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Uganda
Public Expenditure Review

Strengthening the Impact of the Roads Budget

Poverty Reduction and Economic Management 2
Africa Region

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Monetary Equivalents

Exchange Rate Effective January 2010

Monetary Unit	=	Uganda Shillings (Ush)
1.00 dollar US	=	Ush 1950

ABBREVIATIONS AND ACRONYMS

APG	Advance Payment Guarantee
CEM	Country Economic Memorandum
DLP	
DUCARIP	District, Urban, and Community Access Roads Investment Plan
FIDIC	International Federation of Consulting Engineers
GAAP	Governance and Accountability Action Plan
GoU	Government of Uganda
IMTC	Inter-ministerial Technical Committee on Roads
KM	Kilometer
KPI	Key Performance Indicators
LIC	Low Income Country
M&E	Monitoring and Evaluation
MIS	Monitoring Information System
MoFED	Ministry of Finance and Economic Development
MoFPED	Ministry of Finance, Planning, and Economic Development
MoWT	Ministry of Works and Transport
MTEF	Medium Term Expenditure Framework
MTRA	Multi-Sector Transport Authority
NRSA	National Road Safety Authority
NTMP	National Transport Master Plan
PA	Price Adjustment
PDU	Procurement and Disposal Unit
PEAP	Poverty Eradication Action Plan
PER	Public Expenditure Review
PPDA	Public Procurement and Disposal of Public Assets Authority
R^2	Regression Coefficient
RAI	Rural Access Index
R&D	Research and Development
RSDP	Road Sector Development Program
SG	Solicitor General
SSA	Sub-Saharan Africa
SMART	Specific, Measurable, Attainable, Realistic, and Timely
TSDP	Transport Sector Development Project
UNHS	Uganda National Household Survey
UNRA	Uganda National Roads Authority
URF	Uganda Road Fund
USD	United States Dollar
VO	Variations Orders

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Uganda Public Expenditure Review

EXECUTIVE SUMMARY

A. INTRODUCTION

i. Uganda needs to focus on improving the effectiveness of its roads investment strategy for rural Uganda and improving the manner in it procures and implements roads contracts at the national level. In recent years the Government of Uganda has shifted the priorities in its national development strategy as there was accumulating evidence that infrastructure deficiencies had become a binding constraint to economic growth and poverty reduction.

ii. Consequently the Government of Uganda increased in particular the budget allocation for the road sector substantially as a means to tackle this constraint to growth and poverty reduction:

- By investing in rural roads it aims to facilitate market access for farmers, which will allow them to increase their earnings capacity; and
- By improving the national roads network, transport cost will be reduced, competitiveness enhanced and additional income generated.

iii. However, to ensure the highest economic return for its investment, it is advised to rebalance the way allocations are set for rural roads and to increase absorptive capacity to efficiently utilise the augmented budgetary resources for the national roads sector. The remainder of the executive summary will discuss how this can be done.

B. KEY MESSAGES

Improving Uganda's Rural Roads Investment Strategy

iv. Rural household consumption is positively related to connectivity to a market. Therefore, Government policies that decrease rural related trade cost, including transport (service) cost will promote domestic trade and export and thus reduce rural poverty. Consequently, the Government of Uganda in its ten year District, Urban and Community Access Roads Investment Plan committed itself to increase the allocation for rural roads significantly.

v. A higher rural access index, which measures the proportion of rural people who live within two kilometres of an all-season road and which is used as a benchmark to assess the need for rural transport investment in most low income countries, is not a significant determinant of higher consumption by rural households in Uganda. Therefore, a more refined approach on how much to allocate to a district needs to be designed. Such an approach should include the need for transport, including options for consolidation of loads, length and condition of existing roads network, population, area and above all agriculture potential.

vi. The need for transport by a rural farmer is rather limited. Taking into account the fact that plot size is limited to less than one hectare, the average farmer's transport requirement in Uganda is quite small. More detailed analysis of production and yields in three districts, Bushenyi, Masindi, and Tororo, show that without consolidation of loads transport by bicycle and/or motorcycle is adequate and economical. Consequently, existing infrastructure is probably sufficient to link farmers with the nearest market place and emphasis should thus be on maintenance of rural and less on new rural roads.

vii. Consolidation and deconsolidation of freight at hubs becomes optimal when the capacity of the most efficient mode of transport, i.e., truck, is large compared to the average freight being transported from origin (farm) to its destination (market). However, consolidation of loads has proven difficult due to existing coordination failures. The Government could assist farmers and transporters testing various models such as the producer groups' model developed in Poland, the IT based e-choupal model pioneered in India or supporting contract farming where appropriate to overcome the existing coordination failures.

viii. Currently budget allocations to districts for roads are based almost in its entirety on network length. Road condition and area of a district do not explain why some districts benefit more from higher funding than others. At the same time agricultural output and potential do not appear to be considered either when allocating the road maintenance budget in Uganda. Henceforth, the incentive for a district is squarely to increase network length as that determines its budget allocation.

ix. Estimating agricultural potential using export parity prices as well as local prices showed for the 2006 budget that districts with high agricultural potential receive too little in road maintenance grants while other with low agricultural potential received significantly more. As a household that is able to produce for local markets or even better for export, is likely to have a higher income and therefore is less likely to be poor, connecting local farmers, through investments in rural roads, to local and export markets contributes to poverty reduction.

x. Resources are scarce and therefore, it is important to prioritize the allocation of resources to those districts that have the ability to take advantage of this improved connectivity of farmers to agricultural markets. Henceforth, the need to take into account agricultural potential of a district when allocating public resources for rural roads. This could require additional reallocation of resources away from certain districts in the South West to districts in the North.

Value for Money and Absorptive Constraints in Procuring and Implementing Roads Contracts

xi. Historically the road sector suffered from underfunding and poor management. The road sector has now become a very clear priority for Government and consequently there has been a quantum step up in funding in the last 2 years. No major changes in policy and approach are required at this stage, but rather an emphasis on policies that can facilitate the absorption of the increased funding without unreasonable increases in unit cost and practices that will assist with timely and efficient implementation of the planned roads investments.

xii. Given that the institutional structure in the public sector for roads is rather young, with Uganda National Road Agency (UNRA) established in 2008 and Uganda Road Fund (URF) having been established this year, targeted technical assistance, primarily for UNRA, is needed to have an impact on the successful and efficient implementation of roads projects. It is clear that, whilst UNRA has achieved a lot in its first year, it has also been consolidating the new procedures, new staff and setting up new systems. To help this process it is proposed that UNRA appoint Associate Directors in each Directorate and establishes a dedicated program management unit that will manage the design process and the tendering of the works contracts.

xiii. There are a number of areas where action can be taken to increase absorption and value for money in the sector by focusing on reducing risks and delays in the implementation of projects, and on increasing the efficiency of procedures. Projects are still taking too long to implement, and cost and time overruns are significantly higher than should be the case.

xiv. One of the main limiting factors is procurement and the time it takes, which greatly impacts on value for money and absorption capacity on all contracts. In Uganda under current procurement Public Procurement and Disposal of Public Assets Authority (PPDA) rules, it takes at least three years to initiate a new project from taking on a new consultant, undertaking design and starting works on site. To procure a consultant for a GoU project takes 10.5 months with another 1.5 months required for them to mobilise, a total of 12 months (typical timeframe). Of this 12 months, 5 months (42 percent) input is from bidders input and 7 months (58 percent) is required for preparation and approval. A similar time of 10.5 months is required to procure a contractor plus another 3 to 6 months for mobilisation. In addition a contractor can not immediately start “high volume work” (high volume of spend), it takes time to set, undertake initial works and build up momentum.

xv. One area that appears to be least appreciated is the cost implications of a project that is awarded late i.e. the time between tender and award is protracted. Slow award of contracts will also significantly impact on the rate of increase in absorption i.e. delay to works starting on site, that can be achieved as well as increased cost in part due to price adjustment clause which uses the base price submitted by the contractor at tender stage, not start of contract works on site. In simple terms any slippage in time during the 62 months procurement process can result in overall increased cost through the price adjustment clause. Conversely if the time to award a contract can be reduced real savings may be achieved.

xvi. To reduce the risk of delays and claims, it is far more cost effective to spend additional funds in improving the quality of designs and improving the quality of the works contracts in order to prepare improved tenders. Therefore, UNRA should undertake technical audits on all works contracts before they are tendered and use experienced experts when preparing the works contracts. This could best be done by a dedicated unit within UNRA.

xvii. The current approach of not commencing with the landtake procedure until the final construction contract has been given the go-ahead delays absorption. It takes approximately six months for a 40km road and the acquisition of registered land can take up to 15 months for 100km of road. UNRA should determine how it can complete landtake prior to signing a works contract to avoid additional claims from contractors because of delays. Addressing the capacity of the office of the Government Chief Valuer and the Land Titling Office are also needed to ensure a more timely process of landtake.

xviii. Currently all variations orders are sent to the SG for approval. This has been a particular cause of delay. The variation orders need to be processed timely. The current process falls well short of best practice. In many countries variation orders are processed by the Roads authority up to a certain value where upon they obtain approval from other authorities. Such a process is transparent and much faster and Uganda could usefully implement it.

xix. To contain the rise in unit prices the Government could usefully, in addition to measures it is already contemplating, review costs of materials and investigate potential of alternative road construction materials (based on local availability) and review how GoU may help reduce costs by facilitating expanded domestic supply of inputs. For example, based on projected volumes of cement requirements, information could be provided to potential investors and/or cement companies about the prospective multi-year demand for major input for public construction works.

xx. The data reporting system for measuring performance in the road sector is weak**.** Some Key Performance Indicators (KPIs) are reported in the Ministerial Budget Statement, but these are fairly general in nature. Furthermore, many sector performance indicators desired by Government in order to more accurately assess performance cannot yet be reported due to deficient or lacking data reporting systems. The M&E department in UNRA needs further investment and support. It is recommended that monitoring needs to be extended from simply recording progress to making predictions for future modelling and providing indicators of potential problems.

Pretext

1. In recent years the Government of Uganda (GoU) has shifted the priorities in its national development strategy. There was accumulating evidence that infrastructure deficiencies were binding constraints to economic growth, in particular deficiencies in the transport and energy sectors. If bottlenecks in infrastructure were not removed the rate of economic growth could slow down in the next few years which would also impact on the progress in poverty reduction.

2. This marked a reorientation from the Poverty Eradication Action Plan (PEAP-3), i.e., the national development strategy at the time. Since the bulk of transport in Uganda is done by road (trucking), the most immediate transport infrastructure deficiencies to be addressed were in the road sector. The most pressing needs were identified as improving through investment in rural roads market access for farmers and improving road quality (through rehabilitation, upgrading and better maintenance) and better linking some regions of the country to the national road network and to neighboring countries for regional trade through new investments at the national level.

3. In light of this the Government started a shift of budget resources towards infrastructure in last fiscal year's budget (see table 1). Up until FY06/07, GoU spend on average 2.3 percent of GDP or approximately 12 percent of total expenditure o managing its roads sector. In FY08/09, this number increased significantly to 3.6 percent of GDP for that year, equivalent to 18.8 percent of total expenditures. For the ongoing and upcoming fiscal years, these numbers are anticipated to remain at these alleviated levels. The Medium Term Expenditure Framework (MTEF) allocation is projected to drop back to pre-FY08/09 levels in FY11/12.

Table 1: Recent and Projected Developments of the Roads Budget in Uganda

Expenditures in million of	Budgeted					Planned	
Uganda Shillings	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Expenditures on Roads	400.1	497.0	657.9	1,083.8	1,133.7	1,409.3	953.8
o.w financed from							
GoU resources	182.5	210.7	322.3	736.7	774.5	871.0	554.4
Current	30.4	80.5	152.9	196.1	179.0	180.54	215.0
Development GoU	130.2	107.8	113.6	473.4	480.3	575.29	200.2
Local	21.8	22.4	55.8	67.2	115.2	115.2	139.1
Donor	217.7	286.4	335.7	347.1	359.2	538.29	399.5
In percentage (%)							
% of Total Budgetted							
Expenditures excl interest.	11.5	12.4	14.8	18.8	16.9	19.1	11.1
% of GDP	2.3	2.3	2.7	3.6	3.1	3.4	2.1

Source: MoFED, IMF and World Bank staff estimates

4. However, the government has difficulties executing the national roads development projects. Since FY05/06 actual spending on national road development projects has hovered around 50 percent indicating that serious planning issues and limited absorptive capacity in the sector (see table 2). In general, the limited ability to absorb effectively the budgeted resources was limited to donor funding as government's own resources often had to be increased due to delays in disbursements of donor funding. However, this has radically changed in FY08/09 when

Government increased the availability of its own resources for national roads projects manifold. Even though absorption increased in absolute figures in FY08/09, the government and its agencies were unable to handle the programmed increase pointing towards additional bottlenecks with project implementation. To date in FY09/10, these implementation difficulties have continued. The under execution of the national roads budget is also having an adverse impact on timely execution of the Government's fiscal stimulus program in response to the impact of the global financial crisis which was included in the FY09/10 budget.

Table 2: Budget and donor funding and actual spending on national road development projects

	2004/05	2005/06	2006/07	2007/08	2008/09
I. Government of Uganda funded roads works (in Ush billions)					
Budget	34.3	19.6	28.9	31.4	411.2
Actual Spending	37.2	16.6	33.8	45.5	156.2
Absorption (% Actual/Budget)	**108.6**	**84.7**	**116.7**	**144.7**	**38.0**
II. Donor funded parts of road network (US$ millions)					
Budget	97.7	90.0	121.8	147.8	175.3
Actual Spending	92.6	25.4	52.0	68.8	104.7
Absorption (% Actual/Budget)	**94.8**	**28.2**	**42.7**	**46.6**	**59.7**
III. Total GoU and donor funded road works (US$ millions)					
Budget	116.7	100.9	137.4	164.4	380.9
Actual Spending	113.3	34.6	70.2	93.3	183.8
Absorption (% Actual/Budget)	**97.1**	**34.3**	**51.1**	**56.8**	**48.3**

Source: MoFPED, UNRA, Authors calculations. See Appendix A of background paper for details.

5. As revenues are anticipated in the short term to remain basically at their current levels, i.e. 15.4 percent, it is clear that such an increase has to be accommodated by an adjustment in the composition of expenditures (see table 3 and 4). The initial increase of expenditures on roads in FY08/09 was accommodated within a tight budget as overall expenditures declined by one percent of GDP. The initial surge in expenditures on roads was accommodated for a large part by a reduction of expenditures on security, justice, and governance, whose allocation declined by 0.8 percent of GDP between FY07/08 and FY08/09. To be able to keep the alleviated levels of roads expenditure for the ongoing and next FYs, allocations to security, justice, and governance in conjunction with a reduction in expenditures on human development, all measured as a percentage of GDP, are planned.

6. Note that this does not mean that their allocations in nominal terms are reduced as can be seem from the bottom part of table 4, which show how the nominal increases in expenditures are allocated. For example, of the total increase in expenditures, for FY09/10, 18.9 percent of additional nominal expenditures were allocated to Agriculture, 37.3 percent to Energy, transport and economic competitiveness, 37.5 percent to human development and 6.3 percent to security, justice, and governance. In FY11/12, roads expenditures are anticipated to fall back to their levels before the surge of around 2 percent of GDP, allowing for a direction of resources to human development, which will absorb 75 percent of the total increase in expenditures for that fiscal year.

Table 3: Fiscal Developments and Outlook

	Actual			Estimated	Planned	
% of GDP	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Revenues	20.2	15.5	15.2	15.4	15.4	15.6
Domestic	13.6	12.8	12.5	12.8	13.2	13.7
Grants	6.6	2.7	2.7	2.6	2.2	1.9
Total Expenditures	22.3	17.9	16.9	17.8	19.2	19.2
Overall Balance						
Including grants	-2.1	-2.4	-1.7	-2.4	-3.8	-3.6
Exluding Grants	-8.7	-5.1	-4.4	-5.0	-6.0	-5.5
Financing	2.1	2.4	1.7	2.4	3.8	3.6
External	3.1	2.5	1.8	2.4	3.0	2.6
Domestic	-1.0	-0.1	-0.1	0.0	0.8	1.0
Nominal GDP Growth	22.8	15.7	22.3	21.2	14.2	11.8
Real GDP Growth		8.7	7.1	6.3	6.6	7.0

Table 4: Composition of Expenditures

	Budgeted				Planned	
% of GDP	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Agriculture and Value Addition	0.8	0.9	0.8	0.8	0.9	0.9
Energy, Transport and economic competitiveness	4.0	4.6	5.3	4.7	4.6	3.4
o.w. Roads	2.3	2.7	3.6	3.1	3.4	2.1
Human Development	5.9	5.6	5.7	5.0	4.7	4.9
Security, Justice, and Governance	6.7	7.2	6.5	5.4	5.3	5.5
Increase in Expenditure (as % of total and y-o-y) allocated to:						
Agriculture and Value Addition	0.1	5.2	2.2	18.9	11.5	16.9
Energy, Transport and economic competitiveness	25.0	34.7	45.3	37.3	30.7	-78.8
o.w. Roads	10.0	20.6	42.0	16.1	43.5	-114.1
Human Development	-11.2	17.5	32.2	37.5	21.0	75.2
Security, Justice, and Governance	86.1	42.6	20.3	6.3	36.8	86.8
Total Increase	100.0	100.0	100.0	100.0	100.0	100.0

Source: IMF, GoU MTEF publication, and Bank staff estimates

7. This report is a logical extension of the previous PER which analyzed if whether there existed room in Uganda's budget for more spending in particular on health to promote faster economic growth without weakening the macroeconomic environment. The previous PERs main messages were that Uganda needs to increase investment in infrastructure and budget appropriate levels for spending on maintenance if its current impressive growth is to continue. This PER, therefore, analyzes two basic questions: (i) one of allocative efficiency of Uganda's rural road budget i.e. how it can improve upon the method used to allocate resources for managing rural roads; and (ii) second of absorptive capacity and value for money i.e. how it can improve the cost effectiveness of the national roads sector while facing a major increase in budget and thus pressure to spend resources without significant cost increases.

1. UGANDA'S RURAL ROADS INVESTMENT STRATEGY

A. INTRODUCTION

1 **Uganda has experienced positive economic growth over the past two decades, since 1988 annual GDP growth has ranged from 3 to 12 percent with an average of six percent growth over the time period (World Development Indicators).** Despite this overall growth, poverty remains prevalent in rural areas of Uganda (Deininger and Okidi 2003; Fan et al. 2004, World Bank 2007). Several articles address this issue in the contexts of roads and access to markets. The prevailing notion is that as household distance from roads increases (on roads which eventually lead to markets), the income/consumption expenditure of household decreases.[1]

2 By facilitating market access, through roads, the Ugandan government can encourage participation in export leading to decreased rural poverty. Utilizing district level data from 1992, 1995, and 1999, it is established that government expenditures on roads have a significant impact on poverty reduction in rural Uganda (Fan et al. 2004). Further research has shown that market availability increases household participation in export crops which leads to higher income among these households (Balat et al. 2008). By utilizing instrumental variable regressions the authors concluded that farmers with fewer markets for agricultural export crops are poorer than those with access to markets.

3 Government policies which decrease trade costs, including transport service costs, will promote export and domestic trade and lead to poverty reduction. Stifel and Minten (2008) site high transportation costs as a reason for the positive relationship between poverty and isolation. The high costs may be connected either to a lack of passable roads or a lack of a mode of transportation, including public transportation. As noted previously, Balat et al. (2008) shows that market availability in Uganda increases household participation in export cropping leading these households to be less likely poor compared to non-export crop households.

4 The rural access index (RAI) measures the proportion of rural people who live within two kilometers (km), typically equivalent to a 20-minute walk, of an all-season road[2] and is used as a benchmark indicator to assess the need for rural transport investments in most Low Income Countries **(LIC).** This indicator, also used in Uganda, is said to be a compromise between those who find any distance even less than one km too great a struggle (i.e., the elderly and disabled) and those who are accustom to walking great distances because of their remoteness.

[1] This chapter draws from the background paper prepared by Raballand et al, 2009.

[2] An all-season road is a (gravel or bitumen paved) road that is motorable all year by the prevailing means of rural transport (often a pick-up or a truck which does not have four-wheel-drive). Predictable interruptions of short duration during inclement weather (e.g. heavy rainfall) are acceptable, particularly on low volume roads.

Box 1.1: What factors affect transport cost in rural areas?

Across LIC, governments and their development partners now face a dilemma: should they open more rural roads to achieve a complete RAI in a country or should they drop the aim of the full RAI because of sustainability problems and concentrate more resources on maintenance of the existing road network? To answer such a question it is important to understand the various elements in play.

Road impact does vary. Over the last thirty years various road impact studies have been carried out and in view of different country circumstances, a wide range of impacts have been found. Impacts range from a negative one on agricultural production, where the area under crops fell by 52 percent on the project road and 44 percent on a control road, to situations of very substantial positive impact in the case of a new 85 km mountain road in Madagascar where rice production increased by 160 percent and coffee by 70 percent (Mitchell and Rakotonirina, 1977). The impact of roads investment on the economy seems to depend upon a range of factors: (i) the magnitude of the change in transport costs, (ii) the competitive nature/current behavior of the transport and distribution markets, and (iii) the response of different parts of the economy to changes in transport costs and quality of transport.

Change in transport costs. Large changes in transport costs could occur with new construction if this involves a large proportionate change in trip length for diverted traffic or a change in transport mode, say from human or animal transport to truck. Smaller changes in transport costs (per km) will occur with rehabilitation or maintenance. A change in impassability can have a major effect on transport cost. For example, a bridge over a river can reduce the need for a detour. Weak soils, or an area prone to landslides, can make vehicle transport impassable during the wet season. In accessing a major market, a 20 km reduction in trip length could give transport cost savings that are 20 times more than 5 km road maintenance improvement. Similarly, because human transport is so expensive, it has been estimated for the forest zone in west Africa that converting a footpath to a navigable track could change transport costs by over 100 times compared with the effect of upgrading the same length of track to a gravel standard road. (Hine, Riverson and Kwakye, 1983).

The competitive nature of transport and distribution markets. For transport cost reductions to have the maximum effect on other sectors of the economy, it is important for transport cost savings resulting from road improvements to be passed on to producers and consumers. In theory this depends upon the nature of competition among transporters and others involved in marketing and distribution. Concerns about the competitive nature of transport operators have long been recognized and most recently in a study on international corridors (Teravaninthorn and Raballand, 2008). A number of earlier studies have pointed high cost monopolistic transport operations in Africa for many years. Similarly there is also plenty of evidence of high marketing margins, restrictions of supply and other monopolistic food marketing practices in Africa (Romanik, 2007, Shepherd 2005, Balat et al. 2008).

The response of different parts of the economy to changes in transport costs and quality of transport. Increases in personal mobility are often the most noticeable change resulting from transport improvements. Reduced transport costs will often lead to an increased frequency and availability of transport services. Bulky low value commodities have, almost by definition, high transport intensity. Hence mineral production can be very sensitive to transport costs. Similarly bulky low value agricultural products, e.g. sugar, coconuts and melons also have a comparatively high transport cost component of their final market price. However grain has a relatively high value to weight ratio and as a result there may be little impact on farm gate prices from reduced transport costs. For example, assuming all the transport cost reductions are passed on the farmer, it has been calculated, in an example from Ghana, that improving a 5 km earth road to gravel standard would only increase farm gate prices of maize by 0.1 per cent. (Hine, Riverson and Kwakye, 1983).

5 In Uganda, contrary to some other countries in Sub Saharan Africa (SSA), the government has invested heavily in the road sector, and especially in rural roads. Currently, the GOU guides the development of the entire road network in Uganda (see box 1.2 for an overview) in line with the Road Sector Development Program (RSDP), which has two components: (i) the RSDP is a 15-year National Transport Master Plan (NMTP, issued in Nov. 2008) to be implemented by Uganda National Roads Authority (UNRA), and (ii) the Ten-Year District, Urban, and Community Access Roads Investment Plan (DUCARIP), to be implemented by local governments, both rural (district) and urban authorities. However, due to the fact that Uganda is still a predominant rural country, and despite investments, the RAI has not even reached 30 percent in Uganda. Therefore, thousands of additional km of rural roads would need to be built in Uganda to achieve a rural access index of 100 percent.

Box 1.2: Uganda's Road network

The road network in Uganda is about 78,000 km comprising of:

National roads (also known as trunk roads): 10,800 km of which 2,870 are bitumen standards and 7,930 km are gravel surfaced. National roads connect major towns and districts with one another and link Uganda to the neighboring countries; the national roads have expanded in size over the years, not by construction of new roads, but through re-classification of district roads into national roads network (e.g. the national road network was 9,300 km in 1996). The paved national road network has also expanded. In 1996 only 2,200 km or 24 percent of the national network was paved. Since then the paved network has expanded to 2,650 km by 2003 and 3,050 km by 2008. The length of paved national roads is expected to increase to 4,100 km by 2013, and to 7,100 by 2023. The 2023 figure would represent 37 percent of projected national network of 19,000 km.

District roads (also known as rural/feeder roads): The district roads are about 27,500 km. This will reduce to 20,000 km due to re-classification and transfer of some 8,000 km to national road network. District roads are predominantly gravel and earth surfaced. About 12,322 km of district road network is in good condition, 6,161 km is in fair condition, and 8,939 km is in poor condition.

Community access roads (also called economic roads) are small tracks and footpaths which link communities to social and trading centers, and connect to district and national roads. There are about 30,000 km of community access roads. Access roads are predominantly earth surface with carriage width ranging from 1 to 3 m. Access roads are the responsibilities of Local Council III Governments/sub-county governments, which are sub-division of district governments. No inventory has been taken on community access road condition. The estimated road network of 30,000 km was based on the assumption that links in the range of 2 to 5 km, and a sub-county has 8 to12 links.

6 Uganda has, however, one of the highest overall road density in SSA and the highest secondary road density (see table 1.1). In the last 15 years, the GOU has made substantial investments in rehabilitation and maintenance of District, Urban and Community Access Roads (DUCAR), is estimated at 740 billion Uganda Shillings (US$400 million). The impact of the investment in the last 15 years has been substantial since the proportion of district roads from fair to good condition has increased from 15 percent in 1990 to 65 percent in 2007.

Table 1.1: Secondary Road Network Density (in km/1,000 km^2)

Countries	Density of all roads	Density of secondary roads
Uganda	**385**	**136**
Rwanda	568	72
Malawi	165	71
Lesotho	196	50
Ghana	187	33
South Africa	300	31
Kenya	111	30
Tanzania	62	25
Cote d'Ivoire	82	24
Nigeria	174	23
Benin	142	21
Namibia	77	15
Madagascar	51	11
Cameroon	72	11
Senegal	94	10
Mozambique	61	6
Burkina Faso	39	6
Zambia	50	5
Ethiopia	46	5
Chad	27	5
Niger	13	2
Average	**138.19**	**28.18**
Median	**82.00**	**21.23**

Source: Carruthers et al. (2008).

7 The GOU has, nevertheless, adopted an ambitious investment plan for rural roads for the period FY08/09 to 2017/18. In March 2008, a Ten-Year District, Urban and Community Access Roads Investment Plan (DUCARIP) with a corresponding financing plan were announced. In the upcoming ten years, GOU has committed itself to invest a total of 1,594 billion Shillings or USD862 million, of which 953 billion Shillings for district roads for ten years from fiscal year 2008/09 to fiscal year 2017/2018. Over the medium term, 2008/09 to 2012/13, the estimated shortfall in financing the medium-term investment plan for both DUCARIP and MTEF is around 365.5 billion Shillings (USD197.7 million equivalents; see Table 1.2 for details).

Table 1.2: Financing Plan of the Medium Term Expenditure (in billion Shillings)

Expenditure estimates	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**Total**
DUCARIP projection	125.5	141.2	156.9	174.2	171.7	769.5
MTEF projections	55.8	75.8	90.8	90.8	90.8	404.0
Shortfall	**69.7**	**65.4**	**66.1**	**83.4**	**80.9**	**365.5**

Source: MOFPED MTEF Ceiling FY 2007/08 – FY2012/13.

B. THE IMPACT OF INVESTMENT IN ROADS ON AGRICULTURAL PRODUCTION AND CONSUMPTION IN RURAL AREAS

8 This section uses empirical analysis to test out the causal relationships between investments in roads and agricultural production and consumption.[3] It uses the Uganda National Household Survey (UNHS) data from 2005/06 to look at the relationships between:

a) whether the household's share of their crop that is marketed increases per capita consumption - to answer the question of whether there are gains from trade;
b) whether household road access and proximity (distance, time use) to markets affects the share of households' crop that is marketed;
c) whether the mode of transport used to access markets (and the time taken) depends upon access to roads [triangulated with traffic counts];
d) whether there are remoteness effects on percentage marketed and mode of vehicle use to access markets.

Figure 1.1:Consumption Compared to the Time to General Agricultural Producers' Market

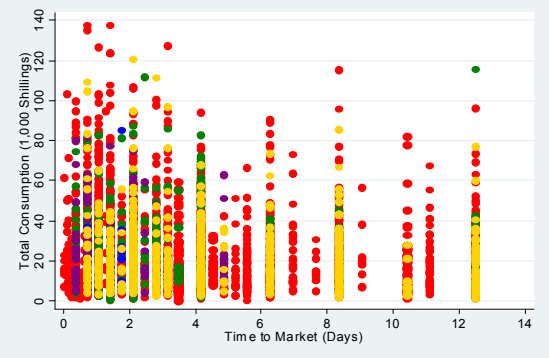
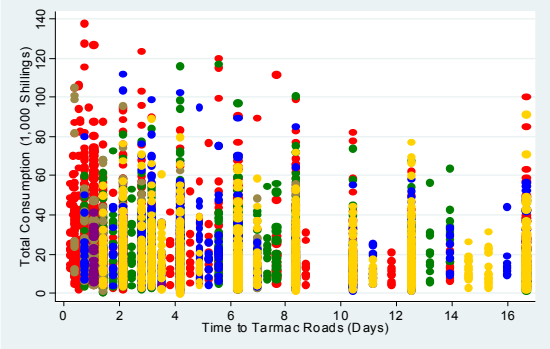


Figure 1.2:Consumption Compared to the Time to a Paved Road



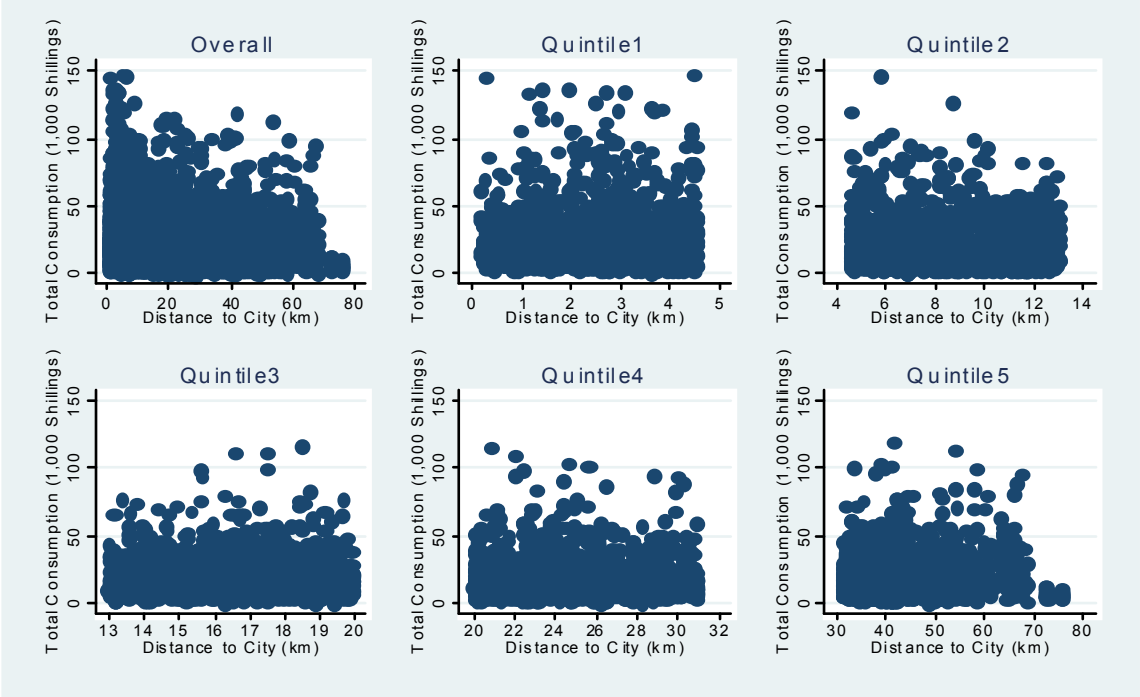
Note: Red represents walk, green a taxi, blue a bus, purple a motorcycle, yellow a bicycle, and brown a boda-boda. The upper five percent of time to market and of total consumption has been dropped.

9 **Less consumption is correlated with distance to agricultural markets and distance to a tarmac road** (see figure 1.1 and figure 1.2). The story emerging from figure 1.1 and 1.2 is that different conclusions about time to markets can be drawn. An overall trend across all the graphs is a downward relationship between consumption and access to an agricultural market and a tarmac road. In addition, the mode of transportation does not seem to vary much with distance or consumption. Bikes, motorcycles, taxis, buses, and boda-bodas (bike taxis) also appear to be time and income invariant. Therefore, in Uganda there does not appear to be a strong relationship between the mode of transportation and the consumption level of the household.

[3] Integration of agricultural market prices, which were analyzed in the recent CEM (World Bank 2007), is not analyzed. Nor is the impact considered on farmer incomes of multiple markets or options for sale. Barat et al. (2008) show that having more options increases sales and prices received.

10 Using distance of a household to a city confirms that consumption is negatively related to isolation. A city will have all the markets, i.e. for inputs and outputs, and therefore provides distance between the household dwelling and the city therefore provides for more accurate and precise measure of isolation than individual markets. The results are depicted in Figure 1.3. To give an overall picture the households were broken down by quintiles of distance to the city. For the overall graph the downward trend is again apparent (for more details see Annex X). An important point to note is the large drop in consumption between the first quintile and the second quintile. After 4.5 km from a large city/market the consumption of the household drops greatly, and more than it changes between any other two quintiles after that. This finding is consistent with with Stifel and Minten (2008).

Figure 1.3:Food and Beverage Consumption Compared to the Distance to the Nearest City



11 The main conclusions are that there is an overall downward trend of consumption as people move further away from markets, with regards to both time and distance, and, on average, consumption is highest closer to the large cities/markets, but sharply declines for those households more than 4.5 km away. This indicates that road network expansion is very relevant to reduce poverty. However, the picture is more complex. It appears to be a distance/transport time ceiling; income generation is marginally more constrained beyond one to two days walking distance from the markets. Moreover, the mode of transportation does not really impact income.

Table 1.3: Transport determinants of income derived from agricultural sales

Dependent variable: income ('0,000 Shillings)					
	Basic (1)	Controls (2)	Density (3)	Tororo (4)	Greater than 2km (5)
Sell direct	**150.638*** **	**144.447*** **	**148.927*** **	**124.201*** **	**126.209*** **
	(39.679)	(40.170)	(39.805)	(39.235)	(39.326)
Crop type	**122.013** **	61.243	95.355	**257.234*** **	**249.087*** **
	(59.587)	(62.682)	(62.990)	(77.457)	(78.050)
Yield	**0.176*** **	**0.187*** **	**0.207*** **	**0.218*** **	**0.219*** **
	(0.058)	(0.058)	(0.059)	(0.057)	(0.057)
HH size		1.636	2.951	3.239	2.869
		(3.625)	(3.658)	(3.543)	(3.570)
Secondary		**16.303** **	8.304	6.09	5.584
		(6.256)	(7.143)	(6.949)	(6.977)
Gender of head		61.288	39.307	18.331	11.391
		(42.884)	(43.044)	(42.145)	(42.890)
# of bikes owned			27.646	22.141	21.175
			(22.737)	(22.081)	(22.123)
Passability			-0.604	0.001	-0.046
			(0.532)	(0.545)	(0.548)
Road density			**440.951***	**680.394*** **	**693.383*** **
			(247.416)	(249.809)	(250.403)
Tororo				**127.105*** **	**123.665*** **
				(37.474)	(37.699)
Greater than 2km					22.574
					(25.407)
Constant	3.078	-74.553	-153.226**	-291.41***	-288.192***
	(24.811)	(51.275)	(65.691)	(75.549)	(75.686)
# of obs.	173	170	169	169	169
R2	0.2209	0.2631	0.3021	0.3494	0.3527
Significance: 10%*, 5%**, 1%***. Note: Standard deviation in parenthesis.					

12 A more in-depth analysis of three Uganda districts[4] indicate that crop type, yield, ability to directly sell on a primary market, and road density is what matters for rural consumption (see table 1.3)**.** The three districts chosen are Bushenyi, Masindi, and Tororo. Even though rural density of roads is important, bikes owned, passability of the road, and distance to a road of less than two kilometers do not pass the relevant statistical test for significance i.e. t-value larger than 2. Hence, rural consumption does not seem to be influenced by these indicators.

[4] A resource consuming exercise was carried out because the standard Uganda household survey does not provide enough information to allow a detailed analysis of the impact of transport services and infrastructure on household production and income level. A special survey derived from Sieber (1996) was designed to deal with these shortcomings and used in three districts. The three districts were chosen given that they provide a diverse but representative sample of the districts in Uganda, i.e. one with a high density road network, one with high agricultural potential but low road density and one with low agricultural potential and low road density.

C. WHAT IS THE TRANSPORT REQUIREMENT FROM A FARMER'S AND TRADER'S PERSPECTIVE?

13 This section will explore what the transport requirements are from a farmers' and traders' perspective and consequently demonstrate why the RAI has a minimal positive impact on income. It will explore the consequences on transport requirements given average lot size and produce produced.

The farmer's perspective

14 Taking into account the fact that plot size is limited to less than one hectare, the average farmer's transport requirement in Uganda is quite small. The average farmer does not necessarily require massive investments in rural infrastructure to connect to primary markets from the village, homestead or farm gate because they can afford neither to hire a truck nor load it sufficiently to break even. Even if their agricultural productivity was significantly higher, most smallholder farmers would not approach the production threshold they would need to justify hiring a truck.

15 Current production volumes and yields in the three districts under investigation show that transport by bicycle and/or motorcycle is the most economical in nearly all cases. Volume is the critical factor in determining need for transport and in the case of Uganda; the current volumes marketed are low. This finding is especially critical to design the infrastructure requirement for farmers to be linked to markets and, in most cases, it can explain, despite a rural road, transport by truck is not much needed.

Table 1.4: Difference between Sales (at the local price) and Transport Costs per Mode of Transport, Commodity Value, Distance and Tonnage (in USD)

Transport 60 kilos, 10 kms	Low value	Medium value	High value
Bicycle	8.5	19.2	45.2
Motorcycle	8.1	18.8	44.7
Truck	-2.1	8.6	34.6
Transport 110 kilos, 10 kms	**Low**	**Medium**	**High**
Bicycle	n/a		
Motorcycle	15.7	35.3	82.9
Truck	5.6	25.2	72.7
Transport 1 ton, 50 kms	**Low**	**Medium**	**High**
Bicycle	n/a		
Motorcycle	n/a		
Truck	96.6	274.7	707.3

Notes: Low commodity selling price (cassava) is declared at 300 Shillings per kilogram, medium commodity selling price (maize in Tororo district) is declared at 650 Shillings per kilogram, high commodity selling price (beans in Tororo district) is declared at 1,500 Shillings per kilogram. Transport costs include the value of time.

16 Mode of transport needed depends critically on volume and distance. Based on various selling prices (low, medium and high), the difference between sales and transport costs per mode of transport for different distances and volumes is computed. Unsurprisingly, for one ton and 50 km transported, the margin is the highest for a truck (actually the other modes of

transport are not suitable); even more interesting is the fact that for 110 kilos, transport by motorcycle is more profitable than transport by truck and for 60 kilos, transport by bicycle is always the most profitable (see Table 1.4).

17 **The main implication for road planning and design is that, in most cases, infrastructure for bicycles and motorcycles in rural areas is sufficient to link economically farmers and the first market.** For a farmer producing low quantities and without cash to purchase a means of transport, transport per bicycle is the cheapest mode of transportation; for a vast majority of farmers, they cannot load a 5 ton truck and do not have the cash to pay for USD30 (which is over 15 times more expensive than bicycle and 10 times than motorcycles, see Table 1.5).

Table1.5: Transport Price per Mode of Transport and Distance

Distance to Tororo Market (km)	Commodities	Bicycle 60 kg per trip	Motorcycle 110 kg per trip	Pick-up 1 ton per trip	Lorry 5 to 7 tons per trip
8	Ground-nuts, fruits	3,000	5,000	15,000	50,000
5	Rice, maize	2,000	5,000	15,000	40,000
14	Onion, millet, tobacco	4,000	7,000	30,000	50,000
14	Onion	4,000	7,000	30,000	50,000
20	Pineapple, oranges, mangoes	5,000	7,000	40,000	80,000
23	Rice, pineapples, groundnuts	5,000	8,000	55,000	100,000

18 **In case of significant increase of agricultural productivity, with an average of 1 hectare per household, annual production would hardly reach 8-10 tons, which is still not equivalent to a truckload per year.** Therefore, even though a season would last only a couple of months, the transport equivalent would be limited to 300-400 kilograms per week, which means that infrastructure-wise, a paved, all-weather road would not be necessarily needed and IMTs[5], with appropriate infrastructure, could bridge the last mile gap.

The trader's perspective

19 **Without 250/500 kilos, running a truck over 50 km in rural areas is not profitable at all.** Using trucking services starts to be really profitable for the trader from 500 kilos of load (see Table 1.6). That is also why, consolidation of loads is critical for a trader as without consolidation, the needed discounted selling price is so high and in that case most farmers are interested in selling their small quantities to traders (see Box 1.3 on options for consolidation).

[5] Intermediate means of transport (IMT) can increase the carrying capacity and speed, reducing transport costs. If markets are too far to walk (one way 10 – 15 km) is often regarded as the threshold for access to markets. A pack animal can extend the distance to 20 km in hilly areas, a bicycle to 30 km in flat terrain and a single-axle tractor with trailer covers up to 50 km (Hine and Ellis, 2001). Thus, IMT make new markets accessible where producer prices might be higher; new products might be demanded, or inputs might be cheaper. For long distances the use of motor vehicles is essential.

At the farmer average production level, transport or marketing margins are high to compensate a lack of economies of scale.

Table 1.6: Selling Price Discount Needed to Compensate Operating Costs for a Truck for Various Quantities and Commodity Values

10 km, old truck	60 kilos	110 kilos	250 kilos	500 kilos	1,000 kilos
Low value	100%	67%	29%	15%	7%
Medium value	57%	31%	14%	7%	3%
High value	24%	13%	6%	3%	1%
10 km, new truck					
Low value	100%	100%	46%	23%	11%
Medium value	88%	48%	21%	11%	5%
High value	38%	21%	9%	5%	2%
50 km, old truck					
Low value	100%	100%	100%	73%	37%
Medium value	100%	100%	68%	34%	17%
High value	100%	67%	29%	15%	7%
50 km, new truck					
Low value	100%	100%	100%	100%	57%
Medium value	100%	100%	100%	53%	26%
High value	100%	100%	46%	23%	11%

20 When the capacity of the most efficient vehicle is large compared to the average origin– destination freight flow, then consolidation and deconsolidation of freight at hubs becomes optimal. Like Smart (2008) demonstrates and what is relatively well known, "when origin–destination freight flows are large compared to the capacity of a standard vehicle, then the optimal routing is point-to-point because all standard vehicles are likely to achieve high load factors, and the point to-point routing minimizes travel distance. In such an optimal network, smaller, less efficient vehicles would be used to feed freight into hubs and distribute it from hubs to final destinations while large efficient vehicles would perform the interhub haulage". In most cases this point is overlooked when discussing mode of transport in rural areas.

Table 1.7: Catchment Area (in numbers of farms and villages) for the Equivalent of 5 and 10 Trucks Traffic

	Need for 5 trucks-equivalent Traffic (3 times a week)	Need for 10 trucks-equivalent traffic (3 times a week)
Case 1: 1 tonne per hectare		
Number of farmers	600	1200
Number of villages	**3.0**	**6.0**
Case 2: 5 tonnes per hectare		
Number of farmers	120	240
Number of villages	**0.6**	**1.2**

Note: computations are made for a 5 ton-truck transporting goods over 30 km, with return load, USD 4,000 of fixed costs and charging at USD 1.2 per kilometer.

Box 1.3: How to foster loads consolidation

This box discusses three models of consolidation, which occur at different levels among the farmers themselves, i.e. the producer groups in Poland, or at a higher level in the chain where the farmers output is consolidated at a single point by an outsider, i.e. the e-Choupal model or contract farmers/outgrower schemes.

Producer groups: the experience of Poland. After the end of the communism rule in Poland in 1990, many farmers were lost without the direction and reliable purchasing by the government. In the free market economy many farmers suffered, especially because of their small land holding and their inability to compile with quality standards. In response, the Polish farmers organized producer groups. In producer groups all farmers retain control over their land and the group only exists to act as a market intermediary who coordinates sellers and buyers in the hopes of obtaining higher prices for their output (Banaszak 2007). The benefits from the group stemmed from diminished transaction costs to the sellers; instead the group manager searches, negotiates, communicates, contracts and monitors the transaction. By consolidating their output, the producer groups could now organize, pick up, and transport of their crops to buyers and utilize their size to negotiate for higher prices (Adamowicz and Lemanowicz 2006). The producer group acts as a point of consolidation of agricultural output, where the large size of the output is used as a marketing strength. In fact, on average group members received a premium of 6.2 percent on their products, with some groups reported premiums as high as 39 percent. The lessons learned for the experience of producer groups in Poland is the need for groups to be developed by those directly involved in the production, farmers who already have business ties. The producer groups should also establish a selection process for members and seek to create legal recognition of the group. There is also the need to recruit more members in order to increase market share and bargaining power with purchasers.

Consolidation through ITC: the e-choupal model: The e-Choupal is the brain child of the Indian Tobacco Company (ITC)'s International Business Division. The idea came in response to the challenges of acquiring agriculture in Indian, problems that included small size/fragmented farms, multiple intermediaries, and poor infrastructure (Indian Planning Commission). To overcome these problems ITC developed the e-Choupal, which means village meeting place in Hindu, as a way to connect directly with the farmers using internet kiosk. On average 600 farmers from 10 villages within 5 km are served by one e-Choupal. Once the village is identified, a sanchalak is selected; he is also a farmer (Annamalai and Rao 2003). The sanchalak is the operator of the e-Choupal. Once installed, the sanchalak accesses information from the e-Choupal regarding weather, new and best farming practices, and market price information, which is gathered from mandis (local market). With this information the farmers are now capable of making an informed decision; they can either sell their produce to ITC or at the mandis. The result of the e-Choupal system has been a win-win for farmers and ITC. With greater information and understanding of prices, farmers have become more aware of what they should/can receive for their crop. When farmers sell to ITC through the e-Choupal, prices are 2.5 percent higher on average then if sold at the mandis (Annamalai and Rao 2003). And even though ITC is paying more for the produce and compensating farmers for transport, ITC is paying less than before (Prahalad and Hammond 2002). Because ITC cut out the intermediaries the mark up paid by ITC has decreased from 5 to 2.5 percent.

Contract farming/Outgrower schemes. Contract farming or outgrower schemes are methods that firms employs to utilize the existing assets of small rural farmers. "Contract farming is a vertical coordination between a central processing or exporting unit on the one hand, and growers of agricultural products" (Al-Hassan et al. 2006). The coordination is based on a contract that outlines the purchase of the crop being grown, beforehand. In general, inputs (seeds, fertilizer, pesticides) and extension services are provided by the firm to the farm free or at a lower cost to the farmer, who in turn grows the crop and sells it to the firm at the previously agreed upon price (Kindness and Gordon 2001). Specific elements of the contract can vary, such as the extent of control over the farmer by the firm or if a certain amount of output was agreed upon, etc.

21 At the current production level of approximately 1 ton of cash crop per year per hectare, trucks would need to consolidate the production of at least 600 farmers. Assuming that competition in the trucking industry requires at least five trucks on the same route, it is possible to compute what is the catchment area needed to make the operation of these trucks a viable one. This would mean that a truck could probably serve only one out of three villages in the production area. The non served villages would have to transport their production by IMTs to the served village. It is obvious that for 10 trucks equivalent, the number of non-served would increase tremendously (see Table 1.7). This phenomenon is worth being noted because there is trade-off between individual traffic (for roads and trucks) and catchment area, usually neglected on the assumption that traffic will grow coupled with a smaller catchment area. In reality and in the short and medium term, increase in individual traffic (for a road) can only come at the expense of a larger catchment area, which explains why investments in large infrastructure and services in rural areas should be prioritized carefully.

D. HOW ARE PUBLIC RESOURCES ALLOCATED ACROSS DISTRICTS?

22 The GOU adopted an ambitious investment plan for rural roads (see table 1.2). However, regarding investment in roads to ensure rural growth, constructing or maintaining roads in areas with high agriculture potential (See Box 1.4 for a description of agricultural potential) is a recommended policy. As this plan entails further massive investments in rural roads, it is crucial to know if the current investments are achieved according to road condition and agricultural potential. Indeed, if allocation to roads maintenance is assigned independently of road condition, future roads investments may face the same problem of spending efficiency.

Box 1.4: How is Agricultural potential computed

Computation of agricultural potential is possible thanks to the agroecoloogical zone (AEZ) model developed by the United Nations Food and Agricultural organization. It consists of two main steps. First, AEZ provides a standardized framework for the characterization of climate, soil, and terrain conditions relevant to agricultural production. Second, AEZ matching procedures are used to identify cropspecific limitations of prevailing climate, soil, and terrain resources under assumed levels of inputs and management conditions. This part of the AEZ methodology provides maximum potential and agronomically attainable crop yields of basic land resource units (grid-cells). Finally, agricultural potential values are computed by multiplying the output of the best-suited crop in ideal conditions (in terms of inputs) by the crop value.

Source: United Nations Food and Agriculture Organization and Raballand, Macchi, and Petracco (2010)

Table 1.8: Main Determinants of Spending for Rural Roads

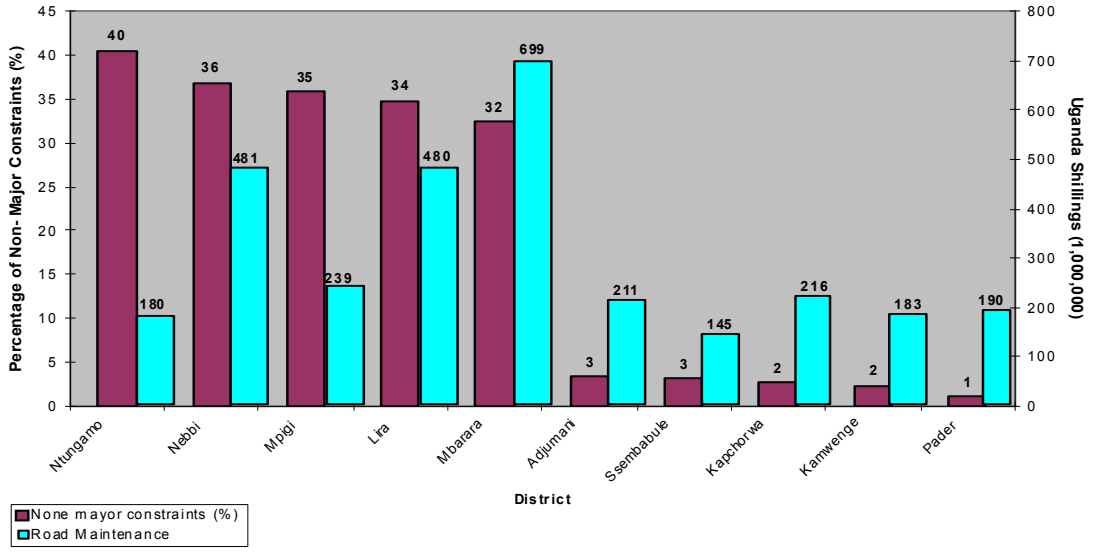
Dependent variable: Released funds for feeder roads maintenance in 2006 (per capita)														
	(1)		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**		**(7)**	
Road condition	1.44		1.20		-5.08								2.93	
	3.11		*3.14*		*5.18*								*3.44*	
Network length per capita	**4.7E+05**	**	**4.7E+05**	**			**4.8E+05**	**					**4.8E+05**	**
	5.1E+04		*5.1E+04*				*4.7E+04*						*5.4E+04*	
Number of con-stituents per capita	3.8E+06								**1.9E+07**	**			5.4E+06	
	4.2E+06								*6.4E+06*				*4.4E+06*	
NRM constituents per capita			4.2E+06								**2.0E+07**	**		
			5.2E+06								*7.9E+06*			
Area	0.01		0.01										0.01	
	0.01		*0.01*										*0.01*	
Poverty rate													2.07	
													2.23	
Constant	-3.25		5.46		**738.64**	**	97.7		**431.67**	**	**488.78**	**	-127.08	
	101.35		*99.79*		*97.04*		*62.46*		*92.12*		*83.47*		*174.94*	
# of obs.	55		55		55		55		55		55		52	
R^2	0.68		0.68		0.02		0.66		0.14		0.11		0.70	

Notes: (**) implies significance at the 5 percent level and (*) at the 10 percent level. Standard error is reported in italics.

23 Taking into account the high correlation between network length and budget allocation for roads maintenance, network length defines the allocation per district. Based on data per district, Table 1.8 and Figure 1.4 demonstrate that road condition and district area do not explain why some districts benefits from higher funding than others. Due to the current investment strategy in rural roads, it seems better for a local authority to expand its network than maintain it due to the fact that increased allocation probably mainly depends on the network length and can explain why local authorities now strive to upgrade many community roads to district roads.

24 On the link between spending in roads and agricultural potential, results show that agricultural output or agricultural potential do not appear to be a major consideration when allocating the road maintenance budget in Uganda. Using the 2006 figures of the amount of money released to the districts under the heading of Road Maintenance Conditional Grants, a simple correlation test was run with the agricultural potential data. The results show that there is no correlation between the agricultural output of a district and the amount of road grants received: 0.05 for the correlation coefficient between coffee potential and road grants 0.05; -0.02 between cotton potential and road grants; 0.02 between maize potential and road grants; and -0.04 between soy bean potential and road grants.

Figure 1.4:Road condition compared to road maintenance funds of selected districts in Uganda



Source: Ministry of Finance, Planning and Economic Development. Data sorted by percentage of roads none considered as a major constraint by household interviewed.

25 Estimating agricultural potential using export parity prices and local prices shows that districts with high agricultural potential receive too little in road maintenance grants while others with low agricultural potential receive significantly more. The potential value of coffee and maize is compared to the road maintenance allocation of districts in Uganda in Figures 1.5 and 1. 6. [6] Potential output in international and local prices is presented on the left vertical axis and the amount of road maintenance grant on the right vertical access. Note that the agriculture potential is in millions of dollars, while road maintenance is in thousands of dollars. Only, a subsample is provided, including the five largest and smallest potential producing districts. The Nakapiripirit district has the potential to generate almost USD1 billion from coffee at international prices, but receives less than half the road allocation that Jina, a district that has little potential to produce one of Uganda's largest exports, receives. Figure 1.5 shows that even though Kotido has the potential to produce three times the maize of Arua, they are allocated almost the same amount in road maintenance grants.

[6] See the background paper, revising the Roads Investment Strategy in Rural Areas: An Application for Uganda, for information on methodology and actual calculations.

Figure 1.5:Coffee Potential at International and Local Prices Compared to Road Maintenance Grants (USD)

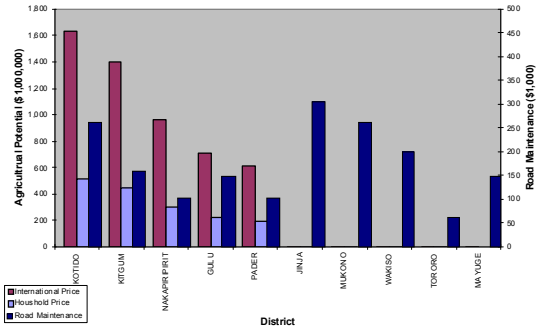
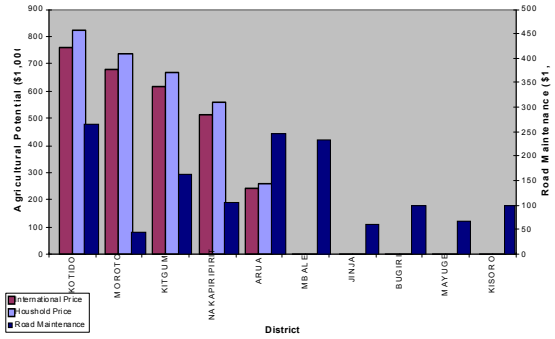


Figure 1.6:Maize Potential at International and Local Prices Compared to Road Maintenance Grants (USD)



26 Based on the current size of the road network (in selected districts), the present allocation only covers routine maintenance needs (for districts roads) (see table 1.9).[7] In the two districts, Tororo and Masindi, the grant allocation fully covers the need for routine maintenance. However, the allocations are unable to cover periodic maintenance and rehabilitation in the three districts, which means that even without further expansion of the district road network;[8] the sustainability of the district networks is questionable, without increases in grant allocations.

Table 1.9: Share of Maintenance and Rehabilitation Needs (for districts roads) Covered by the Current Maintenance Allocation (in percentage)

	Bushenyi	**Masindi**	**Tororo**
Routine maintenance	88%	108%	138%
Routine maintenance + periodic maintenance (every six years)	29%	36%	46%
Rehabilitation	3%	4%	5%

Source: MOFPED for maintenance allocation per district; needs computed from road unit costs[9] and the size of the network.

[7] Our selected districts are not among the lowest in terms of road maintenance allocation.
[8] We exclude community roads in our discussion, assuming that it is a second priority order.
[9] Following data were used for our computations:

	Road unit costs (in USD per km)
Routine maintenance	319
Routine maintenance + periodic maintenance (every three years)	1,278
Periodic maintenance	3,836
Rehabilitation	9,204
Low cost sealing	17,297

Source: Ministry of Public Works.

27 A revised allocation mechanism for each districts taking into account agriculture potential, population, area, length and condition of the district road network should be considered. As stated earlier, a household that is able to produce for local markets or even better for export, is likely to have a higher income and therefore is less likely to be poor. Therefore, connecting local farmers, through investments in rural roads, to local and export markets contributes to poverty reduction. However, as resources are scarce it is important to prioritize the allocation of resources to those districts that have the ability to take advantage of this improved connectivity. Henceforth, the need to take into account agricultural potential of a district when allocating public resources for rural roads. In addition, the Government could consider using community and labor-intensive maintenance methods for rural roads such that off farm employment is created at the same time.

28 It is important though to realize that such an allocation mechanism will require increased coordination among line ministries and a strong capacity within the District, Urban and Community Access Road Department (DUCAR) with the Ministry of Works and Transport to undertake the analysis needed to prioritize budgetary allocations to districts using the proposed formula of allocating resources. As DUCAR will be the main agency within the MOWT to take on the task to change the allocation mechanism, it will be important to increase its capacity to undertake the needed analysis but aloes to play a coordinating role with other ministries involved such as the Ministry of Finance and Economic Development and Ministry of Agriculture.

E. CONCLUSIONS AND KEY RECOMMENDATIONS

29 The WDR 2009 recommends that in lagging areas countries should invest in people, while in leading areas should invest in place. This combination provides people in lagging areas with education in enhancing their opportunities, while the improved infrastructure will allow mobility of people, agricultural goods and information to and from the leading area. This chapter concludes that the average farmer does not necessarily require massive investments in rural infrastructure from primary markets to the village, homestead or farm gate because they can neither afford to hire a truck nor load it sufficiently to break even if they could. Even if their agricultural productivity was significantly higher, most smallholder farmers could not approach the production threshold they would need to reach to justify hiring a truck. Consequently the conclusions are the following:

- Maintenance and upgrading of existing rural roads rather than construction of new roads should be given priority in most cases; new roads might still be needed in the North as a consequence of the civil war. However, priority should be given to those proposed rural roads that facilitate the opening up of areas with high agricultural potential.

- Attention should be given to innovative marketing models from other countries such as India where smallholder loads are consolidated through consolidators.

- An alternative objective and strategy is proposed for rural transport policy and investments, which would take into account much more strongly agricultural potential. This would be a two-pronged approach:

(i) Define the road allocation per district as a direct function of agricultural potential; contemplating the economic benefits of areas with strong agricultural potential, and

(ii) Define a minimal road connectivity measure per region such as connectivity at less than 8 or 10 km for Ugandan rural population based upon resource availability.

- Implementation of this new approach and based on 2006 data indicate that rehabilitation, upgrading, and/or new construction of rural roads should be done in some districts in the North and resource allocation for rural roads should be reduced for some districts in the South West.

2. VALUE FOR MONEY AND ABSORPTIVE CONSTRAINTS IN PROCURING AND IMPLEMENTING ROADS CONTRACTS

30 This chapter analyzes what measures the Government of Uganda could implement to increase value for money and absorption of its budget for (national) roads against the backdrop that the allocation for roads has increased significantly in the last few years. Various analytical pieces, including the 2007 Country Economic Memorandum, have shown that infrastructure, including roads, is a major constraint to sustainable development in Uganda. Consequently, the GoU decided to address this issue and increase investment in the sector. The ramping up of public expenditure posed challenges for the agencies involved in the execution of the roads budget (see tables 1 and 2 above). Various efforts to improve outcomes in the sector are ongoing. This chapter focuses on how improvements in procurement and implementation of roads projects can assist the various agencies involved to increase absorption and value for money without rapid escalation of cost and loss in quality.

A. INTRODUCTION

31 In mid-2008, as part of the Government's increased emphasis on upgrading the quality and coverage of the road network, a decision was made to transfer some 8-10,000km of district roads into the national network, over a number of years. This will bring into the network roads connecting district capitals, roads to borders, heavily trafficked district roads, strategic security roads, roads to central government institutions, and key tourist routes.

32 At the same time a new institutional structure was put in place to re-organize the manner in which the Government managed the sector. It is the government's vision that Ministry of Works and Transport (MoWT) focuses on policy formulation, strategic planning, sector oversight and monitoring, and delegates executive functions, including regulatory functions, to specialized entities which have been, or are being created. The new entities created are Uganda National Roads Authority (UNRA), which is responsible for the management of national roads and commenced operations on July 1, 2008; and the Uganda Road Fund (URF), planned to be fully operational by July 1, 2010, which is responsible for funding of maintenance of all roads. The source of revenues for URF will be road user's charges including fuel levy, license fees and other road related charges. Still to be created as part of the reorganization of the sector is the National Road Safety Authority (NRSA) and Multi-Sector Transport Regulatory Authority (MTRA), which will take on the surface transport regulatory functions, currently still with MoWT.[10]

33 Against the current ramping up of public expenditure in roads and the new implementation structures created, this chapter addresses the following concerns that

- The **value for public money** on road investment and maintenance spending is low; and

[10] See IDA's project appraisal document for its Transport Sector Development project, Report No 50977-UG for more information.

- The **capacity to absorb** the augmented budget resources for the road sector and turn them into effective investment in a timely fashion is constrained.

34 Consequently, a review of all projects in the development project portfolio during 2005/06 – 2008/09 was undertaken.[11] As such this chapter focuses on the main short- and near-term issues that impede absorption and reduce value for money. The chapter, unlike other reports, goes into detail in an effort to drill down and identify the underlying problems in order to ensure that appropriate, specific actions are taken in the short- and near-term that will result in increased absorption and value for money.

B. VALUE FOR MONEY, ABSORPTION AND THE PROJECT CYCLE

35 Value for Money relates to the efficiency in completing quality designs and quality works contracts to specification on time, ensuring works contract bids are competitive (item prices as opposed to unit prices per km are reasonable) and there are minimal claims from contractors e.g. for extensions. In addition, one has to be wary of collusion between contractors and of political interference, which can make the cost of road works artificially high.

36 Currently, it takes 61 months as a minimum for a road to be designed, constructed, completed and handed over (see box 2.1: The road project cycle in Uganda). As seen in the project cycle above, procurement is undertaken at various stages to procure under PPDA laws and regulations all consultants and all contractors. The effort currently needed to procure a consultant or contractor should not be underestimated in terms of time and GoU manpower (all the stakeholders) to administer. A key finding of this report is that the current process using PPDA regulations is overly time consuming.

37 Final road project cost in Uganda are greatly affected by contractors' claims for extension of time as a result of poor design, obstructions on site because the landtake process was not completed before the works contract started, significant increases in the price of commodities, and late issue of variation orders. Much of this is due to slow decision making by those responsible for the project itself, quality of the work delivered by the design consultants, and procurement. In order to minimize claims from contractors quality designs are required, all necessary project preparation (e.g. landtake) completed before the project starts with prompt payments to the contractors as the project is executed.

[11] A review of project files was undertaken of ongoing, recently completed and stalled road development projects. The review was done in close cooperation with the Ministry of Works and Transport, MOFPED and the Uganda National Roads Authority (UNRA). It analyzed a statistically significant sample of projects from the inventory of road development projects in the period 2005/06 – 2008/09 and reviewed the processes for project planning, preparation and implementation.

Box 2.1: The road project cycle in Uganda

All projects have to pass through a project cycle from inception to completion for each and every road scheme. The main stages of a new development project and what this entails in terms of time to procure consultants and contractors are as follow:

Stage 1 – **Selection and planning.** Planning the development of the network which also includes Project Identification required to identify an individual project that should be undertaken as it will provide a suitable return on investment and improve the efficiency of the network. Planning is done in UNRA by the Planning Directorate in order to develop and improve the network making use of consultants as required. The Directorate also manages the collection of suitable data on the network (road condition, traffic etc) and is currently building up an asset database. Time currently needed on each step:

Procure consultant – 9 months

Pre-feasibility Study – 6 months

Approval to move to next stage – Varies greatly

Stage 2 – **Design & Development of Works Contract** includes procurement of Consultant who subsequently produces a Feasibility Study, Detailed Design and the Works Contract Tender Documents while the process is managed by the Planning Directorate.

Procure consultants – 9 months

Consultancy for feasibility study and detailed design - 12 months

Approval to move to next stage – varies greatly but can be short

Stage 3 – **Implementation & Supervision.** This phase includes construction of the road and supervision. All construction work is outsourced to contractors and supervision to external consultants. Currently the contractor is procured first and later the supervising consultant. Implementation is undertaken by UNRA's Operations Directorate that receives the engineering design and tender documents from its Planning Directorate, procures the works contractors and supervising consultants, and coordinates and manages the implementation.

Procure contractor – 10 months (Records show more than 1 year)

Construction – 2.5 years (this will include a 3 to 6 month mobilisation period)

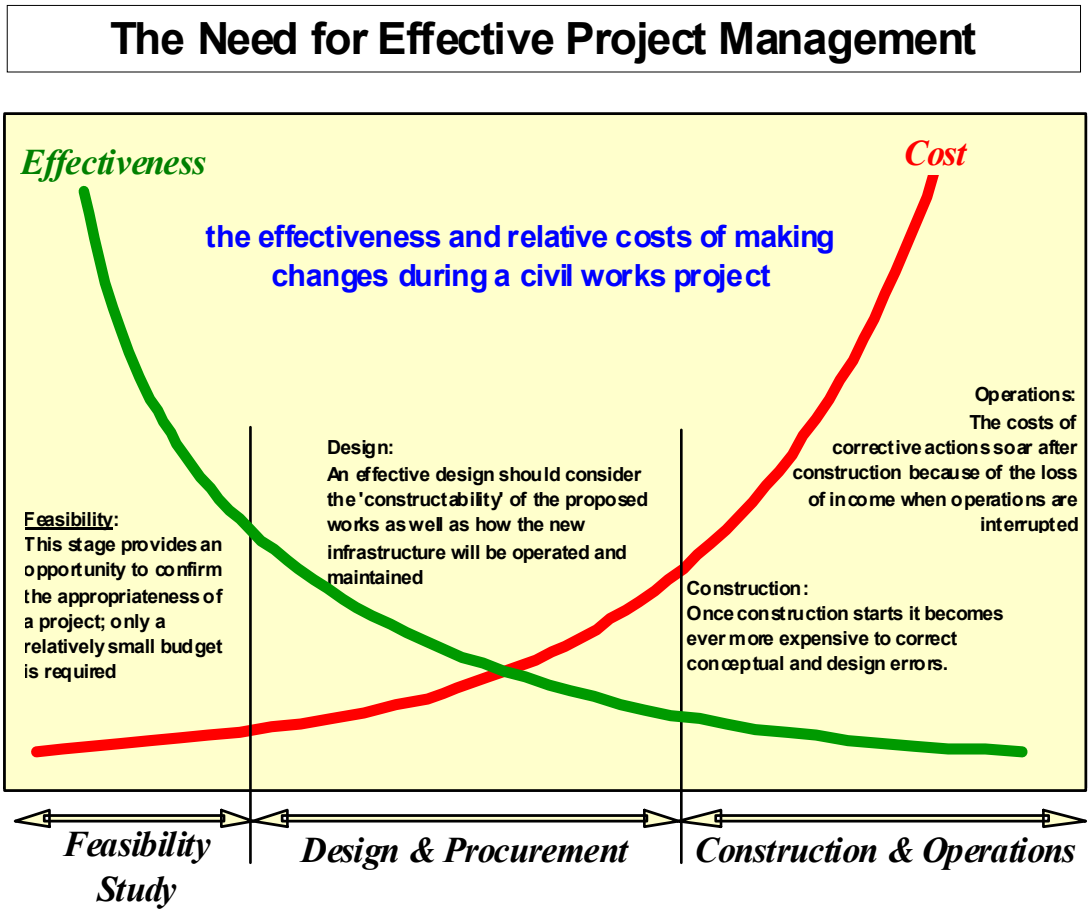
Selection and Planning

38 In the Ugandan context it pays for itself to spend additional funds on improving the quality of designs i.e. using better designers and undertaking technical audits on all works contracts before they are tendered as well as expediting landtake in order to prepare improved tenders and reduce potential claims by contractors. On the quality of design and other project preparations (see Figure 2.1), it is worth considering that design fees are only about five percent of the construction costs and that revisions to design made during the design phase cost a small fraction of the cost of any changes made during construction.

39 Cost implications of a late awarded contract, i.e. the time between tender received and contract awarded, can be significant. As contracts include a price adjustment clause, the longer the projects takes to award, the more the overall cost increases as a result of this price adjustment clause. The price adjustment clause is a method to share risk of price escalation between the contractor and client and under the right circumstances should result in cost

effective project costs. Without this clause contractors would have to bid even higher to absorb the potential risk and uncertainty with the likely consequence the client pays more.

Figure 2.1:Cost Savings of Effective Project Management



40 The funding implication of the decision to upgrade 10,000 kilometers (kms) of District Roads to National Road status and hand them over to UNRA needs to be appropriately dealt with such that UNRA can indeed maintain them. As resources will remain scarce, it is recommended that UNRA undertake an exercise to balance/prioritize the scope of the road network against available funding. UNRA should review the total budget required to develop and maintain their expanded road network of 20,000 kms on a technical needs approach and discuss resource implications with MoFED as well as donors. While go through this exercise UNRA is well advised to improve it works contracts estimates by implementing a budget costing system that considers not only base costs, but also incorporates variations of price and projects risk in combination with a appropriate contingency for cost over runs.

Design, Development of Works Contract, and Land Take

41 While the approach largely follows best practice, to date it still has not ensured that the standard of works documentation such as tender for contractor developed by design consultants is adequate. As stated earlier, many cost overruns can be contained through a comprehensive design process. It is recommended that UNRA initiates the start of the design process for future roads earlier to provide for adequate design period and withstands pressure to get designs tendered expediently. More thorough investigation of the project site could also improve the quality of the design as inadequate site investigation has led to wrong assumptions e.g about available suitable cut for fill and consequently to additional claims from contractors leading to cost overruns.

42 The poor performance of design consultants has resulted in cost overruns in the construction phase in some cases. Primary examples include errors in quantities, change to pavement, hurried design reviews, unforeseen ground conditions, and addition to scope. It is recommended that UNRA implement Technical Audits during the design process to ensure timely feedback to consultants as well as improved quality of designs and works contracts. In addition UNRA should pro-actively guide consultants in the design process. In both cases this requires that UNRA raises its internal capacity, possibly with external support. GoU should implement a performance monitoring system for design consultants in order to provide structured feedback to consultants on their performance and over time weed out poor performing consultants in selection for new design work.

43 The majority of road projects currently planned and under construction consists of upgrading of existing routes. Hence, they should not require significant new land take (acquisition of land including, surveys, identification of owner, payment of compensation and registration of the land in the name of UNRA). However, not all existing gravel roads have a designated road reserve for future development. Hence, when those roads are upgraded, the road reserves will need to be surveyed, titled, and owners compensated. It should be noted that any realignment of the road requires additional land take.

44 The current land take practice delays road works. The current approach is to not commence land take until the final construction contract has been given the go-head in order to make maximum use of inadequate funds for land compensation. This delays work progress on site since acquisition of unregistered land takes around 6 months for 40km road and acquisition of registered land can take up to 15mths for 100km of road. It is recommended that UNRA determine whether and/or how it can complete land take prior to signing a Works Contract to avoid the high risk of claims from contractors delayed. UNRA could also request assistance from donors.

45 Lack of capacity in government agencies is a bottleneck to processing of land take cases. This is one of the reasons for the long – and costly - duration of the land acquisition process. The land acquisition department of UNRA consists of just one land acquisition expert and one assistant. Between them, they need to manage and supervise the surveys, valuations, compensation payouts, dealing with complaints and approving Resettlement Action Plans. This department would benefit from 2 additional staff and additional space. The other clear bottleneck

is in getting approval for Valuation reports from the Government Chief Valuer which has very limited resources to meet its processing requirements.

46 Planning ahead, it is recommended that UNRA assesses the likely extent of land take works required, staffing implications and the cost of compensation over, e.g. the next five years and that it develops a plan to meet these challenges. The plan should propose how to improve the processing capacity of all stakeholders i.e. UNRA, Government Land Valuer's Office, and the Land Titling Office – both the number and capability of staff and of consultants. The plan should also consider whether it is possible and practical for the design consultants to undertake more of the Land-Take process at design stage than currently envisaged, and determine whether land purchase can be completed for certain projects, possibly donor funded projects, before the works contract is let.

Procurement

47 Delays in procurement, whether on new or existing projects result in cost increase and reduced value for money, not to speak of slower absorption. In essence service delivery is delayed and made more costly by any delays caused by stakeholders[12] in the procurement process. However, some stakeholders take long periods to process documents and do not always make it clear what information they require or notify others if data is missing. This indicates a lack of appreciation that any delay in the procurement process is costly and appears endemic with departments blaming each other. The underlying reasons are weak accountability - since there is no systematic tracking of the time spent at each stage and hence delays are not attributed to individual stakeholders - and lack of incentives and sanctions to induce stakeholders to process procurements faster while of course maintaining the integrity of the process.

48 UNRA needs develop an Actionable Governance Indicators database to improve monitoring of procurement process including time each stakeholder takes to process, for all projects and changes to contracts in order to identify and quantify bottlenecks. The proposed monitoring and information system to be implemented by the Monitoring and Evaluation department of UNRA should be designed to capture enough data to include (i) dates of key events in the project cycle e.g. identification, feasibility study, detailed design phase, tender, award of contract and completion; and (ii) detailed dates of each stage of the procurement cycle itself i.e. date sent to Contracts Committee, date approved by Contracts Committee, date sent to Solicitor General, date approved by the Solicitor General etc.

49 UNRA, using the information gathered, should discuss and agree with other Ministries and other stakeholders how the procurement process can be simplified, streamlined and made more users friendly. UNRA should also develop closer ties with PPDA and Solicitor General and meet on a regular basis, i.e. each month to discuss problems and issues. It should produce agreed guidelines on how best to manage the high volume of bids and initiate "joint" training so different Ministries understand the problems others face and the

[12] Stakeholders involved in processing procurements include: the User Department, the Contracts Committee, Evaluation Team, Solicitor General's office, donors if foreign aid financed, and in the case of EU projects, also the National Accounting Officer.

consequence of delays. It is advisable that UNRA makes one person responsible in UNRA to improve this process. In addition, the Interministerial Technical Committee on Roads (IMTC) should monitor the time taken for each ministry to provide the necessary approvals and, wherever a delay is noted, be it in UNRA, PPDA, or SG, provide the necessary authority to get things moving and streamline the process at all stages

Box 2.2: Current procurement practices for roads projects

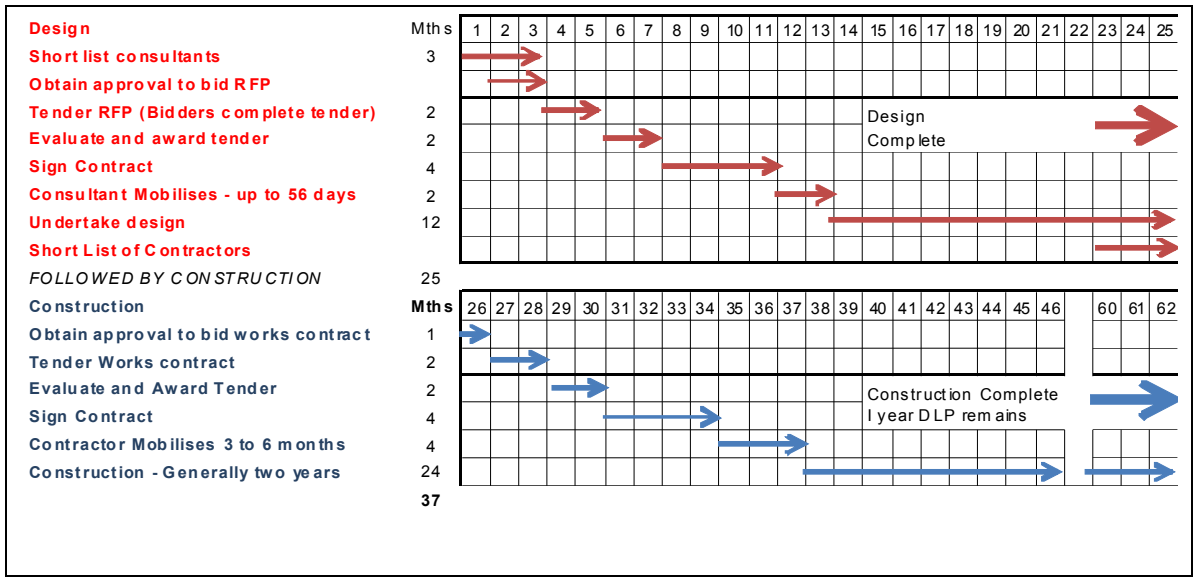
The procurement process is based on the PPDA Law and associated Implementation Regulations requiring UNRA to use an internal Procurement and Disposal Unit (PDU) and Contracts Committee who are legally responsible for ensuring projects are procured in line with PPDA rules.

The Procurement and Disposal Unit (PDU) within UNRA has managed the procurement of some US$250 million of government funded and donor funded projects in its first year of operation, FY2008/09. This is no small accomplishment.

A study has analyzed the process that is currently followed for procuring a consultant or contractor, breaking it down into detailed steps to estimate where there are undue delays (see chart below for details). Currently the process involves 25 steps. Even with the suggested rationalization where it is assumed some tasks can be undertaken in parallel the process involves at least 20 steps for government own-financed projects.

- To procure a consultant for a GoU project takes 10.5 months with another 1.5 months required for them to mobilise, a total of 12 months (typical timeframe). Of this 12 months, 5 months (42%) input is from bidder's input and 7 months (58%) is required for preparation and approval.
- A similar time of 10.5 months is required to procure a contractor plus another 3 to 6 months for mobilisation. In addition a contractor can not immediately start “high volume work” (high volume of spend), it takes time to set, undertake initial works and build up momentum.

The approval periods take up approximately 60% of the time to procure a consultant or a contractor or about 7 months. It is estimated that this time can be cut in half. The approval process is governed by the current Ugandan PPDA Law and associated implementation regulations. It should be remembered that donor funded projects will take longer to procure as approvals have to be sought from the Development Partner as well. The project cycle requires procurement more than once, first for design consultants etc., later for contractors and supervision consultants, and every time it takes at least 10 months, extending the total project time.



50 The administrative procedures within UNRA, which have been set up to comply with PPDA implementation regulations, appear overly complex and onerous. Consequently, they require a high amount of effort that could be better used elsewhere in managing design projects and works contracts. In order to increase the efficiency of road sector procurement it is recommended that a taskforce, set up by UNRA, not only looks at the process of dealing with approvals from stakeholders, but among others also reviews UNRA's own internal capacity and processes in collaboration with PPDA. This should lead to more streamlined and flexible procurement guidelines while maintaining the integrity of the overall process.

51 Processing timelines need to be developed and made general knowledge so that all stakeholders know the expected processing times for each stage in the process. In addition, the following can be done to improve the process within the existing procedures: (i) early identification of the Evaluation Committee and approval by the Contracts Committee before tenders are received; (ii) timely preparation of bidding documents; (iii) preparation by UNRA of a 3-year procurement plan rather than the current 1-year plan, now that medium term funding is clear, to assist in the overall planning of the procurement process; and (iv) in the short term focus efforts on increasing the capacity of the PDU within UNRA to deal with the current procedures and to cope with the increasing workload. PPDA, which has the capacity, should be requested to expand its technical support and training to the PDU in UNRA, to assist them in efficient compliance with the procedures.

52 UNRA as one of the single largest procurement entities should have a closer and more regular relationship with PPDA. The role of the PPDA is to ensure that procurement rules are followed and to safeguard bidders and agencies involved. The agency also has a role in capacity building and has carried out some capacity building in the regional offices of UNRA. It is clear that given that PPDA deals with some 120 central government and 93 local government institutions that is has its own capacity constraints though. Notwithstanding, UNRA has an

urgent short term aim to get 1,940 kms of roads designed and implemented during 2010. Therefore, a temporary solution to provide for a fast-tracking of the process for these projects is required. Both PPDA and UNRA should consider allocating specific teams to handle the procurement of only these projects.

53 It is important that UNRA, PPDA and Office of the Solicitor General (SG) office work closely together to provide mutual support to guarantee successful and timely completion of procurement processes. The SG is involved in all legal aspects of procurement and contract preparation, including tender award, negotiations, contract signing, variations, extensions of time and any other changes to the contract throughout the implementation period. Under RAFU, the SG's office was represented on the Contracts Committee. This ensured that the SG was involved early in the procurement process. Since UNRA came into being, the SG is no longer represented on the Contracts Committee, and only becomes involved in the early stages of the procedure at the invitation of UNRA. In order to avoid problems and hence delays at the late stages, the SG office should be encouraged to become involved early in the process regularly, and to assist in the evaluation process, so that major issues can be identified early on, before formal approval is requested later.

Consultancy contracts

54 It is generally better to have the designer carry out the supervision. Traditionally, separate consultants have been contracted to carry out feasibility studies, detailed design and construction supervision. There is also an argument that, if a separate consultant carries out the supervision, the original designer is not available to respond to any problems in the design, and the supervision consultant has a tendency to blame any problems on the designer. If the same consultant carries out the design and supervision, then he cannot escape responsibility for any design problems, as he/she will also be responsible for the implementation of the design (incentive compatibility). The counter argument is that the consultant may during construction try to cover up any problems in the design.

55 With existing procedures and implementation regulations, the current approach for separating design and supervision leads to 3 periods of procurement of 9 months each. This extends the planning and design period and delays service delivery. The procurement processing time could be reduced while also improving incentive compatibility by using the same consultant for design and supervision. It is recommended that UNRA discuss with Donors the advantages and disadvantages of this approach and how the contract would need to be revised.

Contract management and implementation

56 If UNRA outsources the project management function it should ensure that the expertise in project management is also used to train and transfer experience to local staff to strengthen project management capability within UNRA. The Project Management function covers the management of the whole process of bidding, contract award, supervision of land acquisition, project management of the construction supervision consultants, instituting suitable internal quality audits, overseeing design changes, reviewing UNRA management

systems and developing systems, manuals, guidelines, template and forms to be used on the project as necessary. For some large and complex projects the Project Management function is contracted out to a consultant team.

57 Currently all variation orders (VO, change to a contract), once approved by the contracts committee, are sent to the SG for approval, while once the VOs amount cumulative to more than 25 percent of the contract all future variations, however small, need to be processed through the PPDA. This has been a particular cause of delays resulting in reduced value for money, i.e. the total time taken for approval of VOs. It is particularly important with VOs that they are processed efficiently and in a timely manner, as delays in issuing valid VOs can lead to further delays and claims from the contractor and subsequent further costs. The practice in Uganda falls short of best practice. In many other countries VOs are processed by the road authority up to a certain value where upon they obtain approval from other authorities. This process is transparent and much faster.

58 UNRA should be allowed to handle any VOs up to a limit of, say, 25% internally without having to seek approval of the SG. The delay in processing VOs can result in claims from the Contractor for late notification of change to works where the claim would be for extension of time (EOT) with associated costs. EOT costs can vary between 1.5 to 2.5 percent of contract value per month. It is recommended that UNRA discuss the issue with PPDA and Solicitor General and propose a process that allows entities such as UNRA to approve VOs up to an agreed aggregate value of the contract value in a transparent manner that may include copying all VOs to Solicitor General for information.

59 Any delay through the price adjustment clause, for example due to delayed land acquisition or increased scope of earth works can have cost implications disproportionate to the actual delay. Note that the expensive work i.e. the bitumen pavement layers, are undertaken at the end of the contract period. The price adjustment clause, which becomes generally operational after 18 months, can thus trigger a price evaluation of the more expensive part of the contract and lead to serious cost increases, and which is part of the works contract. Henceforth, it becomes even more pertinent to ensure timely implementation of the works contract.

60 UNRA should undertake a full scale review of the price adjustment clause. This review should address the following issues: (i) the limit of contract period before this clause should be applied, e.g. 18 months at present; (ii) a common set of price and cost indices that determine the overall price adjustments, acceptable to the contractors and UNRA alike, needs to be agreed upon; (iii) consider whether assistance to Bureau of Statistics is needed to improve the data collection and analysis of these construction indices to a standard that can be acceptable to international contractors; (iv) analyze and define exactly what proportion of the price adjustment should be considered as "cost overrun" and how much as part of the contractual price; and (v) Review the accuracy of Engineer's Estimates. This should include a check on how the budget is built up, what risk assessment and money for risk items is included etc. In addition, UNRA should also examine the benefits of smaller contracts to allow contracts to be completed in a reasonable time and reduce price adjustment issues.

61 Discrepancies between engineer's cost estimate prepared the design consultants and actual tender price creates problem downstream as funding is insufficient and can cause delays in project execution. While the lowest cost bid is typically selected as the winning bid under current procedures, still the winning bid is often higher than the engineer's cost estimate and the associated budget allocation for the project. The key sources for the difference in total costs are the imputed unit prices for the major items, such as bitumen, rocks etc., the assumed volumes needed of those items, the assumed profit margin and assumed project risks. It is recommended that UNRA develop a process for improving engineer's cost estimates by focusing on these factors, among others.

62 UNRA should monitor the imputed unit prices for the major items for all projects and provide all data to consultants. This is done by Road Authorities in many countries. In addition, design consultants should be required to prepare engineer's cost estimates that cover basic unit rates, sufficient allowance in the budget for price adjustment i.e. potential item inflation, identified project risks as all roads have various levels of financial risks which should be assessed, and allocation of risks, and consideration of exchange rate risk and its cost impact.

63 The assumed profit margin, even for the lowest bid can be high due to tacit collusion. UNRA can ensure increased competition between contractors by widening number of companies who bid. For example, UNRA can establish good links with contractor associations in a number of countries and give advance notice on future projects for which members of these contractor associations can prepare bids.

64 Unit prices for roads in Uganda have been rising. While often not fully anticipated in the engineer's cost estimates, depending on the specific case the increased costs could reflect genuine cost pressures as rising unit rates on major items internationally and not necessarily collusion.[13] In addition to other measures proposed Government can: (i) review costs of materials and investigate potential of alternative road construction materials (based on local availability); (ii) review how GoU may help reduce costs by facilitating expanded domestic supply of inputs. For example, based on projected volumes of cement requirements, information could be provided to potential investors and/or cement companies about the prospective multi-year demand for major input for public construction works. Hence, improved knowledge by investors could facilitate investment decisions to open factories in Uganda. Over time as a benefit of government investment in improved transport links between Uganda and neighboring countries, the cost of importing materials into Uganda could decline as well.

Monitoring and evaluation

65 Government has a weak data reporting system for measuring performance in the road sector. Some Key Performance Indicators (KPIs) are reported in the Ministerial Budget Statement, but these are fairly general in nature. Furthermore, many sector performance indicators desired by Government in order to more accurately assess performance cannot yet be

[13] The increased costs are due to many reasons which are well documented in the "Workshop to Review Unit Costs of Road Construction in Uganda", February 10, 2009, Kampala. It is recommended that Government implements the action plan on reducing unit costs of road construction agreed at the workshop.

reported due to deficient or lacking data reporting systems. The Government should develop and implement as soon as possible actions plans to establish and run these data reporting systems, if needed with donor assistance.

66 The efficiency of UNRA's M&E department is impeded by lack of automation and efficient organization. The M&E department in UNRA needs further investment and support. In general the department is lean but is hindered by too limited space and too little provision for physical filing of documents. It is recommended that monitoring needs to be extended from simply recording progress to making predictions for future modeling and providing indicators of potential problems. The monitoring systems to be set up need to assist in identifying problems early on, predicting possible overruns at an early stage, so that pro-active action can be taken. The systems should use a red-flag system that enables attention to focused on possible problem areas.

67 The external audit approach is in line with good practice but its coverage needs to be extended. The Auditor General is primarily responsible for auditing of all government projects. These audits, usually carried out by a subcontracted firm of private auditors, focus on the financial administration of the projects. In the road sector financial and engineering audits are carried out for National Roads Maintenance on a regular basis i.e. typically every 3-4 years. These audits are performance orientated and provide an independent opinion from outside on processes of delivery of services, focusing on areas of weakness and suggestions on possible areas of improvement, including Value for Money, Resource Utilization, Planning and Budget Performance.

68 Financial and technical and/or value for money audits have not yet been carried out on development projects. It is therefore recommended that UNRA undertake external financial and technical audits on new development projects on a regular basis.

Institutional capacity and technical assistance

69 With the ongoing, massive increase in project spending and need to mobilize new designs and works contracts in a short timescale, UNRA is clearly under-resourced, in particular on human resources. For example, UNRA urgently needs seven key experts to provide additional support during the design/procurement phases. These experts would cover the fields of transport economics, highways and/or hydrology, pavement and/or materials, structures, road safety, environmental and social, and contracts and are essential for the following reasons. Their work would reduce the risk of cost over-runs on projects due to expensive delays and claims.

70 To provide effective project management at the right time requires sufficient staff. It is far more cost effective to spend additional funds in improving the quality of designs through technical audits undertaken on all works contracts before they are tendered and improving the quality of the works contracts through the use of experienced contracts experts, internal review by a new UNRA contracts department in order to prepare improved tenders. In addition, the landtake process and other processes must be expedited before a works contract is signed in order to reduce potential claims. The additional support from the mentioned experts would be

essential in the work to ensure value for money and would reduce the real risk of not increasing absorption**.**

71 In order to cope with the increased workload and the need to undertake landtake on a number of roads in parallel, it is imperative that additional staff resources are provided to the Chief Land Surveyor. If not, appropriation will not be complete. In that case either projects are delayed or they go ahead and at a later stage GoU ends up paying substantial amounts to settle claims.

72 As is clear from previous sections, there is substantial need for technical assistance and capacity building to help UNRA meet both the challenging near-term and medium-term goals set out by Government. While it is an option to request development partners to finance these experts through technical assistance programs – which can be time consuming to set up – it is also important to consider the opportunity cost of not getting the experts timely. It is less time consuming if Government pays for the technical assistance from its own budget. The cost would be minimal when compared to the overall road budget and could result in substantial future savings on road projects. Some of the technical assistance needs have already been identified by UNRA and assistance requested from development partners or otherwise listed in other documents. Box 2.3. Additional need for TA provides an overview of TA not covered in other documents or through other projects. There are both short-term and medium-term needs for increased capacity. This can be provided through technical assistance and capacity building by development partners**.**

Box 2.3: Additional technical assistance and training needs for UNRA

Technical Assistance: A number of existing TAs are planned for UNRA. As a result of this review the need for Technical Assistance in the following areas is highlighted. The list follows the procurement cycle and is not prioritised. UNRA should prioritise the TAs in discussion with their Development Partners.

Planning

1 – Consultant to develop prioritisation process and Donors to agree how they wish to be involved with development of the prioritisation process and ensure it meets GoU and Donor needs to avoid duplication (9 months)

2 - Provide support to determine total budget requirements on NEEDS approach, impact of availability of funds and options to manage the network (18 months)

3 – Development of budget costing system (6 months)

4 – UNRA to propose what additional Institutional support they need

Design

1 - Analysis of project cost increases (develop a system to record meaningful data), Review of Price Adjustment Clause, development of improved Engineer's Estimates and training to UNRA and local consultants (6 months)

2 - Develop a system and implement Performance Monitoring of Consultants (18 months)

3 - Provide technical support in UNRA, at least 6 experts for possibly up to 2 years are required (Development Partners to request UNRA what they need in view of this report)

4 – Provide support in developing low cost road construction options setting up a soils laboratory to undertake and manage R&D (18 months)

Design - Landtake

1 - Develop additional capacity in UNRA and local consultants (12 months)

2 - Develop additional capacity of local land valuer consultants (6 months)

3 - Develop additional capacity in Government Land Valuers and Land Titling Offices (12

months)

4 – Development of Land Acquisition Regulations to provide UNRA legal backing to the execution of land acquisition activities

Procurement

1 - Support procurement process mapping and streamlining of the approval processes and provide training (6 months)

2 - Support development of MIS (12 months)

3 - Review award process for contractors and use of value driver selection process (3 months) Develop and implement performance monitoring for supervising consultants (18 months)

4 – UNRA is implementing a 'Governance and Accountability Action Plan' (GAAP) under the World Bank financed Transport Sector Development Project (TSDP) intended to improve transparency and good governance in the road sector.

Procurement Alternative Options

1 - Examine the relevance of alternative options, develop suitable system and provide training in their implementation (6 months)

2 – UNRA to hire a consultant under the TSDP to assist in the preparation of standard bidding documents for alternative project delivery

Contract Management / Implementation – Contractual

1 - Provide contracts expert and set up contracts department (18 months)

2 - Develop and implement performance monitoring for supervising consultants (18 months)

Contract Management / Implementation – Price Adjustment Clause

1 - Review PA clause for FIDIC and all donor contracts, examine if Uganda Statistics Bureau can provide data, revise clause

Contract Management / Implementation – Engineer's Estimate and Unit rates

1 - Develop a method to record average unit rates for different road types to improve estimating at feasibility stage and to monitor cost of roads to GoU, - (12 months)

2 – Develop process and provide training in improving estimating of works contracts including risk assessment and management (6 months)

Training: UNRA is in the process of developing a training programme for its staff based on training needs identified in its business plan. It is recommended that this training programme includes such elements as:

- Day to day contract management
- FIDIC and other Contract forms, contractual issues
- General Project Management including systematic filing procedures, data management and reporting
- Training should be focused more in UNRA, using specialist trainers to carry out training in-house, rather than to send staff overseas. This would reduce time staff are away from the job and make training better targeted to the specific needs in Uganda and hence more cost effective.

Capacity of the local road construction sector

73 Annual turnover of the Ugandan registered international companies is of the order of US$15 million to US$60 million only. The annual turnover of the Ugandan-owned companies is considerably less. Major road construction works are currently mostly carried out by major foreign-owned companies. A number of the largest construction companies in the country, mostly foreign owned, have been in the country generally for longer than the locally owned ones. Some foreign companies have been in Uganda since the 1940s whereas one of the oldest Ugandan companies, Babcon, was set up in 1984.

74 Local contractors need to strengthen their capability and capacity but will only invest if there is continuity of work. The challenge of unlocking private sector investment in capacity is two-fold: on one hand it is an information problem and on the other it is a competitiveness problem. Government can address the former by providing information to the Contractors' Association about its multi-year spending plans in the road sector. On the latter it is recommended that GoU works with the Contractors' Association and determines what actions can be taken that will help develop and promote a sustainable local contracting capacity. Options include that GoU investigates and agrees with donors on letting a larger number of smaller contracts that local contractors can bid for while maintaining strict supervision procedures. In addition it would be useful if donors could provide technical support to these contractors in areas such as quality control, planning and plant maintenance to ensure projects are completed to quality on time using best practice.

75 One key issue affecting local contractors is problems with working capital financing from the domestic financial sector. This limits the cash flow available to local contractors. In general, the local contractors do not have large turnover, and rely on a positive cash flow from the project to implement the works. All contracts include an advance payment, usually for 10% of the contract price. However, the contractor has to provide an Advance Payment Guarantee (APG) for the full amount of this advance. This is not difficult for international contractors to do from international banks. However, for local contractors this presents a significant problem, as the local banks are not familiar with providing such guarantees without further guarantees from the contractor. Hence, the contractor is often required to provide cash backing to obtain the required guarantee, thus reducing the benefit of obtaining an advance payment. The contractor must also provide a performance guarantee, usually for a further 10 percent of the contract price. Hence, he must tie up further cash backing in order to secure this guarantee. If there is any delay in submitting, approving and receiving payment for his interim certificates, the contractor will suffer severe cash flow constraints and the rate of work will be duly limited.

C. CONCLUSIONS AND KEY RECOMMENDATIONS

76 Historically the road sector suffered from underfunding and poor management. However, the road sector has now become a number one priority for Government and there has been a quantum step up in funding in the last 2 years. Coupled with this, major policy changes have been implemented in recent years, with the establishment of UNRA on July 1, 2008 and the recent establishment of the Road Fund. Road sector projects always require a significant project

life cycle, counted in years, rather than months. It will therefore take some time before the real benefits of these major changes will start to be felt.

77 No major changes in policy and approach are required at this stage, but rather consolidation of the policies already being implemented and increased support to those agencies striving to move the sector forward and bring dramatic improvements in the standard of roads in Uganda. Primarily this is UNRA, but support is also needed to other major players in the sector, who have an impact on the successful and efficient implementation of projects. It is clear that, whilst UNRA has achieved a lot in its first year, it has also been consolidating the new procedures, new staff and setting up new systems. To help this process it is proposed that UNRA appoint Associate Directors in each Directorate as described below.

78 There are a number of areas where action can be taken to increase absorption and value for money in the sector by focusing on reducing risks and delays in the implementation of projects, and on increasing the efficiency of procedures. Projects are still taking too long to implement, and cost and time overruns are significantly higher than should be the case. The set of detailed recommendations discussed in this chapter, covering all stages of the project cycle, are summarized in Appendix I along with an analysis of the associated performance impediments and underlying causes. In this section a core set of strategic measures is put forward that focus on how to ensure that the set of detailed recommendations are effectively implemented.

Short Term Strategic Recommendations

79 Establish a Dedicated Project Management Unit – Required by April 2010 to manage current designs and the tender of Works Contracts. Taking into account the need to focus on:

- completing the design of current projects (1813 kms) and ensuring the designs are high quality (e.g. obtain feedback on issues from current projects and feed into design process)
- completing the landtake process before Works Contract is signed, as such Government Land Valuer's Office needs additional support
- finalizing and improving Works Contract Documents, where design is already complete, requires Contract Specialist
- the need to procure new Works Contracts (planned start date on site end- 2010) at competitive rates
- the need to rapidly "start up" works contracts as soon as possible
- increasing the level of absorption
- maintaining / increasing value for money

80 It is essential that UNRA create a dedicated team who has the responsibility and time to focus on current SMART[14] tasks to be undertaken now to raise the level of absorption and maintain value for money, i.e., the team members have no other responsibilities and are not diverted. The team leader and his team have a lot to do if they are to

[14] SMART stands for Specific, Measurable, Attainable, Realistic, and Timely.

overcome the many problems associated with the current procurement process in order to meet the short timescales while ensuring value for money is achieved. Prime tasks include:-

- Develop an agreed fast track process for the current projects that are scheduled to start on site this year where the designs are not due to be complete until June 2010 while taking into account it currently takes a year (from when a design is complete) to bid a works contract and for work to start on site. The fast track process must be developed and agreed through dialogue with all partners (let others know quantity of work coming through the system) and a pro-active approach to identify areas where delays will occur and if they are not under UNRA control so inform GoU in order they help.
- Request help from Development Partners (early provision of the 7 staff noted above to further assist UNRA in the development of quality designs)
- Request other Stakeholders to provide shorter approval periods as required and that approvals may be requested in parallel rather than in series (currently all parties are required to approve one after the other)
- Review the detailed recommendations of this report and other reports in developing a short term plan that only includes tasks necessary to achieve the agreed immediate goal, increase absorption and maintain value for money
- Undertake a technical audit on all projects; ensure more contractors bid for the new projects.

81 The above approach requires support from GoU as the problems are not all within UNRA, e.g., Government Land Valuer's Office is seriously under staffed which means there is a high risk landtake is not complete before a works contract starts. Many stakeholders have an impact on the procurement process and can help reduce the timescale but only if GoU takes leadership and also provides them with additional resources. The role of the Inter-Ministerial Technical Committee on the Road sector (see below) is instrumental in this regard to ensure cooperation across government agencies. In addition to the above, it is essential to implement other recommendations which as a minimum include:

- Establish a Contracts Department to provide support to Planning and Projects Directorates (revise the price adjustment clause, consider extending DLP to 24 months).
- The need to undertake external Financial and Technical Audits on construction works on a regular basis before the works contract is completed (for instance at 50% complete and 100% complete) to ensure quality is maintained and resolved any problems before the contract ends.
- UNRA does not wait for the new MIS to be developed. By April 2010 UNRA prepares a detailed procurement program (if not already done) for increasing absorption and sets up a simple "tracking system" that monitors the progress of all requests for approval during all stages of the procurement process. In addition UNRA meets with stakeholders on a monthly basis to discuss issues met, e.g. delay in approvals of the fast track projects.
- UNRA to also review the capacity of all departments involved in this fast track process to cope with the increased workload and consider need for increased numbers over that fixed by the wage bill, including urgent need for increased workspace. To consider taking on temporary staff to help overcome expanding the service level up to that

required to cope with the increased budget levels. The effort required should not be underestimated as the aim is to accelerate the process.

- Variation Orders are issued by the Road Authority and copied to all stakeholders for information (within given magnitudes it will not be necessary to seek SG's approval)

82 Inter-Ministerial Technical Committee on the Road sector (IMTC). A number of issues affecting road sector performance are cross-cutting or originate outside the purview of UNRA and even MoWT. It will be critical that the Inter-Ministerial Technical Committee gets the necessary authority across agencies to move actions where necessary. It remains important that the final recommendations be approved by the IMTC and that it assists in realizing them. In addition to the detailed set of actions in Appendix G these also include at a higher level: (i) Autonomy of the Road Fund so that it operates as envisaged, (ii) Autonomy and continued development of UNRA so that it operates as envisaged, (iii) Ensuring that the spirit of the National Construction Industry Policy is enforced, including strengthening the local construction industr**y,** and (iv) Current Transport Sector Review.

Medium Term Strategic Recommendations

83 National Land Acquisition Program for the Road Reserve. Consideration should be given to establishing a national program of land acquisition to secure the road reserves for all National Roads. Currently this is only done as part of rehabilitation projects, and is not initiated until the project is given the go ahead for construction. If the road reserve for all National Roads was secured, then further acquisition for individual projects would be minimized.

84 UNRA is faced with issues related to the project preparation and approval processes in Government outside its control. It is recommended that UNRA appoints a senior person to be made responsible for resolving the external problems.

- In the first instance examine issues that limit UNRA's ability to cope with the increased budget, propose improvements and ensure they are instigated. This could for instance include encouraging other government units/agencies to speed up their approval timeframes and to agree that approvals are run in parallel, variation orders are approved by UNRA etc.
- In the second instance examine longer term issues as noted in the preceding summary and in detail in the report e.g. how to improve value for money and reduce unit costs.

85 With regard to improving its internal systems, UNRA has received a lot of attention and advice in recent months with recommendations made under RSDP, by World Bank and other Development Partners' investigations as well as from ongoing audits. It is recommended that UNRA considers the issues raised and prioritises them into one list (backed up by more detail) focusing in the first instance on achieving the required level of absorption and delivering value for money through setting SMART objectives.

86 To this end it is recommended UNRA focus on examining internal problems in each Directorate using an Associate Director (new position) with the authority and time to improve internal efficiency. The Associate Directors should propose how improvements may

be achieved, agree actions with the Director in each Directorate, spearhead obtaining support from Development Partners where applicable and be responsible, and ensure improvements are implemented in an agreed timescale. They should also form a sub-committee to discuss cross cutting issues and keep each other informed. In addition they should make use of external consultants to help them structure the interventions so they may focus on implementing them. Development Partners could assist by accelerating the provision of help that in the immediate future provides the support UNRA requires e.g. provide the staff requested.

87 It is of critical importance to realize that technical assistance will be required to take up the recommendations put forward in this report. Again Box 2.3 provides a useful overview of what is required.

Appendix I: Summary of Analysis of Chapter 2: Value for Money and Absorption Constraints in Procuring and Implementing Road Contracts

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
Planning National roads selected on basis of overall network connectivity All projects assessed using multi criteria analysis including HDM UNRA follows MoFPED guidelines in preparing project profiles for consideration of Public Investment Plan GOU has formulated Transport Masterplan RSDP1 in 1996, RSDP 2 under mid- term review in 2001/02 RSDP3 developed for 2009/10 to 2018/19 includes National Roads, District etc	In general, approach considered satisfactory as HDM is used to prioritise	**Analysis shows** • **HDM used to prioritise** • **RSDP 1 and 2 not completed because of lack of GoU counterpart funding** • **UNRA now responsible for 20,000 km of roads (100 % increase), it is not clear if UNRA's budget has been increased accordingly** • **Project budget estimates need improving** • **Requirements of Road Fund must be considered** A – All projects reviewed included HDM analysis, a standard process to determine the Internal Rate of Return with regard to the investment. Further prioritisation criteria will be required especially when looking at secondary roads B – Most projects under the RSDP 1 and 2 were left undone for 10-15 years in part	**HDM has been used for many years and currently resulted in plans that include appropriate roads for development as such there is clearly a planning process in place. There is though always room for improvement.** **Problems may come when decisions have to be made on order of development of the secondary roads and which District roads to upgrade requiring a road investment prioritisation framework as proposed by MoFPED. It is essential donors be involved in its development as it may be used as the "Gatekeeper".** **A high risk is that GoU do not allocate sufficient funds to develop and maintain roads on a NEEDS basis. UNRA must examine the realistic cost of maintaining the national road network and the impact on the network if funds are not available. In addition to improve the process of selecting and prioritizing roads in order to determine realistic budgets** A - MoFPED are preparing a ToR for a Road Investment Prioritisation Framework Study. UNRA and Donors to be consulted about ToR and involved in development of process, in particular how it may be used to manage development funding. This will have to encompass the development of a framework or criteria for prioritization and selection	*UNRA PLANS* UNRA intend to undertake planning exercise on network and develop a Road Network Plan and further develop in house capacity, this includes updating RSDP UNRA are developing a roads databank and asset management system, tools for preparing and updating annual plans UNRA intends to extend the road inventory/ condition and spatial referencing surveys to the new 10,000 kms. UNRA intends to establish a Cost Estimating Unit which will also implement or use the World Bank Road Costs Knowledge System (ROCKS) UNRA plans to undertake an institutional diagnostic study that will determine capacity gaps affecting institutional efficiency and mandate implementation *Proposed Donor Assistance(Duration)* 1 – Consultant to develop prioritisation process and Donors to

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
Current investment strategy focuses on Northern Corridor Donors have their own priorities and pick from proposed priority list UNRA developing roads database and asset system		due to lack of counterpart funds. B - 10,000 kms of District Roads have recently been upgraded to National Road status and handed over to UNRA who now have responsibility to maintain them in addition to the 10,000 kms they currently manage. B - Considering the increase in network size and increase in length of asphalt concrete roads (may cost more to maintain), the sufficiency of future budgets for new works and maintenance are not clear and may be totally insufficient to preserve asset value. C - Works contracts estimates (which are used to develop UNRA road budget) are sometimes well below bid prices and final contract costs (which include claims and payments for price adjustnment). This impacts on the adequacy of funding D – In July 2009 the road fund was established. RF no doubt will wish to develop a process for prioritising work , it is important this is undertaken in conjunction with MoWT,	community access and District roads for upgrading. B - UNRA to review the total budget required to develop and maintain their expanded road network of 20,000 kms on a NEEDS approach not only a budget approach; discuss implications with MoFPED and Donors. Then produce a multi-year programme to involve appropriate stakeholders such as horticulture, tourism and agriculture, especially important for District roads. In addition when the yearly budget is confirmed and insufficient, UNRA are to advise GoU of the reduction in asset value due to insufficient maintenance. B - UNRA to undertake an exercise to balance/prioritise Uganda Road network against available funding. It is imperative the issue of insufficient maintenance leading to the "new build followed by road failure cycle" be avoided, if maintenance finding is not available do not rebuild the road. Exercise will involve determine optimal network size, core network and likely resulting impacts on network performance of the lack of funding in the future based on past experiences. C – UNRA to implement an improved budget costing system that considers Base Cost, Variation of Price and Project Risks plus appropriate contingency level. To include preparation of a manual and training for UNRA and Consultants D – MoFPD, MoWT, Road Fund, Donors and UNRA should agree a road investment and maintenance prioritisation process that meets	agree how they wish to be involved with development of the prioritisation process and ensure it meets GoU and Donor needs to avoid duplication (9 months) 2 - Provide support to determine total budget requirements on NEEDS approach, impact of availability of funds and options to manage the network (18 months) 3 – Support development of budget costing system (6 months) 4 – Ask UNRA what Institutional support they need

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
		MoFPD and UNRA so there is not a third approach. E- GoU ramped up the road budget by a factor of 13 last year and doubled the network UNRA is responsible for.	all their needs and avoid duplication and wasted effort E – To cope with increased size of network and budget whilst ensuring value for money plus implement above, temporary staff will be required as well as Institutional support. This does not appear to be recognised by GoU. In order to avoid low absorption UNRA to examine staffing levels and expand on a temporary basis as required. UNRA to request what it needs from GoU and Donors who must both respond QUICKLY if the desired level of absorption is to be achieved. It is unrealistic to expect UNRA with its present capacity to deliver this dramatic increase in workload without more resource (staff and office space).	
Design Feasibility Studies are undertaken including economic analysis using HDM Preliminary designs are undertaken to determine optimum terrain alignment and cost Detailed designs are undertaken to produce contract documents and Engineers Estimate	The approach follows best practise, the problem is the standard of works documentation (Tender for Contractor) developed by design consultants is not up to standard and must be improved to reduce the problems experienced on site with subsequent claims and	**Analysis shows** • **Insufficient time allowed for design** • **Inadequate site investigation** • **Costs of roadworks are increasing, (value for money falling) in part due to Price Adjustment and poor design** **There will be a need for low cost road construction options for District roads especially** A - Insufficient time allowed for design phase results in poor design and subsequent	**UNRA to develop realistic timescales for design projects or risk they will be inferior. Further improve the design ToR's, include all Site Investigation as a Provisional Sum. Increase range of experts and internal staffing to allow closer management of design process and ensure issue identified are not repeated. It is imperative to produce high quality designs "Correct First Time".** **Monitor cost increases, problems in applying Price Adjustment Clause and increase the level of competition for Works Contracts** **The aim must be to employ "better" consultants, as such GoU to develop Performance Monitoring System.**	*UNRA Plans* UNRA have initiated design of 1,800 kms of network in order to "have construction projects available to meet increased budget" UNRA have tendered for a Technical Audit consultant to audit designs in an effort to ensure the standard of Design and hence Works Contracts are improved UNRA intend to extend an existing consultancy contract to collect data on the District roads recently handed to UNRA so planning may proceed *Proposed Donor*

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
	corresponding reduction in value for money	delays in the completion of construction of the road resulting in an overall increase in time to deliver the finished road. Get the design right, then tender. B – Clearly inadequate site investigation has resulted in poor design and subsequent claims from contractors C – Roadwork costs are increasing in Uganda and in the region. D - Price adjustment clause provides for contractors to claim back increased costs of materials as per clause in conditions of contract in order to share this risk with the employer- some contractors aim to manipulate this clause to their benefit. To block this practise will require careful examination and changes to contract documents E - Poor performance (design) by consultants results in cost overruns. Primary examples include errors in quantities, change to pavement, hurried design reviews, unforeseen ground conditions, addition to scope.	**With the upgrading of 10,000 kms of District roads to national roads status, UNRA to examine ways to build low cost roads appropriate to level of service envisaged.** A – UNRA to initiate the start of design process for future roads earlier to provide for adequate design period B – UNRA to include in the ToR's for design, adequate Provisional Sum items for all site investigation work to ensure sufficient site investigation is undertaken C – UNRA to undertake further investigation on an ongoing basis into cost increases (refer to recommendations made in the Action Plan Matrix derived at the Unit Cost Workshop of February 2009. and compare against regional costs in order to ensure Value for Money is being achieved and need to increase level of competition for Works Contracts D – UNRA to investigate the various price adjustment clauses and how they can be improved E – GoU to implement a Performance Monitoring system for design consultants in an effort to provide structured feedback to consultants on their performance. Use the data in the procurement process for new design consultancies so that better consultants are rewarded with new work and poor performing consultants do not receive work F – UNRA to implement a Technical Audit	*Assistance(duration)* 1 - Analysis of project cost increases (develop a system to record meaningful data), Review of Price Adjustment Clause, development of improved Engineer's Estimates and training to UNRA and local consultants (6 months) 2 - Develop a system and implement Performance Monitoring of Consultants (18 months) 3 - Provide technical support in UNRA, at least 6 experts for possibly up to 2 years are required (Development Partners to request UNRA what they need in view of this report) 4 – Provide support in developing low cost road construction options setting up a soils laboratory to undertake and manage R&D (18 months)

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
		F - Errors in design in part due to poor consultants and lack of guidance by UNRA G - There is a lack of feedback of site issues to the designers so they may improve the contract documents H – UNRA are currently examining options to build lower costs roads, not clear if the options are suitable for the 10,000 kms of District roads (recently transferred to UNRA) which are to be upgraded, but to what level service?	Process to be undertaken during the design process to ensure timely feedback to consultants as well as improved quality of designs and Works Contracts F – UNRA to improve internal capacity to pro-actively guide the design process e.g. on traffic growth rates and to also undertake technical audits. Development Partners to provide additional support to UNRA to improve staffing to requested levels as soon as possible. G – UNRA to develop a process that provides feedback on site issues to Planning Directorate who must then feed issues to Design Consultants to ensure continued improvement H – UNRA to undertake further investigation into the use of marginal road construction materials and construction of low cost sealed roads including application to the National Network in particular the "new" District roads to be upgraded. UNRA to examine need for in house soils laboratory to undertake R&D. Review advances made by AFCAN	
Design **Land Acquisition** The majority of road works include the upgrading of roads to a higher standard that normally includes an increase in width to carry higher levels of	Best practice requires all land for project to be procured before a project starts, GoU should follow this Policy. In cases where land has not been acquired and it is essential a project	**Analysis shows that Land Acquisition procedures are not completed before Works Contracts start. This is due to lack of capacity of the various Government Departments and lack of funding which results in delays in paying compensation resulting obstructions in the ROW**	**UNRA to quantify for next five years the extent of landtake works and cost (consultant input and compensation payments for landtake) and examine capacity of all stakeholders, thereafter propose to GoU how capacity to be improved and agree how funds will be released early enough to ensure compensation payments are made prior to the start of a Works Contract.** A – UNRA to determine how they can	*UNRA PLANS* UNRA intend to expand their land acquisition department and distribute elements of the landtake manual to design consultants so they improve their process UNRA now require their design consultants to undertake a more thorough process in identifying land and buildings affected as well as determination of the compensation.

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
traffic. In brief it requires some additional land. Utility companies rely on UNRA to have acquired the Right of Way (ROW) so they may install their services	must proceed, the contract documents must reflect this so the contractor is fully aware he has to work around the problem and as such may not claim PPDA law is very detailed, prescriptive and provides a process to tender projects.	**when the Works Contract starts.** A - In the past landtake (acquisition of land including, surveys, identification of owner, payment of compensation and registration of the land in the name of UNRA) has started when a works contract starts, far too late resulting in greatly increased risk of claims from contractor for non access A - It is understood UNRA intend to continue to follow the same approach of paying compensation for land when the Works Contract is tendered, in order to use the limited finds wisely (projects may be cancelled) B - Acquisition of land can take from 6 to 15 months (longer if owner objects) depending if the land is registered or not registered, owners are in the country etc B - The process can take longer if the Government Chief Valuer is unable due to lack of internal resources review the proposed valuations in a reasonable	complete land take prior to signing a Works Contract B - UNRA to prepare a paper indicating the likely extent of landtake works required and the cost of compensation (possibly use data from completed to date) in order to quantify the problem area and develop mitigation plans e.g. 1 how best to improve the capacity of all stakeholders to deliver the process faster and 2, To determine if for certain projects, land purchase can be completed before the Works Contract is let e.g. Donor funded projects where funding is assured and timetable more certain B – UNRA to consider if they need to further increase their internal capacity B – UNRA to consider how capacity within the Government Land Valuers and Land Titling Office can be increased B – UNRA to consider how capacity in the number and capability of the land Valuer consultants can be increased B - UNRA to determine if it is possible and practical for the design consultants to undertake more of the Land Take process at design stage than currently envisaged	*Proposed Donor Assistance- (duration)* 1 - Develop additional capacity in UNRA and local consultants (12 months) 2 - Develop additional capacity of local land valuer consultants (6 months) 3 - Develop additional capacity in Government Land Valuers and Land Titling Offices (12 months) 4 – Development of Land Acquisition Regulations to provide UNRA legal backing to the execution of land acquisition activities

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
		timeframe B - Another limitation is the limited capacity of the private companies who are registered to undertake land valuations		
Procurement General Open competitive bidding is used in line with PPDA law using re-measurable contracts Contracts are awarded on basis of "Lowest Evaluated Bid Wins"	This detailed process is not considered best practice when compared to simpler processes in use in other countries. UNRA have an operational PDU in line with PPDA law	**The current procurement process takes too long because all stakeholders (including Donors) do not process approvals in a timely manner. The cost to GoU is high (EOT on a works contract can typically cost between 1 to 2% of Contract Value per month) and greatly impacts on Value for Money.** **In addition improved Governance is required to reduce the impact of Political interference and collusion.**	**The National Transport Plan clause 6.2.3, notes extended procurement cycles as a problem citing 10 years as against the potential 5 years.** **The TSDP November 20009 notes problems with Procurement and includes an agreed Action Plan to mitigate Procurement Risks. Neither go far enough as they do not include all the stakeholders nor promote simplifying the onerous process.** **UNRA to examine the impact and cost of the delays in procurement (the processing of new contracts and changes to existing contracts) and make all stakeholders aware of how this greatly impacts on Value for Money and absorption capacity i.e. the longer it takes to procure contracts the lower value for money and lower absorption capacity.** **UNRA to determine how improvements may be achieved within UNRA, simplify the process, implement targets (e.g. process A to be completed all request within five days first time) for PDU and Contracts Committee**	
		A - Various stakeholders appear to have different views on the extent and complexity of the required administration	**Develop agreed guidelines (timescale for stakeholders to process requests) with other stakeholders. GoU to support this initiative and not block it.**	*UNRA PLANS* UNRA have had some discussion with regard to PPDA law but without any improvement

Description and Assessment		Analysis	Main Recommendations	Current UNRA Plans And Proposed Donor Assistance
Current Practice	**Adequacy Against Best Practice**			
		process to record and implement the PPDA laws. B – Some stakeholders take long periods to process documents and do not always make it clear what information they require or notify others if data is missing	**Although MIS database is planned it will take time to develop. In the meantime UNRA should set up a process to monitor all approvals, any beyond the allocated time to be followed up, this will require a dedicated person.** A - UNRA to develop a bespoke database to improve monitoring of procurement process (time each stakeholder takes to process) for all projects and changes to contracts in order to identify and quantify bottlenecks. B - UNRA to discuss and agree with other Ministries and other stakeholders how the procurement process can be simplified, streamlined and made more user friendly. Produce agreed guidelines on how best to manage the high volume of bids and initiate "joint" training so different Ministries understand the problems others face and the consequence of delays e.g. expensive claims from contractors, lower value for money.	UNRA intend to develop a MIS, this should have the capacity to monitor a project through the full cycle, record relevant data and produce output data in a meaningful format
		A – The lack of appreciation that any delay in the "procurement process", costs money is endemic with departments blaming each other. All delays whether on new projects (more money will be paid out under the price adjustment clause) or existing projects (EOT with costs can typically cost between 1 to 2% of Contract Value per month) result in	A – UNRA to develop closer ties with PPDA and Solicitor General and meet on a regular basis to discuss problems and issues B - UNRA to simplify contract management of Works Contracts e.g. issue of VO's. Consider using engineers only in the process of assessing engineering projects C – UNRA to agree how to achieve accreditation under PPDA law and how it will help UNRA D – UNRA to review their internal capacity not only in PDU but in other departments and consider increasing level of resource to allow	*Proposed Donor Assistance-(Duration)* 1 - Support procurement process mapping and streamlining of the approval processes and provide training (6 months) 2 - Support development of MIS (12 months) 3 - Review award process for contractors and use of value driver selection process (3 months) 4 – UNRA is implementing a

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		cost increase and reduced value for money. In essence service delivery is delayed by any delays occasioned by procurement. B - UNRA have to process a large volume of tenders, contracts and changes to contracts e.g. VO's. which requires a lot of manpower to process C - It is understood that the proposed revisions to PPDA law are targeted to other areas and do not help improve the procurement challenges of large turnover organisations like UNRA. D - UNRA has insufficient office space, staffing, a poor archive system and referencing of correspondence, each letter must have a unique reference E- "Lowest evaluated bid wins" approach does not always result in appropriate contractor for a project. F – There is concern that Good Governance is not always employed, that collusion and Political interference leads to	processing of the documents in a timely manner E - Examine other options of selecting contractor and not just "lowest evaluated bid" e.g. investigate value driver selection process plus taking into account the past performance of the contractor to ensure the "better" contractors are employed F – UNRA to ensure there is no collusion. One approach is to advertise contracts early and widely to ensure maximum competition	'Governance and Accountability Action Plan' (GAAP) under the World Bank financed Transport Sector Development Project (TSDP) intended to improve transparency and good governance in the road sector.

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		appointment of inappropriate contractors and consultants		
Procurement **PDU in UNRA** Under PPDA rules, UNRA have a PDU unit that operates within UNRA and manages the procurement of all contracts, this includes services (design consultancies), works contracts and supplies	Less complex approaches are used in other countries yet provide a transparent procurement process for high volume organisations	A - The administrative process within UNRA has been set up to comply with PPDA rules. It appears overly complex and onerous absorbing a high volume of effort that could be better used elsewhere in managing design projects and works contracts	A - UNRA to not only look at the process of dealing with approvals from Stakeholders (see above), but must :- • review their internal capacity and need to increase office space and staffing (possibly only temporary in order to ramp up capacity) and make a case to GoU • review internal process and agree with PPDA how the process may be simplified • determine from PPDA how to obtain accreditation with PPDA and implement • make contracts committees work more efficiently and process request first time by setting targets • set up a process to prioritise / fast track projects, run approval processes in parallel agree with PPDA additional internal training for all staff	*UNRA PLANS* UNRA to conduct study tours to other countries with more efficient procurement systems with a view of borrowing best practices UNRA to implement a Procurement Improvement Action Plan proposed under the TSDP intended to improve procurement effectiveness
Procurement **Alternative Options** Early Contractor Involvement in Design (consultant and contractor identify simpler ways to achieve goal and hence improve value for money), Design,	Currently these approaches are not used but are being considered	PPDA do not have standard documents for these procurement options	UNRA should be aware of the complications of entering such new territory and should not underestimate them. If it is decided to follow a new route obtain advice on how to set up and build a system. Also consider option of paying bonuses to contractors for early completion. With regard to PPP, it is also recommended that for each project it be determined if it is more cost effective for the Government to borrow the funds and use the normal form of procurement	*Proposed Donor Assistance- Long Term* 1 - Examine the relevance of alternative options, develop suitable system and provide training in their implementation (6 months) 2 – UNRA to hire a consultant under the TSDP to assist in the preparation of standard bidding documents for alternative project delivery methods

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Build and Operate (DBO), PPP				
Procurement of Consultants Procurement (Selection) of Consultants is undertaken for each stage A detailed evaluation process is used by UNRA to select a consultant as stated in the RFP	Approach is acceptable and varies in different countries	As a result of PPDA laws and duration it takes to procure services, the current approach leads to 3 periods of procurement of 9 months each which extends the planning and design period thus delaying service delivery by as much	UNRA to discuss with Donors the advantages and disadvantages of using the same consultant for design and supervisions and how the contract would need to be revised (Overriding aim should be procure better consultants) It is noted UNRA have moved to 90:10 criteria in evaluating consultants in order to procure improved services	
Contract Management / Implementation / General UNRA has two directorates involved with procurement of and implementation of development projects UNRA's Planning Directorate procures and manages the design process, production and tender of Works Contracts. UNRA's Projects	The split of responsibility is considered acceptable. One downside is the problem of feedback on site problems and mitigation in future designs	**Analysis shows that there is reduced Value for Money (overspend) due to** • **Delays in making decisions resulting in claims** • **Lack of feedback of site issues to Planning Directorate** • **Lack of understanding of FIDIC and implications on project** • **Weak Supervising Consultants** • **Poor contractors delivering poor workmanship** • **Delays in issuing VO's**	**UNRA to** • **Ensure decisions are made in a timely manner** • **Provide structured feedback on problems to Planning Directorate** • **Implement further training in FIDIC in Uganda in UNRA on an ongoing basis using real examples** • **Implement Performance Monitoring of Supervising consultants and feedback issues during the project so the consultant may improve, note GoU to develop system** • **Investigate extending DLP and agree with Donors** • **Agree with PPDA and Solicitor General to take Contract Management out of the realms of procurement. As**	*UNRA PLANS* UNRA are preparing an internal project management manual

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Directorate are involved in tender evaluation and thereafter project manage the implementation.		• **Complicated Price Adjustment Clauses** • **Poor determination of budgets** • **M&E unit has no systems and has low capacity** • **No external audits on development projects** A – UNRA has delayed making some decisions due to lack of understanding of the issues raised by a contractor with subsequent impact on the progress of the Works B - Structured information is not fed back to Planning Directorate on problems experienced on site	**such UNRA may approve VO's and copy stakeholders for information only** • **Simplify the Price adjustment Clause** • **Improve development of budgets** • **Increase capacity of internal M&E unit** • **External audits to be undertaken on development projects** A - UNRA on an ongoing basis to review their contract management process in order to speed up their internal approval processes and examine how increased value for money may be achieved. B - UNRA to set up a system to feed back site problems in a structured manner to Planning Directorate so Works Contracts may be improved. C - UNRA to instruct supervising consultants on an ongoing basis to feed back problems experienced on site and propose solutions in order that Planning Directorate may improve the Works Contracts	
Contract Management / Implementation **Contractual** The FIDIC conditions of Contract are used for Works Contracts – for	FIDIC is a well known conditions of Contract and provides a sound base International Consultants supervising the Works should provide the level of expertise required	A - As with all contracts, FIDIC must be carefully implemented with appropriate letters and instructions issued at various stages. UNRA staff have a good understanding of the requirements but when it comes to claims, depending on the complexity are not aware of the full implications B - Some International	A - UNRA to establish a FIDIC Contracts Department employing contract specialists with extensive experience in highway contracts (require the technical overview to analyse claims) whose brief includes providing support to UNRA project managers on site on issues arising from Works Contracts and claims. In addition to review any changes to the Conditions of Contract proposed by Design Consultants, to monitor all VO's and Claims and feedback proposals to Planning	*UNRA PLANS* Training in FIDIC conditions of contract to be included in UNRA's Annual Training Plan. *Proposed Donor Assistance(Duration)* 1 - Provide contracts expert and set up contracts department (18

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World Bank this applied to Contracts > 10 MUSD International Supervising Consultants Supervise the major projects Currently the defects liability period is 12 months		Consultants are not pro-active in identifying problems and resolving them, nor managing and advising on contractual issues. C – Some projects have failed very early on in their design life but outside of the DFL period, hence the contractor is not responsible	(who manage the design consultants) on how they may be mitigated. A - UNRA to increase the level of internal training on FIDIC with courses run in UNRA by outside experts, making use of examples of problems UNRA face rather than send staff on overseas courses which by their nature are general B – GoU to implement Performance monitoring of Supervision Consultants to include their capacity and capability on dealing with contractual issues, feedback during the project in order that their past performance impacts on whether they are awarded new supervision contracts or not C – UNRA to examine options of extending the DLP to 24 months and/or letting contracts that include a five year maintenance period. There are many issue with both proposals which must be examined carefully and agreed with Donor	months) 2 - Develop and implement performance monitoring for supervising consultants (18 months)
Contract Management / Implementation – Variation Orders Variation Orders (change to works contract) on current contracts are prepared by Supervising Consultant, submitted to UNRA Contracts	In many other countries VO's are processed by the Road Authority up to a certain value where upon they obtain approval from other authorities, the process is transparent and much faster	A - Analysis shows that this onerous process can take a long time with records showing some VO's took 7 months to process. The delay in processing VO's can result in claims from the Contractor for late notification of change to works where the claim would be for extension of time (EOT) with costs B - Taking into consideration there are various audit teams	A - UNRA to discuss the issue with PPDA and Solicitor General and propose a process that allows entities such as UNRA to approve VO's up to an agreed aggregate value of the contract value in a transparent manner that may include copying all VO's to Solicitor General for information	*UNRA PLANS* Looking in to how to speed up the process

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Committee, then submitted to Solicitor General as it is a change in contract. In addition for EU contract the VO is finally submitted to National Authorising Officer. If value greater than 15% per item or 25% of the overall contract value, the VO however small to be submitted to PPDA		(UNRA and MoFPED) who also look at projects, the current PPDA and Solicitor General approval process for VO's appears unnecessary		
Contract Management / Implementation – Price Adjustment The majority of Contracts with durations in excess of 18 months include a Price Adjustment (PA) Clause based on FIDIC Conditions of Contract EU Contracts include a similar	This is in line with good practise in order to share the risk of increases in materials and changes in oil prices etc	A - It is not clear if all UNRA project budgets include a PA element to allow for the expected increase in project cost above tendered amount (which does not include the PA) The impact of PA should not be underestimated A - Price increases from this adjustment that occur during periods of EOT add to the overall cost increase and become a secondary cost if EOT is awarded A - Some contractors appear to manipulate the clause in	A - UNRA to undertake a full scale review of PA costs to date on various projects and investigate if - 1 the current Price Adjustment Clause is fair and reasonable and is being used as intended i.e. to share some of the risk on increase of cost of materials between the client and contractor and 2 if the clause is too complicated to administer with goods being imported now from many countries A – UNRA to present findings to Donors, consultants and contractors, obtain feedback and alter clause. A - UNRA to make all stakeholders more aware that any delays to the start of a project will result in increased costs as the contract	*UNRA PLANS* Not known *Proposed Donor Assistance- (3 months)* *1 - R*eview PA clause for FIDIC and all donor contracts, examine if Uganda Statistics Bureau can provide data, revise clause

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clause based on EU contract		order to maximise profit, as such the clause requires updating to take account of this problem and procurement of goods from many countries	provides for paying increased cost of materials based the price of goods at tender stage A – UNRA to examine benefits of smaller contracts to allow contracts to be completed in a reasonable time and reduce PA issues	
Contract Management / Implementation – Engineer's Estimate and Unit Rates Unit Prices for roads in Uganda are rising, Engineer's estimates Need to be more accurate	Unit Rates for Roads are rising in many countries as commodity and oil prices rise plus as the volume of road works increases.	Although unit rate costs per km were investigated the results are not conclusive. The data available was not broken down sufficiently as listed below to allow determination of what proportion of the outturn cost increases are a result of A – increased costs • Lack of competition • Increase in cost of materials B – Poor Budget Estimates • Poor budget estimates (tender price higher than Engineer's Estimate) • Insufficient allowance in budget for Price Adjustment • Lack of allowance for project risks (all roads have various levels of financial risks which should be assessed) Impact of exchange rate changes	Increased costs in road works is not unique to Uganda, many countries are effected To mitigate the impact UNRA must analyse in more detail project out-turn costs and break down the costs as listed in order to understand why prices increase and how to combat the problem. A - In order to keep costs down • Increase competition between contractors by widening number of companies who bid • Review costs of materials, investigate potential of alternative road construction materials (based on local availability) and how the GoU may help reduce costs e.g. based on projected volumes of cement requirements, encourage cement companies to open factories in Uganda • Reduce costs of importing materials into Uganda e.g. open up more transport routes B - In order to improve budget estimates • UNRA to monitor unit rates for all projects and provide all data to consultants Design Consultants to prepare Engineer's Estimates that cover basic unit rates, potential	UNRA PLANS UNRA in their new design ToR have included a requirement that the Engineer's Estimate consider more factors as noted *Proposed Donor Assistance- (Duration)* 1 - Develop a method to record average unit rates for different road types to improve estimating at feasibility stage and to monitor cost of roads to GoU, (12 months) 2 – Develop process and provide training in improving estimating of works contracts including risk assessment and management (6 months)

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			inflation (PA), identified risks and allocation of risks, consideration of exchange rate risk	
Contract Management / Implementation – Monitoring & Evaluation Monitoring and Evaluation within UNRA is undertaken by a small team in the Planning Directorate mainly concerned with racking progress, reviewing, analysing and pointing out issues The KPI's at sector level in the Ministerial Budget Statement are limited Donor's also have their own KPI's they wish to see met Donors also monitor projects at different frequencies to each other, monthly, quarterly and	M&E is in place which is an important start The limited capacity of the unit does not provide the manpower to also make predictions for future modelling, dig down into problem areas	A - The M&E unit in UNRA does not have systems and has too low a capacity An M&E unit should be able to make predictions and red flag problem areas and then follow up to see they are addressed B – The different requirements and range of KPI's GoU, Donors and UNRA use results in the need to write different reports for different stakeholders	A - UNRA to increase the resources of the M&E unit and further develop the capability of the unit B – Develop a MIS that can record all the KPI's and produce the reports for each Stakeholder to now include Road Fund	*UNRA PLANS* UNRA are reviewing KPI's UNRA intend to let consultancies to develop overall M&E Policy, M&E framework, M&E Plan plus an integrated MIS

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yearly UNRA uses KPI's at project level to monitor contracts				
Contract Management / Implementation – Audits The Auditor General is Primarily Responsible for auditing all Government Projects	The external audit approach is in line with good practice but needs to be extended to Development Projects, not only maintenance	A - An audit of road maintenance spending undertaken by independent consultants was reviewed, it focused on Value for Money, Resource Allocation, Planning and Budget Performance It did not cover development projects	A - UNRA to determine if there are plans to extend the audit process to development projects GoU to review the process used by independent auditors to check the process investigates in sufficient detail the quality achieved on site in order to ensure they adequately report back on Value for Money	*UNRA PLANS* UNRA intends to develop guidelines for technical audits under the TSDP
Local Consultant Capacity For major projects the GoU make use of local consultants associated with International Consultants in order to provide the required capacity and missing skills e.g. materials engineers	Use of International consultants in this way is an acceptable approach Overall aim should be to increase capacity and capability of local consultants to undertake a higher volume of the work, this though must be based on performance	A - Local consultants are concerned about investing in building up their capacity as there is not a steady demand for their services B - The quality of work produced by local consultants is variable C - A number of local experts work for themselves. They work for many consultants and appear in many proposals. If the percentage is too high it impacts on performance of the consultant	A – UNRA to provide information on future workload to the Consultant's Association to help local consultants plan B – GoU to undertake further investigate the problems experienced by local consultants and why some consultants do not deliver the quality required. Determine how the problems may be addressed and capability improved, agree a way forward B – GoU to establish and implement a Performance Monitoring process for local consultants and reward good consultants with more work, so better consultants are able to expand. This requires a performance evaluation process that is implemented by experienced staff C – UNRA to examine if the issue of local contract experts working for many consultants impacts on delivery of quality designs	*UNRA PLANS* UNRA shall support the implementation of the Local Construction Industry policy that has recently been approved by Cabinet. *Proposed Donor Assistance-* 1 – Support investigation into capability of local consultants, agree a way forward and assist in the development of the local consultants (6 months)

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Local Contractor Capacity For major projects GoU makes use of International Contractors who may associate with a local contractor Local contractors on their own struggle to meet donor requirements	Use of International contractors is an acceptable approach Problem remains how to improve the local capacity and capability – the overall aim to strengthen the local capacity based on performance	A - Local contractors have problems with cash flow, which are not resolved with advance payments as local Banks will not provide their Guarantees without substantial cash deposits. A - It is understood there is a commitment to initiate leasing mechanisms for local contractors to obtain plant B - Local contractors need to strengthen their capability but will only invest if there is continuity of work		
Overall Budget MoWT has a responsibility to provide sector oversight. This should include an overview of the budget required to develop and maintain Uganda's road network		**With the changes in National Road Network size, it is assumed the development and maintenance budget for UNRA will have to increase** Table 18.1 and Table 18.2 of the integrated Transport Investment Plan indicates the budgets up to 2017/18 With the upgrade of 10,000kms of District roads to National level, it is assumed the development and maintenance budget for UNRA will have to increase	**In view of the increase in roads allocated to UNRA and changes in the Districts, MoWT to update the investment plan based on the higher service level of these roads and NEEDS analysis** Current plans include undertaking backlog maintenance of National Roads and upgrading 10,000 kms of District Roads to National level. It is also understood that 5,000 kms of community roads are to be upgraded to District road level and it is intended to undertake backlog maintenance of some 10,000 kms of road over the next five years. MoWT to update the investment plan based on the higher service level of these roads and NEEDS analysis. In the event future maintenance budgets are not sufficient to maintain the roads (routine	

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			and periodic), the overall approach should be reconsidered	
Financing Road Development Projects Government greatly increased funding for road development. This funding is provided through annual budgeting process which requires annual budgets to be expended in the FY they are provided.	Annual budgeting is not appropriate for multi – year development projects as implemented by UNRA. Many Development Partners have in the past created and used Special Accounts in which funding for projects is deposited to support the project as it proceeds.	**The annual budgeting process is not appropriate given that road development projects are multi – year investments.** An analysis of UNRA's financial performance in FY 08/09 shows that out of the total amount released by the MoFPED, whilst UNRA was able to commit 65% it was only able to spend 35%. It reflects the nature of the development projects and their financing. Given that road development projects are multi – year investments, the annual budgeting process is not appropriate. It places undue pressure to UNRA to spend which is not possible because expenditure is supposed to be based on contractors' productivity	**UNRA to propose a plan for using dedicated project fund account and discuss with MoFPED.** GoU should consider that the funding for Development Projects is undertaken through dedicated development project fund account/s. Similarly, an appropriate indicator other than annual development funding outturns should be developed to evaluate UNRA's performance, consideration of a rolling indicator that takes account of the likelihood of achieving the plan/level of absorption should be investigated	*UNRA Plans* UNRA to request MoFPED to set up a Development Project Account into which development funds will be deposited to support road development projects.

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