training.

9) Strengthen the regulatory function in the ministry of Works and Transport, Ministry of Water and Environment. This will assist in setting standards and enforcing compliance for infrastructure projects. These standards impact on the quality of public infrastructure including their functionality and lifespan

Systems

10) Review the implementation of the PPDA provisions and provide alternative procurement systems for procurement of infrastructure projects. This is because infrastructure projects are complex, customized and require economic, political and social considerations over a long period. The systems currently favor's consideration of investment costs rather than total cost. There is need to standardize bidding documents, introduce E-procurement and reduce processes and procedures.

11) There is need to review the Land Act and/or the Constitution to enable Government Gazette land for future infrastructure development. However in short term, detailed spatial planning should be done to enable government buy land for future projects before the design phase. There is need to fast track computerization of land registry system to enable easy management of land issues especially for infrastructure.

12) There is need to review the licensing regime and the management of licenses to remove the speculation aspects which limit investment especially in infrastructure projects.

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