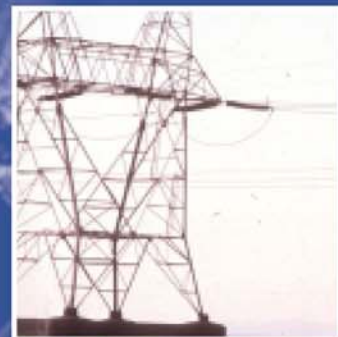


Private Solutions for Infrastructure: *Opportunities for Uganda*



Executive Summary

Infrastructure reform in Uganda

The Government of Uganda is committed to improving standards of living and public welfare for all Ugandans through sustained programs focused on achieving poverty eradication, rural development and economic growth. The Government recognizes the vital role that extension and improvement of the country's infrastructure has to play in the pursuit of these goals, impacting directly both on quality of life and on the economic environment of the country. Better water, electricity, communications and transport services are essential to Uganda's continuing development. Introducing private investment to the infrastructure sectors lies at the heart of the Government's strategy to achieve this objective, combined with sector restructuring and liberalization.

Achieving the benefits that infrastructure development will bring is not simply a matter of investing more money, although much higher levels of investment will undoubtedly be required. It also hinges on ensuring that every shilling that is spent brings the greatest possible reward. To achieve this the Government believes:

- infrastructure development and maintenance must be made more responsive to economic and social needs;
- wasted expenditure and effort—through inefficiency, the adoption of inappropriate solutions and corruption—must be driven out;
- government priorities, plans and policies need to be fully clarified, effectively coordinated and efficiently executed; and
- the international community, and particularly the donor community, needs to provide coordinated

support, focused on the priorities and needs of the Government and people of Uganda.

International experience has clearly demonstrated the vital role that infrastructure reform has to play, both in accessing new resources and in ensuring that service is provided efficiently and where it can add the greatest value. The Government has firmly declared its commitment to reform of the infrastructure sectors.

Infrastructure sector reform is often considered as synonymous with “privatization.” This report takes a wider view. Infrastructure reform is about deciding—in each sector—the appropriate role for the public sector (including national and local government, and the parastatals), and the contribution that the private sector can make. It is also concerned with the structural changes that are necessary to make these contributions feasible, to encourage efficiency and innovation, and to protect the interests of users and the wider public. These structural changes may include, for example, changing the organizational boundaries between activities to create new service markets, opening up services to competition and introducing appropriate regulation where necessary.

Achieving successful infrastructure sector reform in Uganda is, moreover, not just a matter of setting the right policies, it is also about setting priorities and focusing scarce resources on their achievement; it depends on effective and determined implementation; and it requires the removal of key obstacles. Some of these obstacles cut across more than one sector. Particular attention has been given to such cross-cutting issues in preparing this report.

Existing infrastructure provision in Uganda is poor, in part as a consequence of the serious deterioration during the years of dictatorship and civil war, but also as a consequence of continuing underinvestment, poor maintenance, excessive political interference, corruption, management failings and lack of donor coordination. In all the infrastructure sectors, access and quality of service are inadequate, and efficiency is poor.

While Uganda has adopted a strongly reform-minded approach to infrastructure provision and has put in place enabling legislation and policies to facilitate reform, progress on implementation has been both slow and erratic and much remains to be achieved. The telecommunications sector has been liberalized. Firm plans are in place to reform the electricity sector and the implementation process has begun, although actual reform has not yet taken place. But in water, in transportation and in posts progress has been very slow and very little has so far been achieved. The great majority of Uganda's inadequate infrastructure base currently remains both in public ownership and under public management and operation.

Although the potential for sector reform—and the benefits that it can bring—remains largely untapped in Uganda, there are also grounds for optimism. As noted already, there is unequivocal government commitment to reform and the necessary legislation is in place. An institutional structure for reform is in place with clear ministerial responsibility for privatization and supporting dedicated civil service resources (the Privatization Unit and Utility Reform Unit). The need to adopt a new arm's length approach to the management of infrastructure is acknowledged by Government ministries and there is genuine enthusiasm for the reform process. The need to accelerate the reform process is accepted, past mistakes acknowledged, and the Government has adopted an open stance to advice and assistance in improving performance going forward. Despite the trauma of war, Uganda has succeeded in re-establishing democratic government institutions and social stability, and provides a secure environment for private investment.

The Country Framework Report

The objective of this report is to provide an overview of infrastructure reform in Uganda. It sets out the key policies of the Government, both at a general level and in relation to the infrastructure sectors. It provides a sit-

uation report on each of the sectors and also sets out the reforms that have been achieved so far and the main plans going forward. The report has been prepared in the context of a number of important studies that have been completed or are continuing in relation to the individual infrastructure sectors. Furthermore, in some sectors, reform policy is now well developed and implementation is in progress. In preparing the report careful account has been taken of existing study findings and established policies. Where there are weaknesses, gaps or inconsistencies in the current reform program, recommendations are set out in the report. However, the report also makes recommendations concerning key cross-cutting issues.

Electricity

Currently less than 5 percent of Uganda's population is connected to the grid system. Urban access is around 20 percent, with rural access extremely low. Power generation is almost exclusively from one facility, the Owen Falls Power Station (OFPS), and total generation capacity at approaching 260 MW falls short of current estimates of unrestricted demand (280 MW) with the consequential need for frequent load-shedding. There is a high level of distribution losses (almost 35 percent) attributable mainly to illegal connections but also due to technical losses resulting from the generally poor condition of the distribution system, and reliability is poor. The transmission system is interconnected with the Kenyan grid but not with the grid systems of Uganda's other neighbors. The publicly funded Owen Falls Extension (OFE) will add up to 200 MW to the country's generation capacity and additional generation capacity, to be built, financed, and operated by the private sector, is being actively considered at Bujagali Falls (200 MW) and Karuma Falls (150 MW).

The Power Sector Restructuring and Privatization Strategy adopted in June 1999 envisages: restructuring of the Uganda Electricity Board (UEB) into separate generation, transmission and distribution/supply entities; provision of new generating capacity through Independent Power Projects (IPP) and the concessioning of the publicly owned facilities at Owen Falls; the transfer in the medium term of operational responsibility for the existing transmission system to the private sector under a concession or management contract and provision for private ownership and operation of new

transmission capacity; creation of the maximum possible number of separate distribution companies to be operated under long-term concessions; an entity will be licensed to act as the Bulk Supplier; a sector-specific independent regulator will be established; a separate rural electrification program will be instituted focused around decentralization and community participation.

Issues facing the industry include the urgent need for action to reinforce the network in order to build the national market for the new generation capacity already being installed. This will need to be accompanied by the negotiation of contracts for export sales to support the financial burden of proposed subsequent increases in generation capacity. There is likely to be a continuing need for subsidy to support the costs of investing in rural electrification schemes. An important regulatory issue concerns the capacity of a specialist regulatory body for the electricity sector and its potential vulnerability to “regulatory capture.”

Water

There is at present very limited involvement of the private sector in water supply in Uganda, other than in individual self-supply by some domestic/agricultural users and in the supply of support services. The one private participation scheme of note, the Kampala Revenue Improvement Program (KRIP) suffers from a weak incentive regime and is not considered to be performing satisfactorily. The National Water and Sewerage Corporation (NWSC) is responsible for the provision of water and sanitation services to approximately 50 percent of Uganda’s urban population, around 60 percent of which it actually provides with water supply (mains sewerage services are negligible).

Although its average charges are high, the Corporation is failing financially. It suffers from high operating costs, and a high level of unaccounted for water (UFW) comprised of theft and leakage. The Corporation also believes that some of the individual towns for which it is responsible cannot be commercially viable units. Although the Managing Director of NWSC stated that operating costs of the Corporation as a whole are now covered by revenue, the poor financial results stated for 1998–99 are believed to be the results of an effective cross-subsidy between the towns. This only partly offsets the effect of overengineered/underutilized equipment and a resultant high investment cost

for the units produced and sold. Billing and revenue collection are also poor at 58 percent of all water produced and 76 percent of all bills raised.

As part of the studies into the policies for the sector in rural and urban areas, a review of the sanitation infrastructure and policies was also undertaken. The preliminary results from this review, to be more fully developed in the final sector reports of the two teams, show that there is a National Accelerated Sanitation Improvement Policy, formed in 1997, but that the goals of 100 percent coverage of at least basic (pit latrine) sewerage provision was still a long way away. Current coverage is estimated at between 37 percent and 47 percent and includes a very high proportion of temporary facilities.

Responsibility for supplying water services to the 90 percent of Uganda’s population that lies outside NWSC’s remit is the responsibility of the Directorate of Water Development (DWD). DWD is pursuing a policy of decentralizing operational responsibility for water service, encouraging the formation of community-based water user associations to take responsibility for local service provision. The bulk of investment costs are met by DWD, supported by donors, but the Directorate is endeavoring to ensure that schemes are able to cover their operating costs.

There is at present no clear policy toward the introduction of private sector participation (PSP) in the sector. A separate study currently being undertaken on the reform of the urban water supply and sanitation sub-sector is considering this issue. Without prejudicing the outcome of this study, the short-term prospects for substantial private sector involvement in the sector appear to be limited. Nevertheless, there is likely to be an opportunity for the private sector to play a greater role through outsourcing arrangements, although there is a need to learn from the lessons of the KRIP experience in pursuing this possibility.

Telecommunications

As of February 1999 Uganda’s teledensity was just some 0.3 lines per 100 citizens, a figure that compares poorly with most African countries. Reform of the sector is, however, well progressed. Uganda Telecom Limited (UTL) was separately incorporated in 1997 and a new entrant, MTN, was licensed in April 1998 as the Second National Operator (SNO) under a five-

year duopoly arrangement, after which further liberalization is planned. Since starting operation the SNO has added close to 54,000 mobile and wireless subscriber lines to UTL's 55,751 subscriber lines so that teledensity has more or less doubled since its introduction. And the SNO is continuing to recruit new subscribers at a considerably faster rate than was originally anticipated. Despite this success, there are concerns that a high proportion of the additional lines are likely to be second lines for additional subscribers rather than providing access to new users. This is particularly likely to be the case because the terms of the targets embodied in MTN's licence do not specify whether new connections should be fixed or mobile lines and the latter area has been the major area of expansion by the SNO.

There are currently two licensed mobile cellular providers, MTN and CelTel, the latter concentrating mainly on the business market and higher value dense urban areas. The Government has also licensed six local area network (LAN) providers and six Internet service providers.

The Uganda Communications Commission (UCC) has been instituted as the independent sector regulator, although it has yet to establish its credentials as an effective independent regulatory body.

There have been two failed attempts to implement the privatization of UTL, both of which stalled at the negotiation stage. A third attempt has now succeeded. New investment by UTL has been held up for the duration of this process and the company has suffered from staff attrition. Its value has not been enhanced by the fact that the SNO has become well established in advance of UTL's disposal or by the over-ambitious build-out targets initially specified for the company. Lessons from UTL's privatization include the need for realism in setting the requirements placed on private operators and the importance of sequencing reforms correctly.

Posts

Uganda Posts Limited (UPL), separately incorporated at the same time as UTL, is wholly publicly owned although the private sector is active in the courier and express markets. The level of service provided by the company is exemplified by the fact that it delivers only 0.5 letters annually per head of population, a figure that

compares very poorly with most other African countries (the equivalent figure for Kenya is 12 and for Africa as a whole it is 8, although the figure for Tanzania is roughly equivalent). The great majority of Ugandans do not have access to postal services, with a large proportion of parishes lacking either a post office or even a posting box. Only a tiny proportion of postal deliveries is made directly to home or office addresses (about 1 percent) as compared with 5 percent in Kenya, 37 percent in Nigeria, 98.5 percent in the United States and 100 percent in the United Kingdom.

UPL holds exclusive rights to collect and deliver national letters and packets up to 1 kg in weight. Under the terms of its license the company is also charged with the provision of universal service—it is required to accept, convey and deliver all postal articles up to 10 kg in weight country-wide (understood to include only holders of paid private letter boxes at offices listed within its license). The postal sector is regulated by the UCC.

Although the quality of service that UPL is providing is extremely poor, it is not clear that further large-scale liberalization would bring substantial benefits, because of the need to build business to the level where economies of scale can be realized. There is, however, a good case for allowing new entrants to provide service in areas currently neglected by UPL. The financial performance of the company is currently too weak to suggest that sale or concessioning would prove attractive to the private sector. A management contract, bringing in an experienced and successful postal operator, could bring significant benefits if the current management is unable to demonstrate the ability to turn around the business.

A general issue with regard to the postal sector in Uganda is that, as in many other countries, it receives low priority in national policy-making, especially in contrast with telecommunications. This almost certainly fails to reflect the important contribution that an effective and efficient postal service can make to national economic development.

Transportation

Roads

Uganda's roads infrastructure has a vital part to play in the country's economic development and is also important to social welfare particularly given the country's

largely rural and low-density population. The country is relatively well endowed with roads compared with its neighbors but a high proportion is unpaved and their general condition is poor. The Government's roads strategy is accordingly focused on refurbishment and upgrading rather than network expansion.

Government policy is to separate operational responsibility for road infrastructure from policy-making and, to this end, it has established the Roads Agency Formation Unit (RAFU) as the first step toward creation of an autonomous Roads Agency in Uganda, which will have responsibility for the maintenance of the trunk road system. Responsibility for urban and local roads is decentralized to the relevant local authorities. While the Government raises a substantial proportion of taxation from road use (primarily in fuel taxes), the extent of other claims on the exchequer means that road financing remains a difficult issue and a study is underway to examine possible solutions. There are also concerns about whether local authorities have adequate capacity to fulfill their responsibilities.

Government policy is to use private sector consultants/contractors to undertake operational design and maintenance activities. There is potential further scope to involve the private sector in roads financing both through tolls, although the practical scope for this is likely to be limited, and through contributions by major commercial users toward demand-led maintenance of specific elements of the roads network.

Airports

Uganda has one international airport, Entebbe International Airport (EIA), which has facilities that can handle all aircraft types and provides access to many international destinations. There are also a number of local aerodromes, some of which provide access to short-haul international destinations within the region. Government policy to develop Entebbe as a regional international hub is, however, likely to be difficult to achieve given the already established predominance of Nairobi airport within the region.

The Civil Aviation Authority (CAA), an arm's length body expected to operate on a commercial basis, holds both regulatory and operational responsibility for airports. Clear organizational separation of these activities would be desirable. The financial performance of CAA is weak and it is unable to finance its investment needs.

There is limited private sector involvement in the sector, although some operational activities (such as ground handling at Entebbe) have been outsourced. There would be scope for private sector concessioning or management of EIA in the future.

Railways and ports

Uganda's railway network, together with the Lake Victoria port and ferries, plays a vital strategic role in providing access to the ports of Mombasa and Dar es Salaam. The system is, however, seriously depleted, with significant elements no longer operational, as a consequence of either/both of unserviceable condition of the assets and low demand. Although there appears to have been some improvement since mid-1998, the performance of the Uganda Railways Corporation (URC) was extremely poor, particularly in the period 1994 to early 1998. The organization has historically been unable to control key cost items, particularly relating to fuel and staff. New policies have been implemented in July 1998 (staff housing) and November 1999 (staff transport) but URC still has very high overhead costs and staffing levels. Reduction in staff numbers, although dramatic, has not kept pace with the reduction in activity on the railways, in part a consequence of Government constraints. Comparative data show URC to perform poorly on all measures of productivity when compared with neighboring countries. The position is improving, however.

Although the current management of URC has acted to minimize further financial decline in the position of URC, by the imposition of cash budget controls, the Corporation's viability is still precarious. In management's projections for the period to 2002, tonnages of 760,000 in 2000 and 800,000 in 2001 are expected to realize profits before depreciation and interest of Ush 4 to 5 billion. However, in each of these years depreciation and interest are estimated by URC as being over Ush 7 billion. Therefore, without significant performance improvements and probably external financial or technical assistance, its ability to continue operations is in doubt as URC financial projections show net losses of Ush 3 to 4 billion for each of the next two years and a cumulative loss by 2002 of some Ush 49 billion.

There is limited private sector participation in the railway sub-sector through a management contract for locomotive maintenance. The Government is, however, firmly committed to extracting itself from railway operations and to transferring responsibility to the private

sector. The way in which this is to be achieved has not been decided. In the short term, the options under consideration to achieve performance turn-around include a management contract, and the existing management team has also been asked to set out its own proposals. For the longer term, the main options are a long-term national concession for the operational network (possibly supplemented by subsidized concessions to reopen the defunct elements) or participation in a single regional concession covering Uganda, Kenya and Tanzania Railways.

The view taken in the Country Framework Report (CFR) is that a management contract is more likely to be successful in the short term than a concession, which would imply excessive risk-transfer to the concessionaire. In the longer term a national vertically integrated concession, supported by regional access agreements, is considered to be more practicable than vertical separation or a regional concession and is seen to present some strategic advantages.

Cross-cutting issues

A wide range of cross-cutting issues and objectives needs to be taken into account in giving strategic shape and direction to infrastructure reform in Uganda. Some of these factors also represent obstacles to successful reform that cut across all the infrastructure sectors; priority needs to be given to removing them or at least reducing their impact. Some of the most significant cross-cutting issues examined in the CFR are briefly summarized below.

The very high priority attached to economic development and poverty alleviation

In 1997, 44 percent of Uganda's population were not able to meet their basic needs,¹ and only 42 percent had access to safe water.² In this context, scarce resources need to be focused where they will bring the greatest possible benefit in terms of improving economic growth and alleviating poverty (objectives that often, but not always, go hand in hand). Infrastructure sector reform will clearly contribute to both ends but reforms in certain sectors, and certain reform models, will bring a different mix of benefits to others. The most important conclusion in the CFR is, however, the need to

maintain balanced progress on all fronts, whether public sector or private sector solutions are involved.

Capital market development

The poor development of Uganda's domestic capital markets will constrain the range of PSP options that can be pursued in the infrastructure sectors. For example, the Ugandan stock market simply does not have the capacity to absorb a large public offering of shares. This is not a problem that can be resolved overnight. Carefully thought-out private participation models in the infrastructure sectors, for example involving phased release of infrastructure stocks into the market, can play an important role in Uganda's capital market development.

Need for appropriate regulatory institutions and mechanisms

Strong independent regulatory institutions and balanced and predictable regulatory mechanisms will assist in attracting private participation in Uganda's infrastructure and ensure that the intended benefits are realized. Uganda's fundamental policies toward infrastructure reform recognize this priority but there are some concerns about the manner in which regulatory reform is being implemented. Issues raised in the CFR include doubts about the wisdom of establishing multiple sector-specific regulators given available capacity and the risk of regulatory capture. These concerns would be mitigated by consolidating regulatory responsibilities in a small number of (perhaps just one) multi-sector regulatory institutions. Investor confidence is likely to be promoted by the introduction of regulatory mechanisms that limit regulator discretion and have a high degree of transparency.

Capacity of the Government to implement infrastructure sector reform effectively

Designing and, perhaps more importantly, implementing appropriate reform requires great care and effort and restructuring errors will be extremely difficult and potentially costly to put right. While there are many well-qualified and highly competent officers in key Government ministries, the overall availability of relevant expertise is constrained and the Government has limited experience in dealing with the difficult issues involved in successful infrastructure sector reform.

Care is necessary to avoid over-ambitious reform plans and timetables.

CFR recommendations

The main general recommendations contained in the report are summarized below. No ranking of importance is implied by the order in which these recommendations are presented.

- ❑ Realism is essential in the development of PSP solutions that can work effectively in the Ugandan context.
- ❑ Priority should be given to exploiting all beneficial options for private sector involvement even where PSP in core infrastructure operations is not feasible at present.
- ❑ Close attention must be given to developing effective incentive frameworks while taking steps to mitigate uncontrollable risks for private sector participants.
- ❑ Efficient subsidy/donor funding mechanisms should be introduced to support poverty alleviation in the context of reform.
- ❑ Measures should be taken to ensure capacity is available to execute the reform program effectively and to provide for its effective coordination to improve implementation and maximize economic development/poverty alleviation impacts.
- ❑ There should be a strong bias toward sector liberalization except where this would result in significant loss of economies of scale or scope.
- ❑ Appropriate provision should be a target, recognizing that different standards are appropriate in different circumstances and avoiding unsustainability through the adoption of over-engineered solutions.
- ❑ Capacity-building initiatives are essential at both the central and local levels.
- ❑ Policy, regulatory and operational responsibilities should be clearly separated.
- ❑ Central support should be provided for decentralized rural infrastructure schemes
- ❑ Priority should be given to establishing an overall regulatory environment that is attractive to private sector participants while protecting the interests of consumers.
- ❑ Action should be taken to improve public awareness of sector reform objectives and mechanisms.
- ❑ Greater regional integration is essential, particularly in railways and electricity.

Notes

1. "Uganda Poverty Status Report," 1999, p. 4, based on monthly expenditures.
2. *World Development Indicators*, World Bank, 1999.



Introduction

Background

This Country Framework Report has been prepared as part of the Uganda Country Framework Report exercise, an infrastructure policy assessment by the Government of Uganda in cooperation with the World Bank and the Public-Private Infrastructure Advisory Facility, which is funding the CFR exercise.¹ The report provides a balanced assessment of both infrastructure reform policy and achievements in Uganda in order to provide a sound foundation for future progress.

This report covers all the CFR topics.

Objectives and scope of the CFR

The Government of Uganda's intention in issuing the Country Framework Report is:

- to provide the policy and analytical basis for preparing and implementing a comprehensive utility reform program;
- to reinforce its initiatives in individual infrastructure sectors by providing a mechanism for coordinating and synthesizing the restructuring of each sector and by providing solid analytical work and recommendations for the reform of each sector;
- to provide an input to the World Bank Group country assistance strategy and lending program; and
- in published form, to provide a “one stop shop” of basic information on Uganda's infrastructure for

prospective private sector investors, donors and other interested parties.

The CFR is being prepared in the context of a number of established sector reform initiatives and important work has already been carried out, or is currently under way, in a number of sectors. The purpose of the CFR is to supplement, but not to supplant, these initiatives. A further aim of the CFR is to focus on, and to evaluate “cross-cutting” issues that impact on infrastructure reform across several (or all) sectors.

The infrastructure sectors covered by the CFR exercise are electricity, water and sanitation, telecommunications, posts, railways and ports, civil aviation (focused on airports) and roads. Following guidance received from the World Bank and from the Uganda Working Group, different degrees of emphasis have been placed on different individual sectors.

Structure

The report contains the following main elements:

Part A: Policies and objectives—sets out the Government's overarching policy objectives, forming the key policy context for this exercise, and the Government's general infrastructure sector policies that are associated with them.

Part B: Industry structure by sector—sets out the current industry structure for each sector, highlighting the role

played by Government, state-owned enterprises and the private sector. The performance of each sector is discussed, as are policies and progress on sector reform, and key issues are highlighted.

Part C: Cross-cutting issues in infrastructure development—sets out an analysis of key infrastructure reform issues that cut across a number of sectors in Uganda.

Part D: Recommendations

Annex—setting out further detail and background information.

Note

1. PricewaterhouseCoopers were appointed to assist in the CFR exercise, working in close coordination with the Uganda Working Group (a team of Government officers, parastatal managers and representatives of the private sector in Uganda).

PART A. POLICIES AND OBJECTIVES

2

Overarching policy objectives of the Government

National economic and social objectives and policies

Policy objectives

The overall national objectives of the Government of principal relevance to infrastructure reform are poverty eradication, private sector development, good governance, decentralization of the powers and responsibilities of national government to local government and economic integration of the country.

The Government's economic policy as described in the *Background to the Budget 1999/2000* is determined by three main objectives:

- maintaining macroeconomic stability by restraining expenditures to available resources;

- redirecting resources toward programs with the highest potential for poverty reduction; and
- reducing dependence on external resources by raising the revenue base in a non-distortionary and equitable manner.

Policy measures

The above economic objectives have been translated into the medium-term macroeconomic objectives of:

- ensuring high rates of broadly based economic growth with low inflation;
- the maintenance of adequate levels of foreign currency reserves; and
- a sustainable external balance.

3

General infrastructure policies

General infrastructure policy objectives

The Government has recognized that the poor standard of Uganda's infrastructure is a serious impediment to the achievement of overall national objectives. User costs are high (despite significant subsidies), investment is low, and both quality of service and access are inadequate.

General infrastructure policy measures

In order to improve the performance of the infrastructure sectors, the Government is pursuing the twin strategy of introducing greater competition and increased PSP (and investment), although it should be noted that the state is required to maintain a majority shareholding in the public enterprise (but not the sector) under the Public Enterprise Reform and Divestiture Statute (PERDS) as amended in 1997. To achieve these reforms of the infrastructure sectors requires an "enabling environment" to be put in place, including

an appropriate legal and regulatory framework and mechanisms to improve transparency. The general strategies that will be followed by the Government to open infrastructure to the private sector will include:

- stable macroeconomic policy and performance;
- attractive business environment;
- good regulatory policy;
- clear reform and divestiture policy;
- predictable and attractive sectoral policy;
- reduced informational asymmetries;
- ensuring expert advice is obtained where necessary;
- providing special incentives where necessary;
- having a policy for government guarantees; and
- promoting development of local capital markets.

While encouraging private participation, the Government acknowledges that it has a social obligation to provide basic social services to the entire population. It has been recognized that the private sector would not normally invest in areas where they would not break even and hence a policy of "necessary subsidization" will be required in the context of efficient provision of services.

4

Institutional approach to infrastructure sector management

Policy, regulatory and operational responsibilities

The PERD Statute 1993

The Public Enterprises Reform and Divestiture (PERD) Statute 1993, was developed “to provide for the reform and divestiture of public enterprises; to establish the Divestiture and Reform Implementation Committee charged with the implementation of the Government’s program on the matter; and for other related matters.”

The Statute gives the Minister responsible for privatization significant powers over the enterprises intended for divestiture:

- the Minister has authority over the Board of the enterprise, including investment plans;
- there is a Government moratorium on new investment;
- the Minister has general supervisory powers over enterprises, unless these are transferred to the Ministry responsible for finance (of that enterprise); and
- after divestiture the Minister is responsible for sector policy.

Until its amendment in 1997 the Statute included Uganda’s urban water, railways and electricity paras-

totals among the list of entities to be fully retained in public ownership. The same amendment stipulated that “intact or unregulated monopolies” were not to be divested.

The Investment Code 1991

The Investment Code sets out the benefits that approved investors might expect to receive and established the Uganda Investment Authority (UIA). In the Finance Acts since 1991, the Investment Code’s support to investors has been progressively reduced. In 1998 the Certificate of Incentives was removed (possession of a Certificate generally meant that taxation was not charged on profits for an initial period of operations and that other exemptions would be easier to obtain). The current approach allows all approved new investors “better than standard” taxation allowances on plant and other investment expenditure but does not specify any common approach to the provision of incentives.

The UIA was intended to be a liaison office between potential investors and the Government. Over recent years the role of the UIA has diminished, with investors increasingly turning to their own advisers. Further information on taxation and incentives is provided in the Annex.

PART B. INDUSTRY STRUCTURE BY SECTOR

5

Electricity

Role of the Government, parastatals and the private sector

Overview of the sector

The electricity sector in Uganda is currently in a state of transition. Historically, the wholly state-owned Uganda Electricity Board has been the principal generator of electricity, almost all of which at present comes from the Owen Falls dam on the Victoria Nile, and the only transmitter and distributor operating in the sector. UEB has had a legal monopoly in these activities and, under the law, has also held certain regulatory responsibilities. UEB's performance has, however, been unsatisfactory for a number of years, characterized by power supply deficits, high losses, low levels of revenue recovery, inability to service Government debt, significant financial losses and consequential need for subsidies, severe resource constraints and weak accountability. In line with the Government's overall aims for the infrastructure sectors, a policy has now been adopted on PSP and withdrawal of the public sector from operational activities. In October 1999 a new Electricity Act was approved by Parliament providing a legal framework to make this possible.

Sector structure and restructuring proposals

The electricity sector's structure is currently very simple, with only one state-owned player (UEB) performing all of the roles of generation, transmission and distribution. Transaction advisers have recently commenced work to provide advice to the Government on the form

and number of companies that should be established out of UEB.

The Government's reform proposals were first set out in the Strategic Plan approved by the Cabinet in 1997. This proposed restructuring of UEB into a privately owned distribution company, with generation and transmission remaining as autonomous profit centers of UEB until they had established a commercial track record. An autonomous Regulatory Commission was also to be established. Despite Cabinet approval the proposals were not fully accepted within the Government and the plan was consequently shelved.

A recent study, performed by London Economics, culminated in the development of the Power Sector Restructuring and Privatization Strategy (PSRPS) approved by Cabinet in June 1999:

- the activities of generation, transmission and distribution/supply will be separated into new companies to be established as successors to UEB;
- new generating capacity will be provided by the private sector through Independent Power Projects (IPPs) contracted to a bulk supplier, with the potential to award the rights to new projects on the basis of competitive tenders. Existing generating capacity at Owen Falls Power Station (OFPS) and Owen Falls Extension (OFE) will be run by the private sector under concessions granted by the Government;
- existing transmission capacity will be operated by UEB for an interim period and thereafter by the private sector under some form of management

- contract or concession. New transmission capacity may be developed and owned by the private sector;
- the distribution system will be reformed through the creation of the maximum possible number of financially viable distribution companies, the number and scope of which is still to be determined. These are to be operated by the private sector under long-term concessions. The rationale for establishing several companies is to aid regulation through benchmarking and competition by comparison. In the longer term, competition to supply larger consumers may also be permitted;
 - an entity will be licensed to act as the Bulk Supplier, buying generation from existing and new power stations and selling the energy to the distribution companies and to export markets. The trading model will, at least initially, resemble that of a “single buyer”;
 - a new regulatory regime will be developed and operated by an independent regulator;
 - the Government’s role will be limited to preparation of primary and secondary legislation, and development of policy and indicative generation plans; and
 - there will be a separate policy for rural electrification built around decentralization and local participation.
- Figure 5.1 summarizes the proposed future structure of the sector.

Policy objectives

The Government’s objectives for the power sector can be summarized as:

- making the sector financially viable and able to perform without subsidy from the Government, except in special cases such as rural electrification;
- increasing the sector’s efficiency;
- improving the sector’s commercial performance;
- meeting the growing demands for electricity and increasing area coverage;

Figure 5.1 Electricity: key roles—the proposed structure

	Public sector			Private sector		Agencies	
	Central Government	Local Government	Parastatals	Corporate sector	Community/individuals	ILAs ¹ and donors	NGOs
Integrated system							
Policy-making and planning							
Regulation			ERA				
Ownership/operation				UEB SCo ²			
				UEB SCo/PPs/Conc?			
				UEB SCo/ITOs/Conc?			
				Concs/UEB SCo			
Funding	Loan guarantees?			Corporate sector (with private equity, commercial loans, export credit etc.)		Credit enhancement/facilitation	
Rural electricity							
Policy-making and planning	Strategic planning	Local planning			Local planning	AFRREI support	Assistance to communities
Regulation		Regulation					
Ownership/operation				Development of local mini-systems and generation		AFRREI support	
Funding				Local entrepreneurs	Subsidy/cross-subsidy through RE fund	Capital funding	

1. “ILA” means International Lending Agency.

2. “UEB SCo” refers to UEB Successor Companies. “Conc(s)” refers to Concessionaires.

Box 5.1 Existing and proposed facilities

Generation

Existing facilities are:

- 10 × 18 MW units at OFPS;
- some small hydro and diesel generation capacity, amounting to less than 20 MW in total;
- current estimates of (unrestricted) peak demand vary between 230 and 280 MW;
- Unit 11 at OFE came on line in May, and Unit 12 is expected to be on line by July 2000.

Proposed facilities are:

- the OFE—civil works designed and being built to accommodate 5 × 40 MW units (numbered 11 to 15)—Unit 13 has been funded—funding requested for Units 14 and 15;
- additional generation capacity, to be built, financed and operated by the private sector, is being actively considered:
 - Bujagali Falls—feasibility studies performed—Power Purchase Agreement substantially negotiated—4 × 50 MW units, 220 kV transmission line that could be on stream in 2005—total annual costs will be substantially in excess of current UEB revenues (see below);
 - Karuma Falls—currently being evaluated—150 MW facility;
 - other potential hydropower sites have been identified—combined potential generation capacity over 2,000 MW—but their development is not currently being actively considered.

Transmission

- single national transmission grid of 1,300 km—operates primarily at 132 kV;
- interconnects OFPS and the main load centers and to the Kenyan grid—also lines to individual towns in Tanzania and Rwanda not connected to the respective national grids;
- transmission losses average 5 percent.

Distribution

- distribution system operates between 11 kV and 33 kV—distribution losses very high (33 to 34 percent of which a high proportion is unrecorded consumption or theft, although underlying technical losses are also likely to be high).

- improving the reliability and quality of electricity supply;
- attracting private capital and entrepreneurs; and
- taking advantage of export opportunities.

Further details on existing and proposed facilities are set out in the Annex.

Policy-making, planning and regulation

Ultimate responsibility for the electricity sector rests with the Ministry of Energy and Mineral Develop-

ment (MEMD). Under the former Electricity Act (1961) the Minister was empowered to exercise significant control over the operations of UEB including generation, transmission and distribution, the development and extension of supplies and, in practice, tariff setting. The Board held powers to provide and set terms for licenses to other bodies seeking to generate or supply electricity, and has thereby acted as the regulator for the sector.

Under the 1999 Act, which repeals the 1961 Act, a new autonomous regulatory authority—the Electricity Regulatory Authority (ERA)—will be responsible for licensing operators in the sector and for approving tariffs. In accordance with the provisions of the Electricity Act, the first steps toward the establishment of a sector-specific regulator have recently been taken with the announcement of the names of the personnel who will be on the Board of the ERA.

Other important provisions of the Act include:

- a legal requirement on licensees for the transmission and distribution network to provide access to their networks for parties with a license to sell energy to final consumers;
- provision to license an entity as the Bulk Supplier (the single buyer in terms of the PSRPS);
- provision for the ERA to design a standardized purchase tariff for sales to the grid of electricity from generators, based on renewable energy up to a capacity of 20 MW;
- assigning responsibility for promoting rural electrification to the Government, requiring preparation and publication of a strategy and plan and establishment of a rural electrification fund to subsidize part of the necessary development;
- creation of an Electricity Disputes Panel; and
- the transfer of all the duties, objectives and functions of the UEB to one or more successor companies.

Performance

UEB's installed capacity of approximately 260 MW is considerably less than most estimates of unrestricted demand. Pending the installation of additional capacity, UEB has achieved some success in increasing plant load factors in order to supply more energy from the existing capacity.

Other important points are:

- tariffs have remained constant in Ugandan shilling terms since 1993, but in dollar terms the average level rose as the shilling appreciated but has fallen with its depreciation in the last two years;
- the level of unbilled consumption due to theft is very high and, for the consumption that is billed, UEB fails to recover cash for a significant proportion of the billed amounts; and
- less than 5 percent of the population is connected to the grid, with access rates in rural areas being very low indeed as compared to estimates of over 20 to 30 percent in urban areas.

Comparative data for Uganda, Zambia, Tanzania and South Africa are given in Table 5.1 below.

Socially driven provision and subsidies

Uganda Electricity Board

UEB currently benefits from state subsidy in a number of forms and, at the same time, provides some counter-subsidy to the state, amounting to Ush 6 billion per annum (further details are provided in the Annex).

The tariff for all domestic consumers includes an initial tranche of consumption of 30 kWh/month at a price of less than half that for additional units and well below cost. Such “lifeline tariffs” are common in many countries but, given the evidence of high willingness to pay for electricity in the poor rural areas (noted below), it is difficult to justify the subsidy implicit in the initial tranche for all of those who have access to the grid supplies. The options are to gradually phase out the scheme

or to restrict the lifeline rate to those with low monthly consumption (although this latter approach has the disadvantage of providing very strong incentives to artificially reduce recorded consumption).

The rural electricity sector

A recent study of the rural electricity sector performed by ESMAP estimated that 10 percent of the rural population has access to some form of electrical power and identified a significant increase in access over the last decade. The study also concluded that rural users were willing to pay very high unit prices for electricity (well in excess of UEB tariffs). Increased rural access has been achieved through independent local initiatives rather than as the result of any coordinated government program. The small-scale captive sources of electricity that have been established are usually high cost as compared to grid-based supplies, if the latter are well managed. Restrictions on resale of electricity except by UEB have also prevented independent power suppliers from (legally) making effective use of surplus capacity. The Rural Electrification Strategy is currently being finalized.

The ESMAP study concluded that accelerating rural electrification required a new enabling institutional framework. As part of the World Bank-supported Africa Rural and Renewable Energy Initiative (AFR-REI) a regulatory framework has been proposed which allows for light-handed, simplified procedures for licensing small-scale distribution by delegating the powers of the national electricity regulator to local authorities. Regional differentiation of tariffs will be allowed under the proposals. The Electricity Act intro-

Table 5.1 Performance comparative data

	Uganda (1998)	Zambia (1999)	Tanzania (1998)	South Africa (1998)
Generation (GWh)	1,232	7,775	2,168	171,454
System capacity (MW)	180	1,608	606	39,872
Number of customers	158,213	180,000	340,000	2,564,000
Number of employees	2,028	3,900	7,500	37,311
Billing efficiency (percent)	66	85	70–75	92.3
Collection efficiency (percent)	73	80	75–80	>99
Turnover (millions of dollars)	55	150	160	3,518
Key ratios:				
Employees:customers	1:78	1:46	1:45	1:69
Turnover per customer (dollars)	348	833	471	1,372

Sources: ESKOM web site, PricewaterhouseCoopers.

duced a Rural Electrification Trust Fund, which will establish a subsidy transfer and financing mechanism to be funded through a levy on all electricity consumers' bills. The institutional arrangements for the Trust Fund and the rate of levy have yet to be studied and agreed.

The AFRREI project is currently in an early stage of development, but it is expected that it will include five investment components over a ten-year period:

- assistance to the establishment and operation of the smaller distribution systems that are expected to be set up to sell electricity from the grid;
- assistance to entrepreneurs and local governments in the establishment of isolated mini distribution networks;
- acceleration of development of the solar photovoltaic market through reduction in retail prices;
- the use of renewable energy sources, with a goal of 70 MW in aggregate over a ten-year period; and
- the development of wood-based biomass on a commercial basis for use as a fuel.

Issues

A number of issues need to be considered and resolved to facilitate the smooth introduction of PSP in the electricity sector.

New generation investment

Large-scale generating plants are the most economical (on a cost per kWh basis) to build and operate, particularly in Uganda where the least cost option is the development of hydro schemes rather than thermal capacity.

This has two important consequences:

- first, the increments in supply capacity are large in relation to annual demand growth on the interconnected system. Although there is likely to be a surge in peak demand of some 80–90 MW when load shedding ceases to be necessary, there will still be a need to coordinate action on new connections and network reinforcement and extension to build the national market for additional electricity. Action to reinforce the network is especially important given that there are already difficulties serving present demand; and
- second, the size of the generation increments is such that they cannot be absorbed in Uganda alone.

Commissioning of new plants will need to be coordinated with renegotiation of the existing export contract with Kenya to provide for additional deliveries and upgrading of interconnection capacity.¹

In Uganda there is a lack of finance for investments even at the national level, with almost all funds coming through the international and bilateral lending agencies. Completion of Unit 13 at Owen Falls has been delayed due to difficulties in funding additional costs. In short, it is clear that mobilizing private sector finance is essential to future investment.

Although micro-hydro schemes can offer smaller increments of capacity suited to rural areas, such schemes still entail significant capital outlays, which will be beyond the means of the majority of small communities in the absence of collective savings and borrowings schemes. Substantial investment is also needed to extend the distribution system and to provide new connections.

Financial viability of electricity supply in rural areas

Rural electrification can bring major economic benefit not only in terms of increasing productivity in rural economic activity but also in terms of education and poverty alleviation. The Government aims to improve access to electricity throughout the country. The substantial capital required for the initial equipment purchase and installation and potentially higher operating costs compared with more densely populated areas may not be directly recoverable from tariffs for the users served. The rural electrification levy will help by providing a cross-subsidy from urban to rural consumers but additional measures, including some subsidy toward capital costs, may be necessary. This issue is being addressed within the scope of AFRREI.

Regulation

The PSRPS recommends, and the Electricity Act provides, that a sector-specific electricity regulator be established along similar lines to the existing telecom regulator. Once the restructuring of UEB is implemented and concessions have been awarded to the private sector, the Bulk Supplier role could evolve. There is some concern that Uganda may lack the depth of skilled resources to support several sector-specific regulators and also that a sector-specific regulator might be more vulnerable to regulatory capture.

Hydrology

The firm flow of water in the Victoria Nile is of critical importance to the viability assessment of any new large-scale hydropower developments. Fluctuations in the level of Lake Victoria, which peaked in the early 1990s following initial increases in the 1960s, but has since started to fall, have led to different views about the long-term sustainable flow rate of the Nile. This is reflected in different assessments concerning the timing and economic capacity of new hydro projects, including Bujagali and OFE.

It is therefore important to be clear on the hydrological assumptions being adopted in any project appraisal and to consider different project options under the set(s) of assumptions employed.

The new industry structure

The single buyer or Bulk Supplier

There is uncertainty in the minds of a number of observers about the single buyer model (with limited retail competition to be introduced at a later date), as proposed in the PSRPS, on the grounds that the Bulk Supplier is likely to be supply focused and will have no responsibility for the demand side. The role will involve making large, fixed commitments to purchase energy from new projects but with no control over its sale to final consumers or for revenue collection. Unless supply and demand can be clearly coordinated, the Bulk Supplier could find itself with obligations to pay for electricity or generating capacity that exceed its ability to earn revenues.

PricewaterhouseCoopers have given careful consideration to this issue and concluded that the provision in the Act for a Bulk Supplier to purchase electricity from Bujagali and to sell it to the distribution concessionaire and to export markets is essential in the short term. But the concerns about the commercial risks that it faces do need to be taken into account in the design of the commercial and regulatory relationships that will be put in place during detailed implementation. Distributors might, for example, enter into back-to-back contracts for fixed percentages of the capacity payments to Bujagali in return for the same percentage of the output. The tariff regulations would then need to allow distributors to recover this amount from final consumers, after allowing for reasonable

losses: consumers would thereby bear the risk of changes in the price of generation needed to recover these capacity payments.

UEB is effectively already fulfilling the role of Bulk Supplier as it will sign the PPA with Bujagali and is the entity that is responsible for the sale of electricity to neighboring countries. No new institution is therefore needed.

Once the restructuring of UEB is implemented and concessions have been awarded to the private sector, the Bulk Supplier role could evolve. There is still likely to be a need for some central planning of new generation projects and for competitive tendering of the right to develop the projects, but contracting could be directly with the new distribution concessionaires. In effect the central entity would act more as a joint agent of the distributors, thus addressing the aim that investment decisions should be demand led. But the arrangements would also need to take account of how energy is, in future, to be sold into export markets and this will depend, in part, on the progress of power sector reform in Kenya. No immediate decisions are needed on how the Bulk Supplier role should evolve but there will need to be a policy before the distribution concessions are offered to the private sector.

Owen Falls Power Station/Owen Falls Extension

The PSRPS also raises the possibility of OFPS and OFE being let under separate concessions, but it has not so far been established that there would be investor/operator interest in this approach. This matter aside, the different designs and cost structure of OFPS and OFE make them suited to meet varying load and base load demands, respectively, and the facilities could not be operated in competition with one another due to their interdependence (even if they were not wholly contracted to the Bulk Supplier). This matter is to be further studied by the Transaction Adviser to be appointed by UEB to advise on the structuring and sale of the concessions.

Of more importance will be the risk allocation between these plants and the Bulk Supplier (and hence the final consumer). When a new plant has to be financed, it is difficult to contemplate leaving foreign exchange and hydrological risk with the generator, as is evident in the proposed arrangements for Bujagali. But since OFPS and OFE already exist, and OFPS is free of

debt, there is likely to be more flexibility over the allocation of hydrology, demand and exchange rate risk. It may be in the interests of consumers to leave more of these risks with the new concessionaires than would be possible for a new project.

Distribution companies

The PSRPS states that there should be as many financially viable distribution companies as possible but does not suggest what this number might be—this is to be decided by the Transaction Adviser. The priority should be to group the 40 or so districts into which UEB's distribution is divided so as to retain the main economies of scale while avoiding the need for infeasible tariff increases in order to make them financially viable. The distribution concessions chosen, which may include division of the ten districts within Greater Kampala, will need to be selected to encourage “build-out” into surrounding areas, thus increasing access to electricity.

UEB would like to include all districts in the proposed concessions. Considerable doubt exists over the willingness of the private sector to take responsibility for outlying districts that serve areas unconnected to the main grid or are situated at its extremities, however. This raises the possibility that there may be some “orphan” districts once the concession areas have been defined. While preferring some form of private sector solution, sponsored by the local administrations, the Government would prefer to avoid the creation of a new parastatal electrification board to provide technical, financial and management support. AFRREI needs to look at these questions carefully to ensure that there is no “institutional gap” when the time comes to vest the assets of UEB into successor companies.

Competition in the generation market

The Government's policy objective is to introduce competition into the generation activity. But it is important to be clear about the forms of competition that may be possible in the generation market over different timescales:

- Bujagali is being handled by bilateral negotiation with specific investors and there will be no competition associated with this pioneering project. This is not unusual for the first IPP in a developing country; and

- At Karuma Falls much depends on timing. If the power is wanted soon (for example, because exports to Kenya are contracted at a relatively high level), bilateral negotiation may be the only approach. But if the need is later, the current Memorandum of Understanding may expire or the Government may be able to buy it out in order to hold a competition to award the project to a bidder offering the lowest tariff.

In the medium term the Bulk Supplier is likely to be responsible for competitive award of the rights to develop new hydro projects. But investors will still expect long-term commitments to buy the output in order to secure the necessary finance for such capital-intensive projects. In these circumstances, if any industrial consumers were designated as eligible to buy electricity from any supplier through the grid, competition is most likely to come from small-scale hydro or thermal projects (existing or new) with lower financial risks, and not from the large projects.

In the longer term it may be possible to envisage some form of competitive market for large consumers between generators not under long-term contracts. In PricewaterhouseCoopers' view this is not likely to happen for 10 to 15 years.

As noted in the description of the new Act, some competition may come from renewable generators, which have acquired the right to sell to the grid at fixed prices. But the ERA will need to be careful to design these tariffs to avoid consumers having to pay more for electricity. This can be done by ensuring that the tariff reflects no more than UEB's avoidable cost (over the medium term) or less than its incremental revenues for exports, whichever is the lower.

Future electricity demand and project development

The rationale for new generation projects is to meet existing suppressed demand and future demand growth. Since many of the new projects are large in relation to typical annual demand increments, action will be needed both to build demand and increase revenues (via improved billing and collections, for example) in the Ugandan market and also to secure export markets. These activities need to be coordinated with the award of contracts for new developments so that the invest-

ment program remains demand-led to the extent permitted by project size.

UEB currently has power sale agreements with Kenya, Tanzania and Rwanda amounting to 30 MW, 5 MW and 1 MW, respectively. If Bujagali, and subsequently Karuma Falls, is to proceed, and OFE is installed to its full design capacity, Uganda could have a capacity of approximately 700 MW by around 2005. Ugandan demand in that year is forecast to be at most 500 MW using high case growth assumptions. These facts underline the importance of building sales and revenues. As noted previously, another important consideration is the matching of a proportion of the revenues with costs that will all be in foreign currency in the case of Bujagali. This is another important benefit of the export market, which uses dollar prices.

The importance of maintaining a sensible balance between supply and demand (from all sources) cannot be overemphasized. UEB's obligations to Bujagali are backed by a Government guarantee and the capacity payments will therefore fall on the Government if demand is inadequate or if the tariff increases, and other actions, needed to generate the required revenue are economically or politically unacceptable. The cost of these contingent guarantees represents a significant, albeit hidden, cost to the Government. Effective implementation of power sector reform and the concessioning of the successor companies to UEB is likely to be the most effective way to improve revenues in the Ugandan market.

Recommendations

Recommendations stemming from the above discussion are:

- sector reform and private sector participation—reform and PSP, especially in the distribution activity, offers the best means to improve sector performance and is the first priority for the Government. The proposed concessions need to be structured so that there are strong incentives to increase billable consumption and to build new load by reinforcement/extension of the network and connection of consumers who do not presently have grid-supplied electricity.
- exports to Kenya—both volume and foreign exchange risk associated with Bujagali can be reduced by entering into firm, bankable export contracts with Kenya (priced in dollars) before financial close on Bujagali.² Having already secured the political understanding necessary to make a deal, commercial negotiations must now be urgently pursued with KPLC/KENGEN. Uganda will need the appropriate analytical tools to understand the trade-offs between different volumes and prices for export contracts and the costs and risks to UEB and its successors (and thus to the Government as guarantor).
- the ERA—the Government must move quickly to appoint the members of the ERA and to establish the authority as an operating entity so that it can play its role in the establishment of the new regulatory regime for PSP. Institutional support should focus on development of skills and operational capability, especially in the areas of monitoring and inspection that will be the most important in the short to medium term. Terms of Reference for advisers should be designed to avoid overlap with those of the Transaction Adviser.
- proposed purchase tariff for renewable power—in setting the new purchase tariff the Government and the ERA must be careful not to worsen the financial position of UEB.³
- rural electrification—the Government will need to consider carefully the most appropriate institutional arrangements to provide a link between itself and small, locally managed rural concessions or cooperatives. If the private investors who are to operate the main distribution concessions are unwilling to become responsible for the areas at the extremity of the grid, the need to provide an appropriate institutional framework for the “orphans” will be even greater.
- hydrology of the Victoria Nile—all projects need to be analyzed on a consistent basis. In practice it is likely to be desirable to consider both estimates of firm (95 percent probability) flows to assess the robustness and risks of different development options.

Notes

1. As export sales are paid in dollars this is also critical to hedging the foreign exchange risk associated with new projects, which will also have tariffs that are indexed to the dollar.
2. In negotiations on a new export contract, what will matter is the opportunity cost to Kenya, including any transmission upgrade costs (and not the cost of Bujagali).
3. At current tariff levels the most appropriate reference point for the purchase tariff is likely to be incremental revenues at different times of day and on different days of the week, less an allowance for transmission and distribution, rather than estimates of the Long-Run Marginal Cost of Supply.

6

Water and sanitation

Role of the Government, parastatals and the private sector

Figure 6.1 summarizes key roles within the water sector as it is currently organized and managed.

Water supply and sanitation in Uganda fall under the general responsibility of the Ministry of Water, Lands and Environment (MWLE). The Directorate for Water Development (DWD), a division within MWLE, has responsibility for:

- rural water development;
- urban and institutional water development;
- water resources management; and
- inspection and support services.

There is at present very limited involvement of the private sector in water supply in Uganda, other than in individual self-supply by some domestic/agricultural users and in the supply of support services. The Kampala Revenue Improvement Program (KRIP) is one example of significant direct private sector involvement in the sector. Under this scheme NWSC has outsourced responsibility for billing and revenue collection in Kampala to a private sector company (Gauff). While the scheme provides an important example of how the private sector can be involved in the water and sanitation sector in Uganda, serious concerns have been raised about the non-competitive procurement process and about the incentives provided by the contract terms.¹ The scheme is not considered to have justified the annual management fee of Ush 1.9 billion.

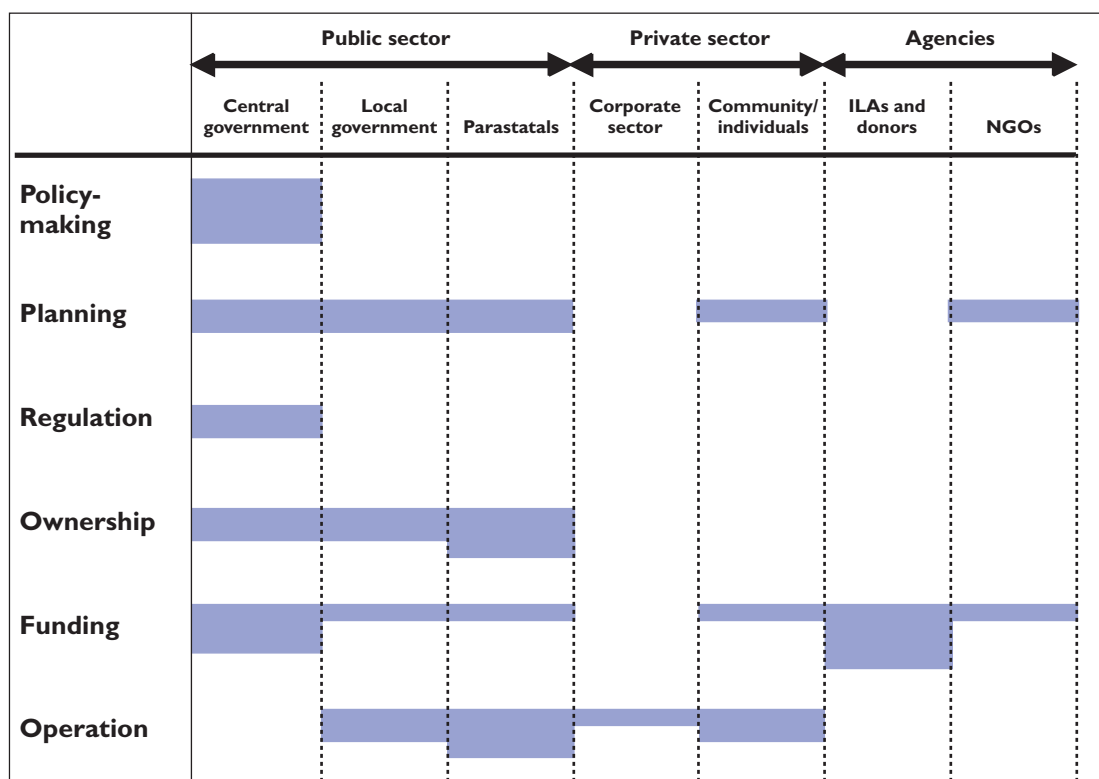
National Water and Sewerage Corporation

NWSC, a statutory corporation, is the Water Authority responsible for the provision of water supply and sanitation services in 11 urban centers in Uganda, including Kampala, Entebbe and Jinja.² The 1991 Census recorded these as having a total population of approximately 1.2 million, of which Kampala accounted for approximately 774,000. A broad estimate of the impact of the effect of continuing urbanization since 1991 suggests that population coverage by NWSC is currently of the order of 1.6 million, or about 8 percent of Uganda's total population, and roughly 50 percent of the estimated total urban population. Based on a recent review by NWSC, its service reaches 58 percent of the population in these towns. The majority (approximately 80 percent) of connections is recorded as being metered. The Corporation has some 54,000 customer accounts, but 29 percent of these are currently inactive (estimates as of June 1999)—a combination of failure to read meters or bills not being raised.

Directorate for Water Development

Responsibility for the development of water supply and sanitation for the remainder (over 90 percent) of Uganda's population rests with DWD. Ownership and operational arrangements within these areas depend on the status of the relevant management body and are currently in a state of transition as sector reforms are introduced.

Ownership of water facilities currently rests in part with the Districts and Gazetted towns³ and in part with

Figure 6.1 Water and sanitation: key roles

DWD itself. Management/operational responsibility in relation to larger systems is taken by Districts and (Gazetted) town councils. For small towns and growth centers (typically with a population in the range of 5,000 to 10,000) responsibility for management/operations rests with local Water User Groups or Associations.⁴ These voluntary bodies are not legally empowered to own property, and ownership of the systems developed for these areas continues to rest with DWD.

Performance

National Water and Sewerage Corporation

The intention when NWSC was established in 1972 was that it should have ownership and management responsibility for all urban areas where water supply/sewerage is financially viable. NWSC's accounts for 1996–97 show surpluses of income over expenditure for Kampala, Jinja and Entebbe, with income and expenditure accounts for the remaining urban centers all showing deficits. NWSC showed an overall trading surplus for the year of approximately Ush 225 million,

a reduction of approximately Ush 500 million on the previous year as a consequence of the adoption of two loss-making urban centers. Unless it is able to achieve performance improvements in relation to either or both operating costs and revenue recovery, NWSC's ability to cross-subsidize loss-making areas out of surpluses generated in other areas has now become seriously restricted and will constrain its ability to take over responsibility for further urban centers.

While NWSC is in surplus on its trading account, it should be noted that it is unable to meet its liabilities in terms of loan interest and repayments and does not generate surpluses to finance system expansion or improvement, despite the fact that tariffs in Uganda are among the highest in the region for water service. Per capita sales in the NWSC towns are very low, about 35 liters per person per day (resulting in high unit costs).

The information available for water production and sales shows that UFW as of 30 April 2000 amounted to 44 percent of water put into supply. This is an improvement from the 42 percent of water put into supply for the six months ending December 1999 (46 percent in

Kampala, 35 percent elsewhere). NWSC does not have reliable estimates of the proportion of UFW that is due to technical losses (leakage/bursts) as opposed to administrative losses (illegal or unidentified connections). Of its 54,000 customers as of June 1999, however, 29 percent of the accounts were classified as inactive—not being billed, although possibly still consuming water. Poor management of customer accounts is also reflected in weak collection of debts, with some 14 months of sales as debtors. The KRIP plan to improve revenue (billing and collection) has not fulfilled expectations and has led to a significant service charge amounting to Ush 2.4 billion annually or about 10 percent of the Corporation's annual income of Ush 24.5 billion.⁵

Overall unit costs (excluding interest charges) are high, currently in excess of Ush 1,100 (\$ 0.73) per m³. The Corporation has high staff and related costs, amounting to 45 percent of the operating costs (before interest) for the period from July to December 1999. This high cost was in part due to the exceptional cost related to staff reductions of 469 posts in the 21 months to April 2000.

NWSC's average tariff is approximately Ush 715 per m³ based on data for the financial year 1997. Average tariffs by category of user are shown in Table 6.1 below. Available comparative data are shown in Table 6.2. Overall average tariff levels are high by regional standards and there is substantial cross-subsidy of household users by industrial and commercial users.

There is substantial overprovision in a number of the urban areas that fall under the responsibility of NWSC. An extreme example is the town of Lira, where capacity utilization is approximately 11 percent. At the time of the CFR study, water was being pumped only twice a week from the treatment facility (over 40 km from the town itself). NWSC has inherited these schemes and has not itself been responsible for the overprovision. In general the origins of this type of overambitious scheme can be traced back to political interference in the plan-

Table 6.1 Average tariffs by user

User category	Average tariff paid (Ush/m ³)	Average tariff paid (\$ 0.01/m ³)
Domestic—private connection	462	32
Government and Institutions	760	52
Commercial and industrial	1,056	73
Overall average—Uganda	750	52

Table 6.2 Average domestic water supply tariffs for a selection of OECD countries

Country	Year	Average tariff paid (\$ 0.01/m ³)
Korea	1996	23
Hungary	1997	48
USA	1997	58
Spain	1994	71
Scotland	1997–98	83
Japan	1996	120
England & Wales	1998–99	143
France	1996	158
Germany	1997	169
Other comparative data		
Jakarta City	—	20
Ho Chi Minh City	—	10
— Not available.		
Source: OECD, <i>Household Water Pricing in OECD Countries</i> [ENV/EPOC/GEE(98)12/Final].		

ning process. The consequences of political interference include not only examples of significant overprovision but also distortions in the pattern of service provision whereby investment resources are diverted from larger towns in great need of water supply/sanitation to smaller towns where less benefit can be obtained from the limited resources that are available.

Oversized and overengineered schemes waste operating resources as well as capital investment. Standards of maintenance are inadequate and operating costs high with a considerable risk that service cannot be sustained in the medium to long term.

Areas falling outside the responsibility of NWSC

Financial and operational performance data outside the NWSC area are not readily available.

Policy-making, planning and regulation

DWD is both the policy-making body and the regulator for the water and sanitation sector. Policies are set out in *A National Water Policy Document* (Ministry of Water, Lands and Development, 1999). This is a comprehensive document, which sets out both water supply and sanitation policies and water resource management policy. Overall policy objectives specific to water supply and sanitation are:

- sustainable provision of accessible, clean, safe water and hygienic sanitation facilities to 75 percent of the population in rural areas by the year 2000 and

to 100 percent by the year 2015, and to 100 percent of the urban population by the year 2000; and

- efficient and effective use of financial and human resources.

The former objective is now clearly unachievable.

Infrastructure-related policy measures for the urban and rural water supply sub-sectors are summarized below:

- reliance on markets and pricing to determine water allocation among various sectors and user groups;
- involving beneficiaries and the private sector in managing water at the lowest possible level;
- separation of regulatory powers from user interests, with regulatory control to be applied only in response to need and at enforceable levels;
- regulatory controls to be combined with economic incentives;
- improvement of coordination and collaboration among sector stakeholders following consistent planning and implementation processes within the context of Government of Uganda (GOU) policies on decentralization, PSP and the role of non-governmental organizations (NGOs), civil society and beneficiary communities;
- promoting awareness of water management and development issues and creation of the necessary capacity for the sector players at different levels;
- promoting viable management options for provision of water supply at all levels; and
- management responsibility and ownership of domestic water supply to rest with the users.

The general policy framework for the sector, taken as a whole, is well developed and has been carefully thought through. There are concerns, however, about the effectiveness of its implementation. The policy on PSP in the water sector requires further consideration and is not clearly articulated in the current policy document. The Government has initiated reviews of the existing policy and options in the areas of urban and rural services. To accompany these assignments a review of the legislation affecting the sector has also been undertaken. The urban and rural review teams are expected to complete their findings in 2000.

Socially driven provision and subsidies

Socially driven provision

The extension of a clean, safe water supply is a key priority in Uganda's drive to alleviate poverty. This is re-

flected particularly in DWD's Rural Towns Water and Sanitation Programme, the aim of which is to ensure that households in rural communities:

- have access to minimum essential quantities of water (assessed as 201 liters per capita per day, if possible within no more than 500 meters of all the households covered); and
- each have a basic sanitation system—usually an improved household latrine with a concrete slab.

DWD, supported by donor organizations, provides the bulk of capital required to finance the development of schemes but, under the *demand-driven negotiations approach*, local communities are required to make a contribution (in cash or in kind) to capital costs and must take responsibility for all ongoing operations and maintenance expenditure.

In rural areas both parts and technical support are provided by the private sector. Access to adequate parts and sufficient trained hand pump technicians is inadequate in low-density rural areas, where normal levels of demand are insufficient to support service provision within reach of the communities served. Government policy is to provide financial incentives to ensure adequate technical support.

The major support to the rural areas is through the District Water Office (DWO), part of the local government administration but increasingly dependent on donor support from UNICEF and DANIDA through the WES and RUWASA projects. These seek to develop community involvement in the physical rehabilitation of point sources and the management and upkeep of operational facilities. This is also the goal of the many NGOs operating in Uganda, such as the Busoga Trust. A recent review of the rural sector for DWD has focused on the role of the DWO and suggests that their formation and efficient operation is a key measure toward fulfilling overall government policy.

Subsidies in long term funding

One of the largest areas of subsidy or external support to NWSC has been the on-lending by the Government of donor grants and loans. These have been summarized in a Ministry of Finance fiscal review as:

- IDA Grant 2124—NWSC has received \$13 million in “soft loans” for each of the last three years. The effective subsidy from the Government's loan guarantee is estimated at \$1.3 million for 1997–98.
- Austrian loan—The effective subsidy from the

Government's loan guarantee was \$672,000 for 1997–98.

- French Protocol loan—The effective subsidy from the Government's loan guarantee is estimated at \$72,000 annually.

As of 30 June 1998 approximately \$3.3 million of payment arrears were due on these loans. The imputed annual interest benefit accruing from these arrears represents an additional subsidy of some \$369,000 to NWSC.

Issues

Rural water and sanitation

There is an important issue in relation to the need to develop a clear and consistent approach to the assessment of social needs and to the implementation of effective and consistent subsidy mechanisms.

Urban water and sanitation

The study for the urban component of the Water Sector Reform is taking place in parallel with the CFR exercise (Consult4 and associated firms). Key points pertinent to the urban water sector identified in the initial stages of this project (as set out in its Inception Report) are summarized below:

- Uganda is well endowed with water resources and infrastructure is in place to deliver water services to a significant proportion of the population. Nevertheless, overall, the urban water sector is not performing adequately;
- while there appears to be adequate capacity in policy-making, strategy and planning, implementation is not satisfactory and management capacity needs improvement;
- tariff reforms proposed in the 1998 tariff review, including a general tariff increase of 25 to 30 percent, have not been implemented. In view of the high unit costs of the Corporation, cost reduction rather than tariff increases may be a more appropriate means of achieving financial performance improvement. There appears to be considerable scope to achieve cost reduction in NWSC, which *as a whole* is potentially a viable entity;
- a significant proportion of the urban population (about 15 percent) relies on standpipes for water supply. While the rates at which standpipe attendants are permitted to on-sell water are in principle controlled

(at Ush 1,250 per m³), the actual rate is often much higher, with customers paying Ush 2,500 per m³ in practice. These rates imply that a typical poorer household may face costs in excess of 10 percent of household income for a minimal supply. This encourages the use of alternative untreated water sources. In addition a high proportion of standpipes are non-operational due to the non-payment of charges to NWSC;

- the need to find workable alternative approaches to cross-subsidization as a means of balancing equity ("some for all") with financial viability in urban centers where there are insufficient "high service level" consumers within the system;
- there are significant problems in towns where water services are provided by local government. These may be attributable to a combination of weak incentives to collect revenue, poor financial accountability, political interference, low priority attached to water service responsibilities and the diversion of funds from the water account to other activities;
- there are practical problems associated with applying decentralization policies in urban and dense settlements. Where responsibility for town supply has already been transferred to Water User Associations, problems have arisen due to lack of local capacity, lack of funding and confusion over asset ownership;
- minimum standards quoted in service policies tend to conflict with appropriate design criteria. Seeking to provide "minimum hypothetical standards" can result in the overdesign of systems and may be against the interests of the very poor if high costs and unaffordable charges result in system deterioration and failure;
- excessive emphasis on *projects* rather than *service*, with insufficient attention given to aspects such as governance, financial management and business planning, administration and consumer relations;
- public sector conditions of service result in difficulty in recruiting and retaining high caliber senior staff;
- the policy on PSP is inadequate, requiring both greater direction and greater clarity;
- policy development and implementation need to reflect the reality of poverty in Uganda and its implications;
- lack of clarity in key aspects of the institutional framework, due to the continuing process of trans-

formation, complicates the development and implementation of policy;

- the wide availability of alternative, albeit often poor-quality, sources of water means that a strong emphasis on education and awareness building will be essential—and provides an additional argument against “overdesigning” systems since poorer customers will tend to minimize the use of services they have to pay for; and
- the highly politicized nature of water provision leads to a strong tendency toward excessive political involvement in (and direction of) decisions about water service provision.

Recommendations

Rural water and sanitation

Proposals for the development of rural water and sanitation are to be set out in the Investment Plan and Strategy Report of the rural component of the Water Sector Reform (Wardrop Engineering Inc.). The draft report proposes:

- action by the Government to support the maintenance of local supply facilities (parts stocks and trained hand pump engineers);
- a potential role for PSP schemes (such as BOTs and concessions) as a method of raising private finance and introducing PSP into rural water supply operations;
- promotion of greater community involvement, especially by women, in decisions about rural water and sanitation provision; and
- the need for capacity-building initiatives at both the central and local levels.

Urban water and sanitation

Inter alia, the Consult4 Inception Report recommends the following changes to the National Water Policy:

- amendment of the treatment of subsidy/cross-subsidy issues;
- identifying the differences of approach appropriate to urban and rural areas in respect of community participation;
- adoption of the principles of setting practicable service level targets and progressive attainment of standards;
- adopting a stronger service orientation in water and sanitation sector policy;
- a section on PSP should be included in the National Water Policy document and should specify:
 - ▶ policy objectives;
 - ▶ scope of private sector involvement and possible PSP models (including responsibilities: role of the state, risk apportionment, financing options);
 - ▶ regulatory arrangements, capacity building, timetable and legislative changes;
 - ▶ initial guidelines on key issues—for example, cross-subsidy, tariff control, reporting and accountability, preparation of plans and consumer relations; and
 - ▶ development of consumer representative bodies and consultative processes;
- specific attention should be given to minimizing the scope for political interference in designing policy, legislation and PSP contracts; and
- following the KRIP experience future schemes to involve the private sector in water and sanitation activities should be based on transparent and competitive procurement processes. Greater attention needs to be given to contract design in developing future PSP schemes to ensure that they provide appropriate incentives to private operators.

Notes

1. While the KRIP contract provides an incentive to the contractor to improve revenue collection, it does not discriminate between revenue obtained by improvements in ongoing billing and collection performance and revenue recovered from collecting historic debts. The Government sector, which represents NWSC's most significant debtor, has been making efforts to improve its payment performance in relation to all utilities, and

the KRIP contractor has directly benefited from this without significantly improving its billing and collections performance.

2. The 11 urban centers are Kampala, Entebbe, Jinja, Mbale, Tororo, Masaka, Mbarara, Lira, Gulu, Fort Portal, and Kasese. Kabale is due to transfer to NWSC in the near future.

3. Under Ugandan law these bodies are legal entities capable of owning property. Broadly, Gazetted towns have a population

of over 10,000 but are also subject to other qualifying criteria.

4. Water User Associations are formed from a number of Water User Groups in cases where piped water systems are installed.

5. Largely unchanged in real terms over the last three years.

7

Telecommunications

Introduction

Uganda has already taken significant strides toward creating an environment for sustainable telecommunications sector development. The Government's objectives in this regard are largely consistent with promoting private sector-led development, and are currently supported by a number of initiatives that should progress the sector along the evolutionary path illustrated in Figure 7.1.

Though much has been achieved, "Phase I" of the telecommunications program can still be regarded as having an unfinished agenda (see Figure 7.2).

In sum the real challenge facing Uganda's telecommunications sector lies in identifying and taking action for the future.

Box 7.1 | Redefining access

A number of developing countries, such as India and Malaysia, are reconsidering the role of telecommunications in the economy; moving from a focus on the basic infrastructure toward a focus on content, to encourage economic and social transformation. As a result emphasis is shifting from teledensity to "connectivity"—i.e., the extent to which every person can be connected to an information infrastructure that delivers benefits through content. In rural and agrarian countries this entails encouraging outreach of telecoms to rural areas, where the delivery of services can have major social impacts through tele-education, tele-medicine and voice communications, and where commercial market benefits can flow from, for example, better information on product prices delivered through the internet or mobile telephones.

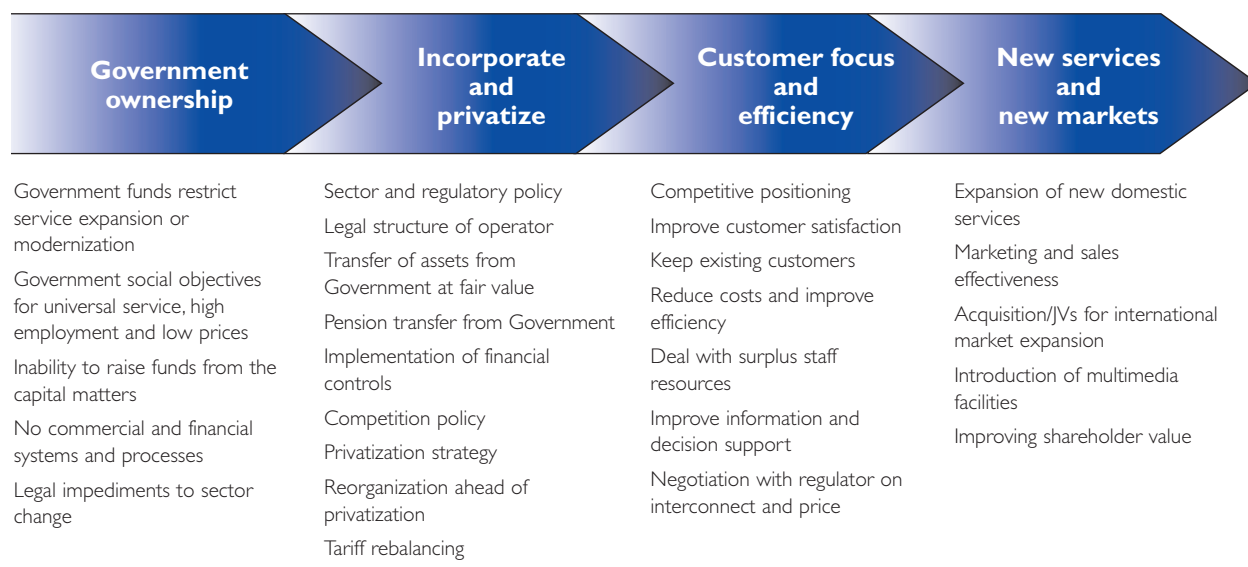
Role of the Government, parastatals and the private sector

Under the Communications Act, there are two types of radio communications and telecommunications licenses—major and minor. "Major" licenses provide local, long distance and international basic telephony, trunk capacity resale, rural telecommunications, store and forwarding messaging and cellular or mobile radio services. All other licenses are classified as "minor." Major licenses are issued by the Ministry of Works, Housing and Communications (MWHC) while minor licenses are granted by the UCC. To ensure consistency, the UCC will prescribe the terms and conditions of major licenses.

The telecommunications sector in Uganda is evolving rapidly as the Government implements the structural reform agenda summarized above. Institutional arrangements for service delivery, sector policy and regulation are all evolving rapidly from the monolithic state-owned structure prevalent up to 1994 toward a multiprovider environment.

Uganda's new telecommunications sector structure, Figure 7.3, is supported and enabled through legislation passed in 1997 through the Uganda Communications Act,¹ which provides for:

- restructuring of the Uganda Posts and Telecommunications Corporation (UPTC) into three separate entities: Uganda Telecom Limited (UTL), Uganda Posts Limited (UPL) and the Post Office Savings Bank (POSB); and

Figure 7.1 Privatization and dynamic impact on the telecom sector

- establishing an independent regulatory agency, the UCC, to regulate the sector and provide for the rights and obligations of operators, licensing, interconnection, performance obligations and fair competition and ensure the protection of subscribers' and investors' interests.

Policy-making, planning and regulation

The Government of Uganda (GOU) is committed to a process of reform and development of the Uganda telecommunications sector. The Government's objectives for the sector are consistent with its reform-minded approach and its commitment to private sector development.

The fundamental goals underpinning the Government's current telecommunications sector policy are set out in the Minister's sector policy statement issued in January 1996:

- increase the geographical coverage of services throughout the country—the target set out by the Minister's statement is to increase telephone density from the current 0.28 lines per 100 persons to 2.0 lines per 100 persons;
- serve unmet demand for telecommunications services estimated by the ITU as being approximately 184,000 lines in 1997 and set to grow to 380,000 by 2006;

- ensure a balanced and well-coordinated network through appropriate licensing, regulation and standardization;
- improve quality of telecommunications services;
- develop competition across a broad spectrum of telecommunication services including e-mail, paging, voice messaging, low-cost data transmission and cable distribution of images; and
- provide basic services in the whole country for urgent communication in times of emergency.

The goal of increasing geographical coverage is focused on rural network expansion. The Government also wishes the sector to contribute to the welfare of the people of Uganda and other important national development policy goals.

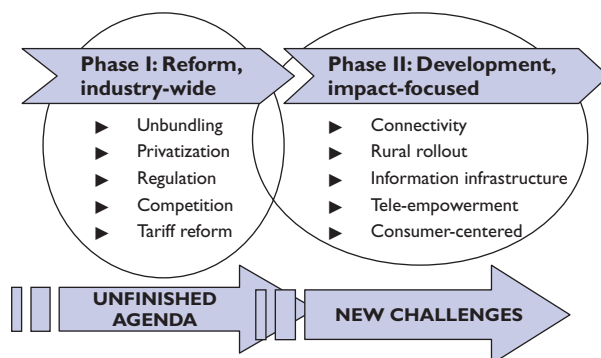
Figure 7.2 New challenges

Figure 7.3 Telecommunications: key roles—the developing structure

	Public sector			Private sector		Agencies	
	Central government	Local government	Parastatals	Corporate sector	Community/individuals	ILAs and donors	NGOs
Policy-making							
Planning							
Regulation			UCC				
Ownership/operation				UTL			
Basic services				SNO			
Complementary and value-added services				Minor license holders			
Funding	Rural telecommunications					Rural telecommunications	

The MWHC has set out specific, and where possible numerical, targets for performance improvement (see Annex).

Initiatives to assist with achieving socially driven policies such as rural access include:

- regional network rollout obligations for lines and payphones by region having been set for the two national operators. These regional obligations are limited to approximately 33 percent of total network rollout obligations to ensure some flexibility for the national operators to meet service demand; and
- establishment of a rural access fund (not yet operational).

Key initiatives

In pursuit of the above objectives, the Government's sector reform program involves:

- privatization of UTL, through sale of the majority of the Government's shares to a suitably qualified strategic investor;
- establishment of the UCC to perform the function of independent sector regulator;

- introduction of competition in all major telephony services (including fixed and cellular) through licensing a SNO (MTN Uganda Limited);² and
- establishment of a Rural Investment Fund to be managed by the UCC and directed towards supporting network expansion

Figure 7.2 on the foregoing page demonstrates how Government's key objectives for the sector are being addressed through current initiatives and reforms.

Performance

Two of the Government's principal telecommunications performance objectives are teledensity improvement and rural access. Uganda's fixed line telephone density (per 100 persons) as of February 1999 was 0.29. Since April 1998, the SNO has added close to 54,000 mobile and wireless subscriber lines to UTL's 55,751 subscriber lines. Teledensity has more or less doubled since the introduction of the SNO.

Provision of rural access by UTL is still poor—with less than 30 percent of subscriber lines, and 45 percent

of switching capacity and public telephones concentrated outside Kampala (1997 data).³ Uganda faces a significant challenge in relation to teledensity. While the SNO has erected a substantial network in its first year of operations, Uganda continues to face a significant challenge in relation to increasing teledensity. The potential to expand is underlined by comparison with other African countries (see Figure 7.4 on p. 32).

Cellular

UTL's draft licence allows it to provide cellular services and it plans to launch a service in early 2000. Two entrants, MTN and CelTel are active in this market, the former concentrating on technology applications that enable it to meet its dual roles as a SNO and a cellular operator, while the latter's focus is on developing services to the business market and serving urban areas reflecting the ability its freedom from service obligations or rollout targets provides it to concentrate on higher value customers. MTN has also been active in developing other services such as wireless local loops and ISDN.

International

The Government has introduced limited competition in international services with both UTL and MTN (as the SNO) licensed to provide international gateway services. Upgrading of international facilities is planned, including development of a National/International Switching Center (NSC/ISC).

Data and Internet services

Key initiatives in this sector are being driven through liberalization. The UCC has issued six licenses for 2.4 GHz ISM Device for LAN and six for Internet services. These services, particularly the Internet, are still concentrated in Kampala because of dependency on rural network rollout and constraints arising from low overall teledensity, poor line connection quality and low connection speeds.

Other services

The key driver is, again, liberalization, which is leading to the emergence of competition in several areas, such as paging services; communication vendor services such as CPE, wiring and terminal equipment; mail courier services; and sound broadcasting services.

Socially driven provision and subsidies

Socially driven provision

UTL was among the top three net subsidy recipients in 1998 and received \$56.6 million for the purposes of restructuring.

UTL undertook a substantial rebalancing of tariffs in 1997 prior to the offering of UTL for sale in 1998. The extent to which cross-subsidies remain within the current tariff structure has not been established. Remaining cross-subsidy would likely have the effect of making local calls more affordable to Ugandan citizens at the expense of significant premiums (over cost) for international and long-distance services, with potential negative consequences for, primarily, business users.

MTN, the SNO, has substantial flexibility in its tariff structure.

Subsidies from the State

On restructuring UTL benefited on a one-off basis from conversion of debt to equity, a waiver of outstanding tax liabilities and the retention of certain other liabilities to government within UPL. UTL has also benefited from low interest charges and fee waiver on loans guaranteed by the Government.

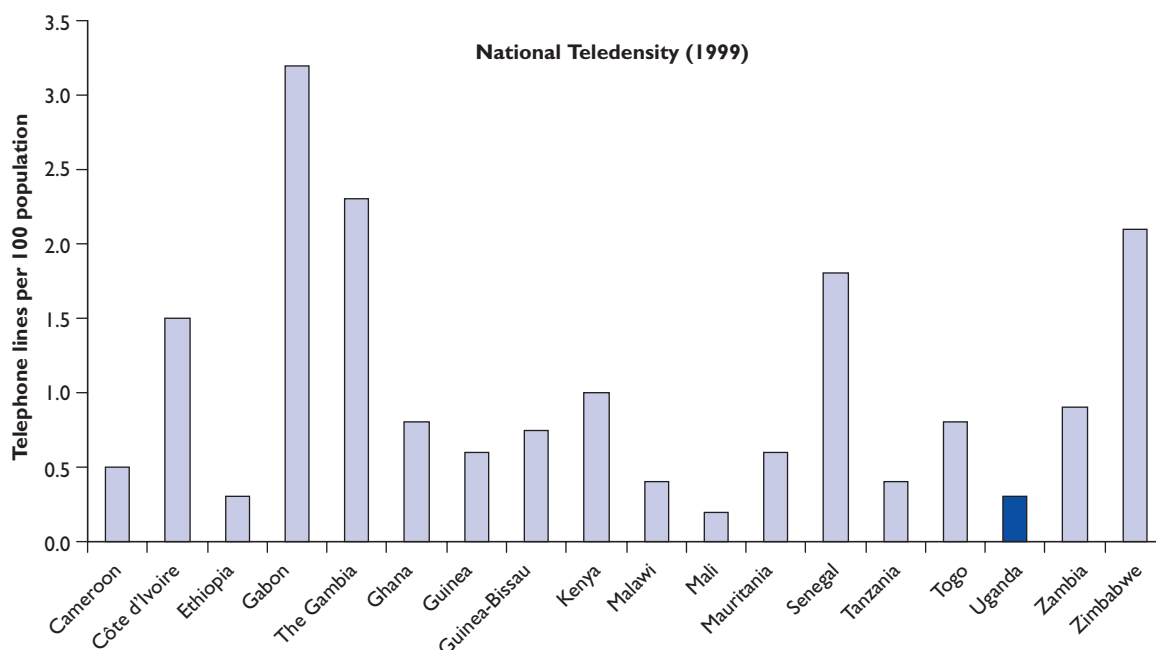
Issues

In some areas Uganda has adopted a liberal, highly reform-minded approach to restructuring the telecommunications sector, particularly when compared to other African countries. For example, along with Ghana, Uganda has been a pioneer in introducing competition in the fixed line network.

However, key lessons emerge from how these reforms have been executed and timed. Other lessons

Box 7.2 Tariff rebalancing

Tariff rebalancing is important where Government wishes to reduce the level of cross-subsidies that may exist between charges for local, long-distance and international calls. This reduction may be required for various reasons, including promotion of internal efficiency by balancing income with costs, preparing the company (and the sector) for competition. Tariff reform in Uganda is likely to have important knock-on impacts on different user groups and could impact on the affordability of basic service. It would therefore need to be approached sensitively.

Figure 7.4 Benchmarking Uganda teledensity

Source: International Telecommunications Union

also apply from the experience so far, though these are more in common with those of other developing countries introducing private sector practices in previously government-controlled sectors. These lessons cover areas such as establishing effective independent regulation, and the proper separation of social objectives and commercial incentives in the formulation of the regulatory framework, notably in relation to tariff control and reform.

Responding to these lessons forms a key part of the unfinished agenda for telecommunications sector reform.

Privatization

Following a decision to introduce a strategic partner for UTL, the Government began the privatization transaction process in 1998. The Government retained IFC as lead adviser to conduct the sale process. At the time of preparing the CFR, two attempts to implement the sale had failed and a third was underway. The third attempt has since succeeded. Both previous attempts were terminated during negotiations with a selected partner.

The following factors have played a role in delaying the implementation of the strategic sale:

- over-ambitious build-out targets;
- the licensing of the SNO before the sale of UTL

was successfully completed, thereby putting the company at a competitive disadvantage;

- uncertain and untested regulatory arrangements—lack of clarity both in the institutional arrangements for telecoms regulation and in the way that key regulatory mechanisms will be applied in practice has increased the regulatory risks perceived by potential buyers;
- competition for strategic investors—some dozen countries in sub-Saharan Africa alone are currently seeking, or are about to seek, to privatize their incumbent telecom operators via sale of a stake to a strategic investor (see Table 7.1), while at the same time interest from foreign investors in African wired line networks is relatively limited; and
- appointment of advisers—UTL's privatization advisers, retained throughout the three sale attempts, were not appointed by open competitive tender, which could have allowed the Government to choose from a number of potential advisers competing for a mandate on price and quality terms.

Duopoly exclusivity period

The Government has introduced fixed line service competition in the form of a five-year duopoly (li-

Table 7.1 Telecom sector privatization in Africa

Country	Telecom sector privatization as of November 1999
Zambia	Sale of 20 percent stake in Zamtel plus management contract to a strategic investor by 2000
Kenya	Efforts underway to sell a 26 percent stake in Telkom Kenya to a strategic investor
Tanzania	Transaction to find strategic investor for TTCL currently in progress
Uganda	Third attempt to find a strategic partner for UTL successful
Nigeria	Likely to privatize NITEL within the next two years
Zimbabwe	PTC privatization currently under preparation
Lesotho	Privatization advisers have been selected to prepare a strategic sale in LTC
Malawi	Advisers are preparing sale of a strategic stake in MPTC, which is still to be split up
Botswana	BTC privatization likely, but still in early stages of preparation
Mozambique	Government has announced intent to seek strategic investor for TDM
Namibia	NTC privatization likely, but in early stages of preparation
Mauritius	Sale of strategic stake in progress—6 companies have been shortlisted for a bid

Source: PricewaterhouseCoopers

censes issued to UTL and MTN). There is some uncertainty regarding the commencement, and hence expiry, date for the duopoly period, which might have implications for the privatization process.

Delayed privatization

Government policy for a moratorium on new investment prior to privatization, coupled with delay in implementing the UTL sale, has resulted in delays to important new lines projects. This has hampered UTL in responding to MTN's initial expansion and has held up the launch of a GSM cellular service. In turn this has delayed attainment of the Government's network expansion targets and undermined UTL's value.

Overall the delays in implementing the UTL sale have set back achieving the full benefits of sector restructuring (see Annex for further comment and international comparative data).

Rural access

Both major operators have been set rural access targets. The extent to which targets must be met through rolling out fixed services or through provision of cellular services has not been specified, however.

Rural Investment Fund. The fund is not yet operational and there are a number of unresolved questions about its funding and operation. In principle telecommunications companies are to contribute an unspecified proportion (expected to be around 2 percent) of their profits to the fund. Companies without major licenses for fixed line services are resistant to the idea of a general contribution to the fund because they believe the national operators will benefit directly from it. There are also concerns that contributions from telecommunications companies might be used for non-telecommunications purposes.

Uganda Communications Commission

The UCC has yet to establish its presence as an active regulator in the sector and its independence remains untested to date. Funding is to be sourced from license fee income and rental income from real estate in Kampala. The future adequacy/reliability of both sources is uncertain.

Infrastructure duplication and interconnection

The development of the sector and the emergence of competition may be hampered unless incentive-based interconnect and roaming agreements that reward mobile and fixed providers when they cooperate in providing access and sharing facilities are introduced. Minor license holders have complained that without equal access-based interconnection into fixed networks and international gateways MTN and UTL will be able to discriminate against, for example, providers of cellular services only.

Infrastructure duplication is also taking place as a result of a lack of cooperation or coordination among players. Particularly in the cellular service industry, duplication is seen as an important source of waste of capital.

Electricity reliability

Electricity infrastructure has an impact on telecommunications infrastructure costs. Telecommunications infrastructure in Uganda is normally installed with back-up generators because of the unreliability of electricity supplies, which increases costs. The problem is compounded by the unreliability and, in some cases, non-existence of electricity in rural areas.

Cross-cutting issues evident within the telecommunications sector

The common issues and lessons that emerge from telecommunications include:

- vicious circle of lack of infrastructure and infrastructure interdependency—telecoms operators have expressed the difficulties associated with building out a network where roads and power do not exist—power providers have expressed the same concerns about roads and telecoms;
 - need for better sequencing of reforms—competition, regulation and privatization are all essential elements to successful reform. The sector reform program in Uganda has seen introduction of competition (in fixed services) arrive before privatization, and is likely to see both introduced before an effective regulator is in place and before tariff reform has been substantially undertaken. This has hampered the privatization of UTL and could introduce early difficulties for the regulator as well as
- complicate the process of completing tariff re-balancing. Better sequencing of reform in other sectors would avoid or at least reduce this type of problem;
- need for consumer empowerment—an issue not yet addressed in telecoms is the empowerment of consumer groups that can advocate policy and social requirements to the Government, regulator and service providers. This is likely to be an area where challenges lie ahead for most infrastructure sectors; and
 - separation of economic/commercial objectives from social objectives—the tariff reform needs confirm that Government has not completed the separation of social policy objectives from commercial incentives for operators. In the future privatized and competitive context, it is likely that the Government will find it increasingly difficult to use UTL as a vehicle for satisfying both sets of objectives unless effective funding support is introduced.

Notes

1. Passed by Parliament on 26 September 1997.
2. The SNO is also licensed to provide other services, including international gateway, value-added services and several others.
3. Information Memorandum, Privatization of UTL, February 1998.

8

Posts

Role of the Government, parastatals and the private sector

The Uganda Posts Limited is the parastatal body responsible for the national postal service in Uganda. UPL shares are held entirely by the Government of Uganda.

A number of licensed private companies offer national and international courier services in Uganda. The private sector is also involved in the postal sector through the operation of around 240 Sub-Post Offices, which function on an agency basis, and through the sale of stamps (250 licensed vendors). Figure 8.1 summarizes the current structure of the sector.

Performance

Services

UPL offers the following services:

- delivery of mail and parcels;
- money transmission and postal order services;
- post bus service;
- issue of stamps;
- philately; and
- courier services.

The number of letters posted in 1998 was approximately 12 million (or 0.55 per capita), of which about 60 percent were destined for national delivery and the balance for international delivery. Taking into account incoming international letter mail, the total volume of letters delivered by UPL in 1998 was just under 16 million (0.73 per capita). In 1998 UPL delivered only

94 domestically posted parcels. These figures are extremely low by international standards. As is clear from the comparison to other African countries (with both smaller and larger populations but all with greater land area), Uganda has both very low postal coverage and an extremely low level of postal activity generally (see Table 8.1).

While the low volume of mail in Uganda can in part be attributed to its current level of economic development, poor access to the service (see below) compounded by poor service performance and low reliability are also important contributory factors. UPL also acknowledges that it has encountered problems with violations of the mail, although efforts are being made to resolve this. It is notable that since 1995–96 UPL has ceased to deliver both electricity and water bills, which are now hand delivered direct to customer addresses by the utilities themselves, although UCL continues to use UPL. The withdrawal of this business reflects the difficulty utilities have had in proving the delivery of bills and consequent late payment of bills by customers who have easily been able to deny receipt and sometimes fraudulently present incorrect address data. The fact that there is no universal address or delivery system inevitably limits the ability of UPL to counter this type of problem.

Coverage

Only a tiny proportion of postal deliveries are made to home or office addresses (about 1 percent) as compared with 5 percent in Kenya, 37 percent in Nigeria, 98.5

Figure 8.1 Postal sector: key roles

	Public sector			Private sector		Agencies	
	Central government	Local government	Parastatals	Corporate sector	Community/individuals	ILAs and donors	NGOs
Policy-making							
Planning			UPL				
Regulation			UCC				
Ownership	UPL wholly state-owned			Private couriers	Sub-Post Offices		
Funding							
Operation			UPL	Private couriers	Sub-Post Offices		

percent in the United States and 100 percent in the United Kingdom. Postal delivery in Uganda is generally made to private letter boxes located in Post Offices. There were 70,600 such boxes at the end of 1998 (approximately one for every 300 people). Although private boxes are frequently shared by a number of households/individuals—for example, all the employees of a firm may use its letter box as their receiving address—

postal coverage in Uganda is clearly far from universal. A high proportion of parishes in Uganda do not have any private letter box, meaning that their residents do not have any effective access to a postal service. Even where there is a private address available within a given parish, this will only provide access to the mail if the owner is prepared to make it generally available and if there are mechanisms to ensure that mail is collected

Table 8.1 Comparative postal service

Country	Population (million)	Letters posted per capita, per annum	Number of private letter boxes	People per letter box	Number of permanent Post Offices
Uganda	23.0	0.5	70,000	329	69
Kenya	33.1	12.0	318,996	104	1,061
Tanzania	31.5	0.7	151,409	208	525
Zimbabwe	12.3	25.0	72,181	170	283
Ghana	18.3	3.5	106,601	172	999
Nigeria	118.4	3.5	587,552	201	3,639
Africa		6.2			
Industrialized countries		381.0			
World		63.0			

Source: UPU website (data relate to 1995 with the exception of Uganda [1998]).

regularly from the relevant Post Office and reliably distributed to the final addressee.

Efficiency

UPL acknowledges that it is significantly overmanned, partly as a consequence of surplus staff inherited following the restructuring of the Uganda Post and Telecommunications Corporation (UPTC). Staff numbers have been reduced from 690 on incorporation to 506 (June 1999). Further reductions in staff numbers, to around 450, are considered to be necessary to complete this process. Delays in obtaining Service Certificates and lack of funds to finance termination payments mean that further progress will be difficult to achieve.

Policy-making, planning and regulation

The MWHC has policy responsibility for the postal sector in Uganda. The regulatory body is the UCC, which has responsibility for the issue of licenses (required by all postal service providers¹) and for regulation of tariffs, quality of service and competition in the sector.

Policy objectives

The current policy objectives for the sector are:

- to provide all Ugandans with a universal letter service that is equitable, reasonably accessible and reasonably meets community needs at uniform and affordable prices; and
- to introduce direct competition in non-reserved postal services and indirect competition in other services.

Policy objectives specific to UPL associated with the above sector objectives are:

- to make the postal services provided by UPL more vibrant, competitive and responsive to economic trends;
- to reduce direct and indirect subsidies to UPL in the medium term and eventually to ensure its profitability; and
- to avail postal services to all persons in Uganda through a wider and more efficient postal network.

Targets

The following targets have been set for UPL in relation to the achievement of its objectives:

- each district to have at least one departmental Post Office;
- each county to have at least one Sub-Post Office;
- each parish to have at least one (street) posting box and one private letter box allocated at a fee at the nearest Post Office in order to provide all parishes with a channel for administrative and communications purposes; and
- for mail delivery, UPL to achieve the following quality of service for at least 90 percent of the mail:
 - ▶ mail posted at a delivery office to be delivered not later than the following day (d+1);
 - ▶ mail between main towns to be delivered not later than three working days after the day of posting (d+3); and
 - ▶ mail between other collection and delivery centers to be delivered not later than five working days after the day of posting (d+5).

Mandatory services

UPL is the only holder of a *major license* under the terms of which it is required to accept, convey and deliver all postal articles up to 10 kg in weight country-wide (understood to include only holders of paid private letter boxes at offices listed within its licence).² UPL is not permitted to close any listed office without the prior agreement of the UCC. Services that UCL is required to offer also include money orders, postal orders and philatelic services.

UPL's licence also requires it to enter into a commercial agreement with PostBank Uganda Ltd. to provide postal banking services through its network of offices.

Competition in posts

Under the terms of the *major license* UPL has the exclusive right to deliver letters up to 1 kg in weight (at affordable and uniform tariffs) throughout Uganda. UPL also holds a monopoly in relation to the issue of postage stamps, pre-stamped envelopes, wrapper forms and international reply coupons. Reserved services are to be offered at a national uniform tariff. Non-reserved services are not subject to tariff regulation.

Competitors issued with *minor licenses* are permitted to provide these services outside this "reserved area" at similar or better standards of service, provided that they offer their charges not lower than those of UPL.

The following categories of letter are not reserved to UPL under the terms of its license:

- exempted letters sent by licensed courier (note that the nature of this exemption requires further clarification);
- letters accompanying goods at the time of delivery;
- newspapers, magazines, books, unaddressed mail, catalogues and trade journals;
- letters delivered otherwise than for reward;
- letters delivered by an employee of the sender;
- letters containing writs or legal instruments; and
- letters carried to the premises of a provider of electronic mail service for the purpose of transmission by electronic mail.

Tariff regulation

UPL is subject to tariff regulation for reserved services according to the application of a price cap formulation. This allows adjustment in average charges to reflect movements in the consumer price index less an allowance for productivity improvement (subject to a 2 percent offset to facilitate performance improvement) and permits the pass-through of exogenous cost changes not reflected in the CPI. The detailed operation of this price cap requires further investigation.

Socially driven provision and subsidies

Socially driven provision

As noted above UPL has a mandate to provide universal service in postal delivery (at affordable tariffs) and also to provide a range of counter services. At present UPL is not achieving this mandate.

Subsidies

During the financial year ended March 1999, UPL made a deficit of Ush 314,000. Significant cross-subsidies between urban and rural areas are implicit in the uniform tariff. Such cross-subsidies are likely to increase as UPL seeks to extend its coverage into lower density and hence higher-cost areas. The establishment of wider network coverage should, however, stimulate traffic growth. As long as reasonable growth is achieved, it is reasonable to assume that there will be no medium- to long-term requirement to increase tariffs as a consequence of the increased burden of cross-subsidy.

Achieving the objective of universal service as defined by GOU will require substantial investment by UPL (in relation to its cash flow). UPL considers that government funding in the region of Ush 3.5 billion is necessary to enable it to achieve this aim.

Issues

Potential for expansion

There is clearly enormous potential for the expansion of postal activity in Uganda. Unlocking this potential will depend upon establishing a basic universal service initially achievable through the universal provision of shared letter boxes covering all communities in Uganda. The establishment of a system involving universal delivery to individual letter boxes (or, going beyond this, to individual homes) would not be viable until mail volumes have increased substantially. Progressive improvement in coverage and service quality should, however, eventually lead to increases in traffic sufficient to support the gradual introduction of delivery to more individual addresses beginning in the largest urban centers.

The current financial position of UPL means that the establishment of even basic universal service is unlikely to be achievable without Government support. Key priorities include the issue of Certificates of Service to employees who transferred to UPL following the inception of the company and the provision of funds to enable the company to further reduce its labor force.

Inherited liabilities

Following the restructuring of UPTC UPL inherited the full burden of its obligations, amounting in total to Ush 2.7 billion owed to the National Social Security Fund (NSSF), Uganda Revenue Authority, Workers Union and other creditors. UPL's current and prospective revenues are inadequate to carry the full burden of these liabilities and some capital restructuring is likely to be necessary to enable it to operate viably.

Scope for private sector participation/liberalization

As noted above there is already significant PSP in the postal sector, and this seems likely to increase as a consequence of economic growth. There appears to be limited scope for direct PSP in UPL itself through sale

of assets or concessioning given its current financial performance and small scale of operation. There may, however, be limited opportunities to make greater use of agency arrangements through the conversion of departmental Post Offices to Sub-Post Office status. A management contract might also be considered, particularly if UPL is unable to achieve the significant performance improvements necessary to provide a satisfactory postal service in Uganda. Given the fact that UPL has had only a very short existence as an independent entity, and during this period has had to bear a disproportionate burden in the form of inherited liabilities and has lacked the finance necessary to rationalize its operations, it would be premature to conclude that UPL's current management is unable to meet this challenge.

There is, however, an urgent need to achieve significant improvement in the overall performance of the Ugandan postal service. Most citizens of Uganda either receive inadequate postal services or no service whatsoever. This begs the question of whether complete liberalization of the sector, allowing new operators to provide all services currently offered by UPL, might provide a better option than the conventional policy of maintaining a significant reserved area for one national operator in order to facilitate cross-subsidy to enable universal service. Large-scale measures to extend the scope for private operators to operate within the sector by reducing the extent of UPL's currently reserved areas of service provision would not seem to be advisable in view of the pressing need for the company to establish a universal service. Significant reduction in the reserved area would be likely to lead to cherry-picking of the least-cost urban and interurban traffics and would be expected to undermine UPL's ability to cross-subsidize loss-making traffic to remote and low-density areas.

Despite the above arguments against immediate full liberalization of the postal sector, there is a strong case for allowing local operators to provide service in areas that are currently unserved by UPL. This might be achieved by permitting private individuals and companies to collect and deliver mail in these areas, with agreed terms for interconnection with UPL's network ("downstream access" and "upstream exit"). Under these arrangements individuals meeting simple registration

requirements would receive a fee for items collected/delivered within each designated area, interconnecting with UPL at the nearest Post Office. Some regulation would be necessary in order to ensure that adequate standards of service are maintained. The issue of whether to limit the numbers of such peripheral operators (for example by issuing only one license for each eligible parish) or whether to allow any registered operator to offer service would require careful examination. The question of whether UPL might subsequently establish its own collection and delivery services in such areas would also require consideration. For a few years, at least, the new entrants are likely to require some degree of shelter from the dominant operator, however, and time-limited concessions should therefore be issued by the UCC in areas where UPL is demonstrably failing to meet clear performance criteria. UPL should be able to offer service in these concessioned areas only following completion of the concession period or following performance failure by the concessionaire.

There is, however, a strong argument in favor of permitting UPL to continue for the foreseeable future with its existing monopoly protection in those areas where it continues to meet reasonable performance criteria so that it can continue to benefit from available economies of scope and scale while it builds up traffic volumes. Private operators should, at least initially, not be permitted to collect or deliver mail outside each individual concession area. The aim of this would again be to allow UPL to benefit from economies of scope and scale. This should, however, be kept under review and made dependent upon satisfactory performance by UPL.

Priority attached to the sector

A key issue, felt by UPL to restrict the development of the sub-sector within communications generally, is the fact that posts are seen as the less important part of the overall communications sector (dominated by UTL and the SNO). There is, for example, no representative on the UCC with specific experience in the postal sector. This "Cinderella sector" image may not reflect the potential contribution that an efficient postal sector can make to economic and social development by:

- facilitating paper-based transactions, efficient billing and (ultimately) direct marketing;

- reinforcing communication between the Government and the citizens of Uganda by providing a universal communications medium;
- in the long term enabling the development of E-commerce by providing an efficient delivery channel for goods purchased over the Internet; and
- through its office network (both directly managed and agency), to provide a potential channel to provide widespread access to a broad range of other public and, potentially, commercial services.

Recommendations

Progressive liberalization

Progressive liberalization of the sector should be considered, initially by permitting local operators to pro-

vide service in areas that are currently unserved by UPL. Appropriate regulatory arrangements should be introduced to accompany this liberalization, including:

- regulated terms for entrants to access UPL's core network; and
- exclusive time-limited concessions for entrants, with UPL permitted to compete only if independent monitoring demonstrated that entrants were failing to meet concession requirements.

UPL should be permitted to continue for the foreseeable future with its existing monopoly protection in those areas where it continues to meet reasonable performance criteria. This should, however, be kept under review and made dependent upon satisfactory performance by UPL.

Notes

1. A postal item is defined as addressed articles up to 10 kg in weight. All items above this weight threshold are considered as normal transportation, are not subject to licensing by the UCC and are fully open to competition.

2. Notwithstanding the targets stated above, the requirement placed on UPL by its license is to meet the stated quality of service standard with 80 percent reliability (c.f. the target of 90 percent).

9

Transport – overview

Background

Studies by the World Bank indicate that transport generates economic growth through the facilitation of trade and provides increased access to health and education facilities, as well as to local and national amenities. Furthermore, these studies indicate that, based on current trends, demand for freight and passenger transportation will continue to grow faster than population and GDP in most developing countries. The major proportion of this expected increase in demand will be met by road transport. Some of the demand for passenger transport may be substituted by telecommunications developments such as telecommuting. However, this is highly dependent on the development of the telecommunications sector, and the effect of substitution on transport demand may not be apparent in the short to medium term for developing countries.

Figure 9.1 shows the current institutional arrangements governing the transportation sector in Uganda.

The MWHC is responsible for the planning, design, construction and maintenance of classified main roads as well as railways, airports and inland waterway facilities. The MWHC is also responsible for the regulation of the transport sector, sector policy and planning as well as safety and environmental protection, budget programming and execution.

URC is the parastatal organization responsible for railway operations, for the operation of the Lake Victoria ports at Port Bell and Jinja and for the operation

of three ferries on the Port Bell–Mwanza and Port Bell–Kisumu routes.

CAA is an autonomous parastatal corporation responsible for the development and regulation of civil aviation and the operation of airports in Uganda.

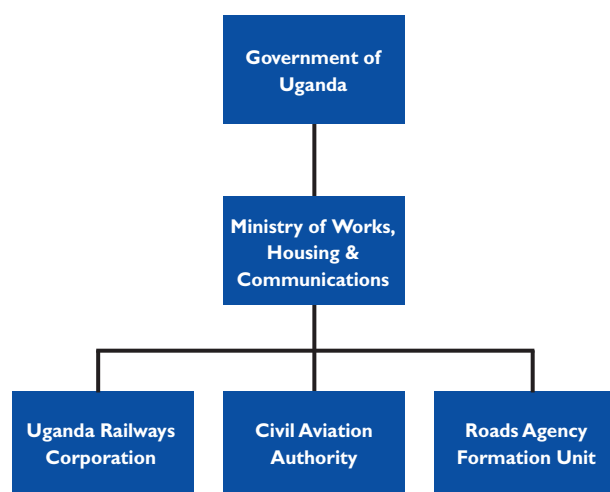
RAFU has been established as an interim step in the creation of an autonomous Roads Agency. RAFU's responsibilities are currently confined to the classified roads network and include road network development and management, planning and programming, and technical and financial monitoring of projects.

The medium-term transport (and communication) policy is:

To promote cheaper, efficient and reliable services and thereby effective support to increased agricultural, industrial, trade, tourism, social and administrative services and ultimately promote growth in accordance with government's strategy for poverty alleviation and economic integration of the country.

The MWHC initiated a Transport Sector Strategy Study (TSSS) with the objective of developing transport policies that will allow the development of infrastructure and services to meet national transport demands. The objectives of the study, which was carried out in June and July 1999 with a Draft Final Report in October 1999, were to analyze transport demand, infrastructure and main policy constraints as well as the scope for PSP in transport.

The TSSS indicates that road transport is the dominant mode of transport. It estimates that transportation

Figure 9.1 Transport sector institutional arrangements

activities account for 4.5 percent of Uganda's GDP. Of this, 80 percent arises from road transport, followed by air transport with 16 percent and rail and lake transport accounting for the remaining 4 percent.¹

Fuel transport

The provision of facilities for fuel oil transportation falls outside the normal ambit of the MWHC and appears to be the concern primarily of the Ministry of Energy. Two projects are being considered at present:

- extension to Kampala of the pipeline from Mom-basa to near the Ugandan border; and
- introduction of a small fuel tanker on Lake Victoria to transport fuel from Kisumu (in Kenya), which is served by the Kenya pipeline, initially to a point west of Kampala.

It does not appear that a full evaluation of these projects has been undertaken except by the promoters. This could lead to a suboptimal solution for Uganda, given the strategic importance of fuel supply to Uganda and the revenue-generating potential of fuel taxes.

General transportation issues

Regulation

Regulation of the transport sector, excluding the aviation sector, is currently the responsibility of the MWHC. The TSSS concluded that there was a need for

a surface transport regulator, which would have a similar relationship with government as that proposed for the electricity sector regulator in the draft Electricity Bill 1999, in order to promote consistency of treatment of competing modes within the transport sector while encouraging intermodal competition and sector efficiency.

It is not clear that there is a role for a surface transport regulator, however. In the road sector, regulation will mainly relate to vehicle and driver licensing and possibly operator licensing for public transport operators. No economic regulation is envisaged, and this role could well remain with the MWHC. Rail and ports regulation may be necessary in the future, but will depend crucially on the nature of any concessions let to the private sector. The most important issue will be ensuring access to the network, but even this will only apply under certain concession structures. Otherwise regulation will be through contract only and could well be administered by a utility regulator or the Ministry.

Policy-making and implementation—the role of the different entities

The transport policy formulation role in the MWHC may need to be strengthened and expanded to encompass more active planning and evaluation of investments:

- in the roads sector the Ministry needs the capability to set standards, monitor demand growth, plan the development of the network and prioritize expenditure;
- in the rail sector the Ministry needs to evaluate the merits of reopening sections of disused line and evaluating the social benefit to determine what could be a reasonable subsidy to offer;
- in the lake transport sector the Ministry should keep under review the need to develop passenger, vehicle and general cargo services and the extent to which it should encourage new operators;
- in fuel transport the Ministry should actively evaluate alternative modes of supply so that capacity can be developed with private sector finance in the optimum way; and
- in aviation the Ministry should evaluate policy achievements and set guidelines for the development of the role of CAA.

There is inevitable scope for conflict between ministries and arm's length agencies, in particular regarding

whether the agencies in the transport sector should take the lead in developing policies for their individual sub-sectors, with the MWHC playing a consolidation role, or whether the MWHC should develop policies that are then implemented and monitored by the agencies. Above all clarity is important here. The Ministry should take the lead in ensuring that the autonomy of its agencies is achieved, but that this is balanced by close monitoring of their performance in implementing Government policy. The Ministry should also take the lead in consolidating and coordinating policies and in ensuring that there is a balanced approach across all transport modes with intermodal and cross-modal aspects taken fully into account.

Taxation-induced distortions

The Ugandan Treasury is heavily dependent on fuel duties as a source of revenue. There is a danger that fuel duties on road users, railways and aviation are driven by fiscal requirements rather than the desire to create a policy environment where optimum economic choices are made. The MWHC has a clear role in evaluating this issue to ensure that this consideration is at least taken into account.

Cross-modal impacts

Better intermodal and cross-sector coordination may be needed in the transport sector. For example, tighter axle-weight regulations introduced for roads have had the spill-over effect of increasing the demand for rail transportation at a time when the sector is not able to respond, with the possible consequence of a negative impact on trade. Similarly the introduction of a new petroleum pipeline (proposed for 2005) is likely to reduce demand for road and rail services, raising questions as to whether the lack of integrated planning and coordination could result in inefficient use of infrastructure development capital.

Integration of regional transport initiatives

Successful regional cooperation is particularly critical for Uganda's transport sector because of its landlocked status. A number of specific issues are raised within the sector reports. It is becoming increasingly important that regional dialogue continues to develop. This relies in turn on the adequacy of mechanisms for intraregional coordination at the Government level and setting up new cross-border mechanisms for regional integrated planning and implementation at the operator level, particularly following the introduction of PSP.

Note

1. Although more up-to-date figures are not available, it should be noted that this figure relates to 1998, since when it is acknowledged that URC's overall performance has improved. The 4 percent figure therefore probably understates the true position. It may also be noted that URC's activity is highly focused on its import/export role.

10

Roads

Background

This section of the CFR covers Uganda's road system and the institutional framework governing roads policy, funding, construction and maintenance. It does not, however, cover road-based transport (private vehicles, public transport and road freight), which falls outside the scope of the infrastructure study.

Uganda's road network comprises approximately 9,500 km of classified (main) roads, 24,300 km of district (feeder) roads and 1,376 km of urban roads. In addition there are community access roads, which are believed to total approximately 55,000 km. The majority of the road network is unpaved. The general condition of the classified roads is considered reasonable in relation to the amount of traffic, but the district and urban roads are considered to be in poor condition due to lack of resources for rehabilitation and maintenance.

In 1998 the estimated annual vehicle-km travelled on the road network totalled 2.56 billion, with approximately 61 percent, 10 percent and 29 percent on classified, district and urban roads, respectively. The demand for Ugandan passenger transportation is expected to grow slightly more rapidly than forecast GDP growth.¹

Table 10.1 shows that, in terms of its total road network, Uganda has a higher density of roads than both Kenya and Tanzania, although Kenya has a higher density of paved roads (reflecting the greater overall development of the latter's road system). These characteristics are reflected in Uganda's roads strategy, which has a

strong focus on refurbishment and upgrading rather than network expansion.

Role of the Government, parastatals and the private sector

The MWHC is responsible for policy development, planning and procuring the construction and maintenance of all classified main roads. It has delegated the procurement of consultancy studies, design studies and construction to RAFU, which was established in 1998. The Government has established RAFU as the first step toward the creation of a Roads Agency in Uganda.

District roads and urban roads are the responsibility of districts and cities/municipalities, respectively. Central government grants are provided for the maintenance and development of these roads. Community roads, however, have no official ownership and receive little or no funding; their maintenance is left largely to local initiatives.

The MWHC has declared a policy objective of using private contractors and consultants in both rehabilitation and maintenance works on roads at both the central and local government levels, with the Ministry playing principally a monitoring role. The community access roads are maintained by Local Councils using locally mobilized labor and materials in response to immediate demand for repairs. This policy of upkeep is noted, but these roads are otherwise not reviewed in depth by this report.

Table 10.1 Comparative kilometers of road network

	Paved (km)	Year of data	Total (km)	Year of data	Paved as % of total road km	Land area (000 sq. km)	Paved road density (km/000 sq. km)	Total road density (km/000 sq. km)
Uganda ⁽¹⁾	2,800	1999	35,200	1999	8	236	12	149
Kenya ⁽²⁾	13,100	1991	62,600	1991	21	583	22	107
Tanzania ⁽²⁾	3,800	1994	55,600	1992	7	945	4	59
Rwanda ⁽²⁾	790	1991	13,300	1991	6	26	30	505

Source: ⁽¹⁾ "MWHC Road Management & Financing Study, Inception Report," October 1999 (excluding community roads).

⁽²⁾ World Bank Database of World Infrastructure Stock (1950–1995).

Policy-making, planning and regulation

In 1997 the Government commenced the Ten-Year Road Sector Development Programme (RSDP), which coordinates investment in all parts of the roads sub-sector: main roads, feeder road upgrading, bridges, road maintenance and road financing.

Within its first phase the RSDP aims to:

- improve access to rural areas and economically productive areas; and
- progressively build up road sector planning and management capabilities.

The following tasks contribute to these aims:

- commissioning studies to identify economically viable road strengthening and upgrading projects for inclusion in the RSDP;
- upgrading some of the highest priority roads from low-grade gravel roads to high-grade gravel or bitumen sealed roads;
- formation of RAFU to manage implementation pending the formation of the Roads Agency (scheduled for 2001); and
- determining the best approach to road funding, to which end it has commissioned a Road Management and Financing Study (RMFS) focusing on the feasibility of a cost-recovery-based system of road user charges.

Within the first phase of the RSDP, the Road Sector Institutional Support Technical Assistance Project provides assistance to:

- strengthen road management capacity through spinning off road administration and executive agencies from the MWHC and the creation of an autonomous Roads Agency; and

- support the redefinition of the Ministry's role toward regulation and policy-setting.

Socially driven provision and subsidies

There are no direct charges for the use of public roads in Uganda. Taxes related to road usage are, however, a major source of revenue for the Government. During the past three years petroleum duty has accounted for approximately 20 percent of total Government revenue, with license fees making up another 5 percent. The income from these two sources amounts to approximately \$150 million per annum. The budget allocation of the Government to the roads and works sector during the same period was approximately \$55 million per annum, of which \$30 million was spent on recurrent expenditure on main roads and \$15 million was invested in district (feeder) roads.²

The RSDP indicates a \$1.5 billion budget requirement over a ten-year period, with Phase I expected to require \$750 million. The IDA will provide \$269 million toward RSDP Phase I, while the Government is to contribute \$88 million over six years. This leaves a funding gap of \$393 million. The Uganda RMFS is expected to make proposals to fill this gap, covering the potential roles of both user charges and private sector funding.

Issues

Scope of the Roads Agency

The proposed policy to set up a Roads Agency appears sound. A key issue in the roads sector concerns the scope and functions of the future Roads Agency, in par-

ticular: whether its responsibilities should include maintenance as well as construction, what remit it should have over district roads and the extent to which key responsibilities should be devolved from the MWHC. RAFU has commissioned a study (in its early stages at the time of preparing the CFR) to address this issue and to consider options for the management and sustainable funding of the Agency.

The separation of executive functions from the Ministry should logically extend to include maintenance as well as construction. This would allow the Agency to make whole-life cost decisions involving trade-offs between capital expenditure and maintenance costs. It would also allow greater economies of scale in procurement to be achieved.

The Roads Agency's initial role in respect of district roads should be an advisory one. In time an extension of its remit to procurement on behalf of the districts could bring benefits from further economies of scale in skilled and scarce resources, but this should be considered as an incremental development once the new institution has proved itself. It may be advisable that such an extension of role, if it takes place, should be by invitation of the districts.

Role of private sector participation

PSP in the roads sub-sector is currently confined to contracts relating to design, construction and maintenance. This role is, however, constrained by limited local private capacity in terms of skilled personnel and plant and equipment. This constraint could be reduced if the future Roads Agency or the Government itself were to adopt an enabling role, for example, by financing a central pool of plant and equipment that would be available for hire by private contractors on a commercial basis.

There may be some potential for private sector funding of roads, for example, through tolls or direct contributions for road maintenance. The Uganda RMFS is expected to evaluate this potential. The potential for tolling is likely to be limited, however, since the level of new main road construction is not great, traffic levels outside Kampala are low, income levels are also low and the country's overriding objective of poverty alleviation may not be best served by direct user charges.

Some private sector participants in the CFR consultation process have expressed an interest in contributing funds for earmarked road maintenance, however, as they suffer significant costs from poor roads in terms of vehicle repairs and time delays. Mechanisms to enable the funding of this type of "demand-led maintenance" should be developed as a means of funding regular maintenance activities in parts of the network supporting more intense economic activity.

Road Fund

Taxes, duties and levies are set annually in the Finance Act. The URA collects the revenue, which goes into a consolidated account from which funds are apportioned on the basis of an annual budget set by the Ministry of Finance, Planning and Economic Development (MFPED). This approach inevitably leads to uncertainty over available funding.

A Road Fund is being considered to provide a steady and continuous stream of funding for road construction, renewal and maintenance by keeping road-related revenues separate from the general consolidated fund. A study is under way to assess the amount of revenue required and how this could be related to the costs imposed by vehicle usage of the roads. The most likely means of raising funds appears to be by way of a charge per gallon of fuel. The key issue is whether this charge could be levied *in addition* to current taxes or by hypothecation of a proportion of the *existing* tax revenue.

The most important advantage of a Road Fund would be the ability to carry over unspent capital from one year to the next, together with the Government commitment to road funding that agreed continuous funding would imply. The exact means of raising the revenue is of less importance, although a linkage between traffic volume and revenue does have a supporting economic rationale.

Role of district and community roads

District and community roads form a large proportion of the overall road network and perform a vital role in rural areas, providing "farm-to-market" access for agricultural produce as well as access to social services for remote communities. They therefore have a key role to play in the Government's wider poverty alleviation ob-

jectives. District roads are not, however, covered in the RSDP, and no equivalent program exists to address this sub-sector.

Stated Government policy on district roads includes specific objectives such as rehabilitation of the entire network to all-weather standard and extension of the network into all areas of agricultural activity. Implementation of the policy has, however, been slow because of institutional capacity constraints. The rate of rehabilitation of the network is less than half the policy target, and only 40 percent of the network is under regular maintenance.³ At present there is no commitment for the future Roads Agency to be involved in district roads, but this is clearly an option that should be considered in order to strengthen the execution of Government policy in this area.

Recommendations

- The separation of executive functions from the Ministry should be extended to include maintenance as well as construction.
- The Roads Agency's initial role in respect of district roads should be an advisory one. Extension of its remit to procurement on behalf of the Districts should be considered as an incremental development once the new institution has proved itself. Such role extension should probably be by invitation of the Districts.
- The Roads Agency or the Government itself should adopt an enabling role to reduce the constraints imposed by limitations in local capacity, for example, by financing a central pool of plant and equipment that would be available for hire by private contractors on a commercial basis.
- Mechanisms to enable the funding of demand-led maintenance by major commercial users should be developed as a means of funding regular maintenance activities for parts of the network supporting more intense economic activity.
- Consideration should be given to involving the future Roads Agency in district roads in order to strengthen the execution of Government policy in this area.

Notes

1. Transport Sector Strategy Study.
2. "MWHC Road Management & Financing Study, Inception Report," October 1999.
3. Transport Sector Strategy Study.



Background

Uganda has one international airport, Entebbe International Airport (EIA), which has facilities that can handle all aircraft types and provides access to many international destinations. The refurbished terminal has an estimated annual capacity of 5 million passengers, which is considered sufficient to handle current and foreseeable future passenger demand.¹ Eighteen scheduled carriers serve EIA, with two operators serving domestic aerodromes. Forty-two licensed non-scheduled operators and ten general aviation companies also use the airport.

The TSSS indicates that the air transport sub-sector is the fastest growing transport sector, albeit from a low base. Current throughput is approximately 460,000 passengers per annum, and future growth is expected at 9 percent per annum, based on extrapolation of past trends.

In addition there are 14 other public airports/aerodromes throughout the country. Five of these, namely Arua, Gulu, Kasese, Kidepo and Pakuba, have been designated as international entry points to enhance international tourism and to provide for regional air transport needs.

Table 11.1 summarizes the recent level of passenger throughput and aircraft movements at the region's three busiest international airports. These data indicate the dominant position of Nairobi, and its key role as an international hub is illustrated by the much higher carryings per aircraft movement arising from its intercontinental services.

Role of the Government, parastatals and the private sector

The sector is regulated and managed by CAA, which is expected to operate on a commercial basis. CAA was created in 1991 when civil aviation functions were divested from the MWHC to a new autonomous entity. CAA is responsible for air traffic control services, regulation of aviation activities, development and maintenance of aerodromes and promotion of the commercial viability of the aviation industry.

CAA has direct management control over 12 airports, including the international airport at Entebbe. Three further aerodromes, including Jinja, have been leased to municipal councils. Additionally CAA plans to lease the remaining 11 aerodromes to local authorities or the private sector within five years and has contacted relevant municipalities with proposals.

Policy-making, planning and regulation

A National Aviation Policy (currently in draft form) has been recently produced by a committee chaired by the Director General of CAA. The main policy objectives are:

- adoption of an air transport regulatory framework that enables industry responsiveness to market demand and encourages safe, economic, secure and efficient air transport facilities and services;
- development and maintenance of a cost-effective, efficient network of services and facilities;

Table 11.1 Comparative airport traffic volumes in East Africa (1998)

Airport	Passengers	Aircraft movements	Passengers/ aircraft movement
Entebbe (EBB)	446,000	22,000	20
Nairobi (NBO)	2,350,000	31,000	76
Dar es Salaam (DAR)	572,000	20,000	29

Source: www.airports.org

- creation of a competitive environment with market force determination of sector prices, service and quality offerings;
- promotion of international relations and harmonization of air transport policies with other countries and particularly with partner states of the EAC and COMESA; and
- establishment of EIA as a regional hub.

The main measures to implement the objectives of the National Aviation Policy are:

- continued support of CAA;
- privatization of the national airline, Uganda Airlines;
- updating and renegotiation of Bilateral Agreements; and
- liberalization of the sector in terms of price-setting and controls.

Little progress has been made in updating the Bilateral Agreements, and the privatization of Uganda Airlines has not yet taken place. In other areas, however, progress is being made. The airfreight sector has been liberalized in respect of price-setting and market entry controls. Ground handling at EIA is conducted by Entebbe Handling Services Ltd. (ENHAS), a private sector company following divestiture from Uganda Airlines. ENHAS handles all scheduled airlines, with CAA providing regulatory oversight. CAA has a policy of contracting out all other non-core services, such as cleaning and maintenance and duty-free sales, but has no plans to privatize the management of EIA itself.

CAA plans a number of investment projects in support of National Aviation Policy objectives, including:

- development of a new cargo center, domestic terminal and aircraft maintenance facilities at Entebbe;
- development of a large aviation fuel storage depot at Entebbe;

- improvements of navigational equipment based on satellite positioning technology;
- development of a second all-weather aerodrome that can serve as an alternative to EIA; and
- upgrading and leasing of other aerodromes.

Socially driven provision and subsidies

The Government pays a specific subsidy in the case of identified up-country airports of strategic importance. Responsibility for non-strategic airports is being handed over to local municipalities and central government funding will be phased out.

There is cross-subsidy from EIA to other elements of CAA.

The aviation sector received a net total subsidy of \$9.7 million in the year ended 30 June 1998 through CAA.

Issues

Separation of regulatory and operational roles

Currently CAA is following a policy of progressive leasing or contracting out of the up-country airports and non-core functions at EIA, but it will continue to operate EIA and provide air traffic services to airlines. At the same time it is responsible for regulating the whole of the aviation sector, arguably its prime task.

There is potential conflict in this dual role, and this is recognized within CAA. Furthermore there is lack of clarity over funding matters, with hidden cross-subsidy between CAA's different functions. CAA should seek greater accounting and management separation between its main functions (regulation, air traffic services provision, operation of EIA, operation of up-country airports). In time CAA should withdraw from direct operation of EIA, as it is doing from up-country airport operation, thus creating the opportunity for private sector management, operation and development of the airport.

Air traffic services should not, however, be made the responsibility of a separate entity, since this would dilute the scarce technical skills in the organization and there are as yet no precedents for privatization of national air traffic control. Furthermore, in view of the low levels of traffic handled, minimum safety and service criteria

(rather than commercial criteria) will continue to dominate the specification of services provided.

Capitalization of the Civil Aviation Authority

As reported in the TSSS the initial capitalization of CAA was not sufficient to build a reasonable level of reserves for ongoing activities. As a result capital for CAA activities is mainly subsidized by EIA and on-lending donor funds, which have to be repaid at commercial interest rates. This is restricting the ability of CAA to generate sufficient funds to invest in necessary aviation infrastructure.

Taxation

There appear to be a number of anomalies in the taxation of aviation inputs and services. The overall role of taxation within the aviation sector should be reviewed to ensure that a level playing field is created, both with regard to other transport modes and in comparison with other countries within the region, particularly Kenya and Tanzania. The key aspects to be considered include:

- taxes on sales and use of international air transport are not zero rated in Uganda, as they are in Kenya and Tanzania; this may limit competitiveness and trade growth, especially as Uganda has higher freight rates than neighboring countries; and

- the tax method used in Uganda to value cargo is on the basis of CIF rather than the generally used FOB basis. This builds in a bias against airfreight. A compromise has been reached that only 30 percent of the freight charges are included in the tax calculation. However this system still creates uncertainty as to the magnitude of the tax charges that will be levied, increases administration time and introduces delay.

Recommendations

CAA should seek to introduce greater accounting and management separation between its main functions (regulation, air traffic services provision, operation of EIA, operation of up-country airports). In time CAA should withdraw from direct operation of EIA in favor of private sector involvement. Air traffic services should not, however, be made the responsibility of a separate entity. This should take the form of the private sector operating the assets under a concession from the Government (who will remain the owners of the assets), with performance targets built into the concession agreement.

The overall role of taxation within the aviation sector should be reviewed to ensure that a level playing field is created, both with regard to other transport modes and with other countries within the region, particularly Kenya and Tanzania.

Note

1. Transport Sector Strategy Study.

12

Railways and ports

Background

Railways

The Uganda Railways Corporation (URC) was formed in 1977, following the collapse of the East African Community. URC inherited all the assets of the East African Railways Corporation (EARC) then located in Uganda. These assets were, however, in poor repair and incomplete for the operation of a self-contained railway undertaking. The assets consisted largely of old track, light locomotives and old wagons, with no workshops for wagon and locomotive repairs. The Corporation has in recent years acquired locomotives, ferries and handling equipment as well as improving its mechanical workshop equipment under a contract with Adtrans. As part of the URC management proposals for the interim period 2000–02, as well as increases in tonnage, capital investment of Ush 44 billion and staff retrenchment costs of Ush 3 billion will be required by 2002.

Historically the railway system has played an important role in economic integration throughout East Africa and provided a vital transport link to ports. The current state of Uganda's railway means that the country lacks cost-effective alternatives to road transport for imports/exports as well as domestic traffic. A recent study by CPCSTranscom¹ reports that an efficient railway system would support Uganda's exports (principally coffee) and imports (principally petroleum) and could be expected to lead to a fall in trucking prices, with wider economic benefits.

Traffic flow is imbalanced with 75 to 80 percent of traffic being imports from the ports of Mombasa or Dar es Salaam (TSSS).²

Uganda's network totals 1,244 km consisting of:

- the 251 km Southern Line from Tororo/Malaba to Kampala, which is part of the international northern corridor between Kampala and Mombasa;
- the 333 km Western Kampala/Kasese Line; and
- the 502 km Northern Line from Tororo to Pakwach.

In addition there are smaller spur lines to the Jinja and Port Bell ferry terminals on Lake Victoria. These form part of the International Lake Victoria ferry routes between Port Bell and Kisumu (Kenya) and Mwanza (Tanzania). Marine services also operate on the inland waterways of Uganda.

Since 1992 URC has not been able to operate profitably and has progressively withdrawn from non-commercial services. The Railways Statute 1992 directed URC to operate on a commercial basis but additionally provided for Government compensation/subsidization of some non-commercial services in order to permit their continued operation. This subsidy has recently been withdrawn. Currently only the central Kampala–Malaba line and the spur lines to the Lake Victoria ferry remain operational, and all passenger service has ceased. The present URC management does not see passenger services as a priority in order that it can focus on its core activities and address the requirement to operate commercially.

In the period to 1998 URC was not able to control key cost areas. In July 1998 and November 1999 cur-

rent management implemented policies to reduce staff-related costs for housing and transport. They have also engaged a security company to reduce the high levels of pilferage and vandalism. However, despite a reduction in staff numbers, key cost items are still significant, particularly those relating to fuel and staff, and it is still difficult to contain high levels of pilferage and vandalism. The reduction in staff numbers has not kept pace with the reduction in activity on the railways. Although staff numbers have shown a dramatic decline (from close to 6,000 in 1992 to about 1,800 currently), URC management believes that the current complement could be halved, if Government-imposed labor constraints were removed.

Comparative data for URC and its neighbors is summarized in Table 12.1. Although the data include comparisons from 1995 and earlier as well as information for the last 2 to 3 years, it does demonstrate the relative scale of URC compared to the neighboring countries. Its role as a feeder to the Kenyan and Tanzanian systems hides the true average distance of its loads and makes the wagon productivity comparison difficult to interpret. Staff productivity is improving and is comparable to the historic performance of KCR and Zambian Railways but is still considerably lower than measures of other networks in 1997.

These varied problems have meant that URC is currently placed in a serious situation. CPCSTranscom concluded that URC was unable to provide a competitive alternative to road transport. The corporation is caught in a “vicious cycle of downward decline”; its financial difficulties have led to reduced expenditures on maintenance and operations, which in turn has led to poorer service, declining demand and reduced traf-

fic revenues. URC’s capacity is underutilized (approximately 20 percent in 1997 compared to a five-year high of approximately 60 percent in 1993). Their view was that this underutilization is a result of poor performance rather than potential lack of demand. The Transcom report indicated that URC might find it impossible to retrieve itself from its current position without significant external assistance.

To counter these claims the current management has prepared a business proposal (for the period 2000–02). This proposal is based on a continued rise in tonnage to 800,000 in 2001, staff reduction to 1,000 by 2002 and Ush 44 billion investment in infrastructure by that date. URC recognizes its debt commitments and intends to reduce the balance by Ush 7 billion in this period. It then anticipates requesting the remaining Ush 15 billion to become long-term loans. In each of the three years projected by URC in the proposal, revenue would be Ush 31 to 33 billion and profit before depreciation and finance would be Ush 3.8 billion in 2000 and Ush 4.6 billion in 2001. Depreciation and debt interest charges are estimated at Ush 7 billion per year and, hence, net losses of Ush 3 to 4 billion would accrue in each year from 2000 to 2002. The cumulative loss at 2002 would be Ush 49 billion.

Ports

The water sector plays a minor role in the total transport system in Uganda. The country’s main water transport activities are focused on Lake Victoria, but there are minor transport operations on Lakes Kyoga, Albert, Edward, George, Bunyonyi and Bisina. In 1996 it was estimated that passenger transport by water accounted for 1.4 percent of total traffic demand, with

Table 12.1 Railway comparative data

	Year of data	Total route (km)	Number of freight wagons	Freight ton-km (million)	Number of staff	Average load distance (km)	Wagon productivity (000 ton-km per wagon)	Staff productivity (ton-km per staff)
Uganda	1994 ⁽¹⁾	1,241	1,485	208	3,854	267	140	54
	1998 ⁽²⁾	251		147	1,800	246		82
Kenya	1991 ⁽¹⁾	2,065	6,475	1,784	20,374	577	276	88
Tanzania (ex TAZARA)	1995 ⁽¹⁾	2,600	1,737	1,354	10,384	1,008	780	130
Zambia	1997 ⁽¹⁾	1,273	5,587	473	5,108	335	85	93
Zimbabwe	1997 ⁽¹⁾	2,759	11,385	4,871	12,025	406	428	405

Source: ⁽¹⁾ World Bank.
⁽²⁾ URC.

cargo transport by water accounting for 1.9 percent of total transport demand. Services on the inland waterways are provided by URC Marine Services, MWHC ferries and the Uganda Wildlife Authority, as well as several small private operators. The Inland Water Transport Study of December 1998 recommended a program of improvements on seven lakes and the Nile covering a ten-year period. Its implementation is still dependent on securing the funding for engineering works and construction of port equipment and landing stages.

Uganda's two ports, Port Bell and Jinja on Lake Victoria, and the commercial fleet are operated by URC. The formal water transport sector has declined from the level of the 1960s when regular steamer routes were operated. URC marine facilities at Jinja are now largely idle due to the transfer of most lake traffic operations to Port Bell. Currently the formal sector consists of URC services of three rail wagon ferries, which principally move international trade goods between the Kenyan and Tanzanian rail networks via Kisumu and Mwanza, and some short-distance ferry crossings from the other operators. The ferries handle 400 round trips per year and carry up to 60 percent of international trade (although this varies from year to year depending on the capacity of the Kenyan and Tanzanian railway corridors and ports).

The CPCS Transcom report identified that most of URC's functioning marine assets are in reasonable condition, albeit poorly maintained. With the exception of the rehabilitation of the Port Bell docks as a wagon ferry terminal, there has been little investment in the water transport industry since 1986.

A number of factors have constrained URC marine operations:

- water hyacinth infestation at Port Bell and Kisumu, causing docking delays and damage to equipment and vessels (this problem has lessened in recent months);
- interchange problems with neighboring countries, including excessive customs delays;
- knock-on effects from URC's poor general financial state, with specific impact on cash flow, maintenance and safety standards; and
- a lack of autonomy of the Marine Department of URC from the railway management.

Role of the Government, parastatals and the private sector

The Government and donors continue to perceive railways as a viable transportation option, particularly for the import and export of bulk commodities. Funds provided in the past, however, appear to have made little impact on productivity, financial performance or wider economic development. As a result a number of PSP options have been considered and debated. In 1998 URC entered a joint venture with Adtrans to operate its engineering workshop, and this initiative appears to be proving successful.

However more radical solutions are also being contemplated. The consensus emerging from this debate appears to be that a private sector, vertically integrated concession should be let within two to three years, with a vision that this could be included in a regional concession with at least one of Uganda's adjoining railways in the future. This approach recognizes that the combined regional concession, if achieved, would provide the greatest economic benefits by allowing the exploitation of economies of scale and elimination of interchange requirements and incompatible operating practices.

The TSSS recommends a somewhat different approach, involving the vesting of all railway infrastructure and equipment (excluding rolling stock) in a single railway infrastructure company. A similar company would be established to operate the Lake Victoria port infrastructure. The operation of rail and ferry services would then be opened up to private operators.

In either case a vertically separated or regional framework would take a number of years to come into effective operation. Although the problems of URC are severe, recent URC data on tonnages and revenue since June 1998 appear to show significant improvements, together with a reduction in the estimated overall burden of debt (although full financial performance reports are not available). However in financial terms the insolvent position of the corporation may bring its operational future into doubt, hence the necessity for reform of the organization.

As an interim arrangement an operating contract has been proposed. Under this option a private operator would establish a new organization and assume the full financial risk of operating the railway, with responsibility for tariff-setting and revenue collection. The

Government would lease the equipment and assets of the railway to the private operator. This is in effect a short-term concession. The Transcom study concluded the railway could be returned to profitability within three to five years (provided that no debts were transferred, there were no constraints on redundancies and the costs of retrenchment were borne by government).

URC's current management team argues for a different way forward, recommending that it should be given time to complete its own restructuring of the Corporation in preparation for eventual privatization. URC managers point to the turnaround in performance that has been achieved by the Corporation over the past one to two years, as noted above. They argue that this turnaround would best be continued by incumbents with intimate knowledge of the historical problems of URC, with regional concessions providing an effective long-term solution.

At the time of writing the MWHC was still considering its options regarding the way forward for URC, particularly in the short to medium term, and had asked URC to put forward a three-year plan for consideration. The management of URC submitted a business proposal for the period 2000–02 in December 1999. This estimates increases in tonnage to 800,000 by 2001 but acknowledges that operational costs and depreciation will still lead to losses of Ush 3 billion per year before servicing debt after meeting Ush 2 billion per year of retrenchment costs.

Policy-making, planning and regulation

The MWHC is the ministry responsible for URC. Its major overall policy objective with respect to rail is to reduce the direct role of government and to promote a correspondingly greater role for the private sector.

Government involvement in day-to-day decision-making appears to be a significant impediment to management effectiveness. The lack of flexibility in cost structures and tariff-setting in particular led to declining profitability. This situation was partially addressed in 1992 when the Uganda Railways Corporation Statute was passed, placing URC on a new commercial footing. In addition a new Performance Agreement approved in 1994 required URC to operate within defined performance parameters in exchange for commercial freedoms and be reimbursed for running loss-making social services. Nevertheless, the Government retained signifi-

cant powers, including control of tariff policy and board membership. Up to the time of the TSSS neither the commercial strategy nor the performance agreement had been successfully implemented.

The long-term intention of the Government to extract itself from a direct role in railways is unambiguous. However the immediate method of embarking on this road is currently the subject of debate. This debate focuses in particular on the precise role of the private sector in delivering services.

There are no specific policy objectives for the ports sub-sector, although the Government has a broad objective of improving efficiency at the Port Bell docks, and the Inland Water Transport Study recommends that the Government continue to provide port infrastructure, with services provided by the private sector. Policy measures in support of this include rehabilitation of Port Bell and a capital works program, which identifies routes where ferry services require rehabilitation or improvement (with relevant costing details in a Master Plan phased over the period 1998–2017). The MWHC has received a proposal from URC management to continue managing URC for the coming three years. However the form and direction of PSP is still to be decided.

Socially driven provision and subsidies

URC is in a poor financial state, with the largest subsidies arising from non-payment of loan arrears. The view of management is that a considerable proportion of its outstanding Government loans were provided as an alternative to equity capital and that this should be reflected in their treatment.

URC has been historically dependent on the Government for subsidies and is ranked among the top three Public Enterprise recipients of subsidy from the Government. However URC subsidy claims have been under dispute and as of 31 May 1998 only Ush 3.65 billion of a Ush 17 billion claim was verified as payable.³

The different elements of subsidies and counter subsidies are presented in the Annex.

Issues from the current railways and ports reform program

The long-term concession model for the main line

There appears to be consensus within the Government

that a long-term, vertically integrated concession is the appropriate model for the operation and improvement of the railways' main line. However the TSSS recommends separate long-term rail and port infrastructure concessions coupled with open access. An integrated concession model would seem to be more suitable to the Ugandan situation, as long as trading between networks and possibly full open access can be enabled.

There are a number of reasons for preserving an integrated railway:

- it eliminates the transaction costs inevitable with vertical separation;
- it allows the operator to make appropriate track quality/service quality trade-offs (with minimum requirements as necessary);
- road transport provides considerable active competition for rail without requiring rail-on-rail competition as well; and
- the transport market is small and may not be able to support a Ugandan-based operator if key flows are "cherry-picked."

However it should be a requirement of any future concession that accounting separation is introduced between infrastructure costs and operating costs so that future access to the network and ports (and access charges to use them) can be more readily regulated.

Possible reopening of branch lines

The Government believes that there may be merit in re-opening URC branch lines, if they could be operated efficiently and rail services marketed effectively, even if the lines were not financially viable. The Government believes that socio-economic benefits could justify payment of a subsidy. If so, the Government may consider extensions to the main line concession or letting separate concessions.

As long as trading arrangements or open access between concessions were in place, this structure would be feasible, and a decision could be made on the basis of best value for money after competitive bidding. The socio-economic case for support should be developed, and an estimate of the amount of justifiable support should be quantified before any market testing.

Integration of the region's railways

URC's residual transport role is to provide access to the rail routes to the Mombasa and Dar es Salaam ports. In this role it is entirely dependent on the oper-

ational efficiency of railways in Kenya and Tanzania. URC's main lines and rail ferry routes make up the minor proportion of these two strategic routes, and it is thus unable to control delivery for the service it is offering. Production inefficiencies originating from beyond its borders have a major negative impact on its performance.

Given this dependency cooperative interworking and trading between the railways is essential. Although this could be achieved to the mutual commercial benefit of profit-motivated but separate privatized railway operators, it would be more certainly achieved through integration.

There is a common vision within the Government and URC that the ultimate integration of Uganda Railways, Kenya Railways and Tanzania Railways under a single private sector operator would allow the full potential of the railways in East Africa to be realized. It may be strategically preferable to maintain a degree of competitive pressure between the two routes, however. Consequently URC may be better served by two railway partners whose interests are fully aligned with its own. An active trading relationship should enable this to develop.

However, as a possible safeguard, reciprocal open access provisions could be agreed on by the neighbor states, which would allow any railway to run trains on agreed-on paths on its neighbors' network. To enable this a number of practical issues would need to be resolved, for instance maintaining route knowledge among crews, agreeing to emergency maintenance procedures, etc.

The first priority would be to ensure an efficient relationship with Kenya Railways to secure URC's access to Mombasa. The second priority would be to ensure access to the alternative route via Tanzania Railways to Dar es Salaam, for those occasions when Mombasa is unable to receive traffic efficiently.

It is strongly recommended that a regional solution be sought to the problem of ensuring access to the strategic transport corridors and improving operational efficiency.

Interim arrangements

Options currently under consideration by the Government include whether to implement a short-term concession (two to three years) or to allow the current management to attempt a corporate turnaround (the

approach preferred by the existing management team). The Government has asked management to develop a three-year plan for evaluation, which was delivered in December 1999, the “Business Proposal for the Interim Period 2000–2002.”

The future of the ports

A key issue going forward for the ports sub-sector concerns the role of URC in ports operations. Although URC has been actively involved in operations in the past, the question remains as to whether this should continue.

Given the strategic imperative to maintain a Kampala/Port Bell/Mwanza/Dar es Salaam corridor open, the most appropriate medium-term solution is to leave the operation of the Port Bell port and the rail ferries under URC control. This minimizes fragmentation of the service and control of operations and increases the likelihood of the route supporting a viable business. However open access to the port should be maintained and encouragement (but not subsidy) given to the introduction of independent ro-ro or lo-lo ferries in competition over time.

Recommendations

Railways

- An integrated concession model would seem to be the most suitable long-term restructuring option in the Ugandan situation, as long as trading between networks, and possibly full open access, can be enabled. It should be a requirement of any future concession that accounting separation is introduced between infrastructure costs and operating costs so that future access to the network and ports (and access charges to use them) can be more readily regulated.
- As long as trading arrangements or open access between concessions were in place, reopening URC's branch lines supported by payment of a subsidy if the lines are not financially viable would be feasible: decisions could be made case by case on the basis of best value for money after competitive bidding. The socio-

economic case for support should be developed, and an estimate of the amount of justifiable support should be quantified before any market testing.

- It is strongly recommended that a long-term regional solution be sought to the problem of ensuring access to the strategic transport corridors to the Mombasa and Dar es Salaam ports and improving operational efficiency. Achieving this through separate national concessions, supported by reciprocal open access provisions, may be strategically preferable to integration under a single private sector operator (as well as being more practicable), in order to maintain a degree of competitive pressure between the routes. This approach would allow time for the concessioning process of Tanzania and Kenya Railways to develop, which the Government can seek to influence to meet its longer-term goals.
- The first priority should be to ensure an efficient relationship with Kenya Railways to secure URC access to Mombasa.
- In the interim a short-term private sector management contract (with a clear incentive regime) coupled with Government support for major financial and operational restructuring would be preferable to a short-term concession with full commercial risk transfer. This would have the objective of improving URC's commercial viability to the point where introduction of a long-term concession becomes feasible. Fair consideration should also be given to URC management's own proposals for the achievement of performance improvement, although careful consideration would need to be given to the effectiveness of the incentive framework embodied in such proposals.

Ports

Given the strategic imperative to maintain a Kampala/Port Bell/Mwanza/Dar es Salaam corridor open, operation of the Port Bell port and the rail ferries should be left under URC control over the medium term. Open access to the port should be maintained.

Notes

1. “Privatization and Business Planning Study of Uganda Railways Corporation,” February 1999.

2. These flows were estimated at approximately 1.9 million tons annually in the “Ap-

praisal Study for the Rehabilitation of the Kampala-Malaba Railway Line, Draft Final Report,” January 1998. Given that URC data suggest that total tonnage for 1998 (internal and external) amounted to c. 750,000 tons, a

more realistic figure would be *at most* 650,000 tons.

3. CPCS Transcom Report, February 1999.

PART C. CROSS-CUTTING ISSUES IN INFRASTRUCTURE DEVELOPMENT

13

Introduction

A number of cross-cutting issues affect several, often all, of the infrastructure sectors covered by the CFR exercise. These are discussed below under the following headings:

- core cross-cutting issues impacting directly on infrastructure sector reform; and
- other issues impacting on infrastructure development and management.

Cross-cutting issues were discussed and evaluated by the Uganda Working Group and among a wider

group at the First CFR Workshop held in Kampala on 12 October 1999. The Workshop identified the following five issues (across all the above categories) as having the greatest overall importance:

1. corruption and maladministration/political interference;
2. project selection, prioritization and planning;
3. impact of dependence on donor funding;
4. lack of a clear policy on subsidies; and
5. poor coordination between Government Ministries.

14

Core cross-cutting issues impacting directly on infrastructure sector reform

A number of cross-cutting issues require careful consideration in determining how best to take forward Uganda's infrastructure reform program. In a number of instances these issues will need to be addressed in a wider context than that of infrastructure sector reform. The issues discussed in this sub-section are considered to impact directly on the infrastructure reform program. While all the issues discussed are important, a number are of particular substance; we address these below under the heading "Core issues." A number of further issues impacting directly on the infrastructure reform program are discussed under the heading *Other issues*.

Core issues

Economic development and poverty alleviation in Uganda

In 1997 44 percent of Uganda's population were not able to meet their basic needs¹ and only 42 percent had access to safe water.² Uganda clearly faces a poverty alleviation task on a massive scale. The vast majority of Uganda's population (roughly 85 percent) are based in rural areas where poverty is more widespread, effective infrastructure provision is generally more costly and ability to pay is generally lower.³

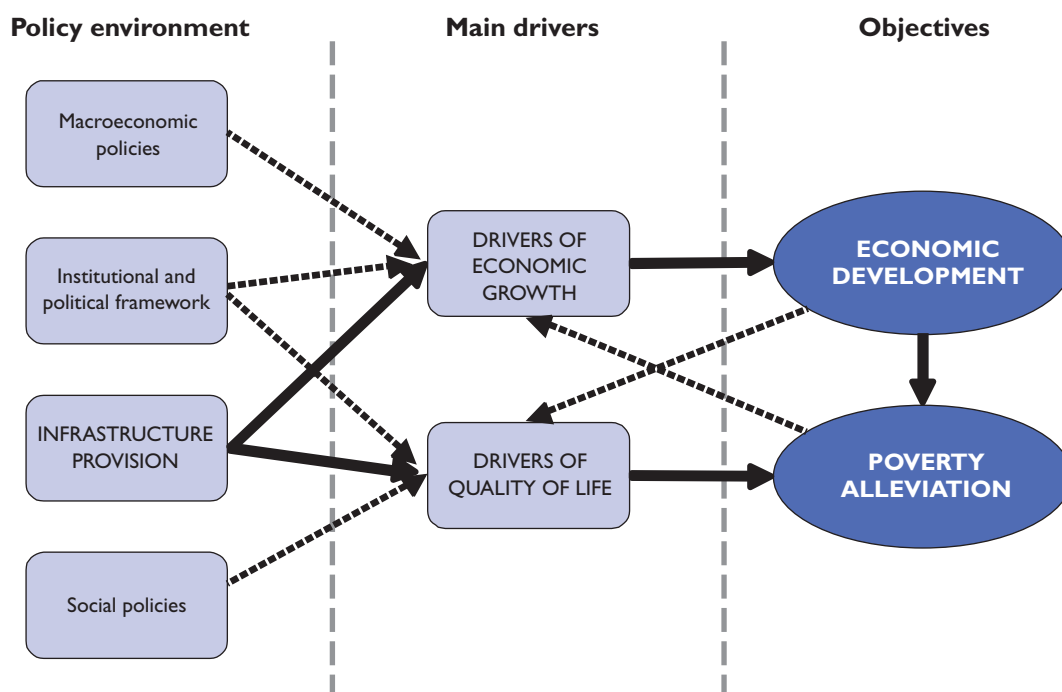
The Government has embarked on a series of major initiatives in an effort to tackle the problem. These initiatives include the Poverty Eradication Master Plan, Uganda Vision 2025, and the Water Action Plan. In terms of specific policies, the GOU is focusing its resources on achieving universal primary education, improving access to safe water and upgrading the road net-

work. The release of funds from HIPC debt relief will provide a substantial financial boost to these programs.

Simultaneously Uganda is pursuing programs of economic liberalization and structural reform, of which the current infrastructure policy framework is a major element. These have provided Uganda with an impressive growth performance in recent years, which has in turn led to a significant reduction in poverty—the 44 percent of Ugandans who were unable to meet their basic needs in 1997 is a considerable improvement on the 56 percent in 1992.

Poverty alleviation is not simply a cross-cutting issue but an overarching general objective of the Government and hence of the infrastructure reform program. We examine here the main linkages between infrastructure provision and poverty alleviation and the closely related objective of economic development, and consider implications for the infrastructure reform program.

As depicted in Figure 14.1 infrastructure is only one among several major public policy issues that feed through to economic development and poverty alleviation. The figure also illustrates the crucial interdependency between economic development and poverty alleviation, showing the additional importance of the indirect impact of infrastructure development on poverty alleviation. For example, improved infrastructure may stimulate commercial activity, which in turn increases demand for labor, thus reducing poverty. The linkages between policies, drivers and objectives are numerous and complex. Essentially, all the factors are interrelated.

Figure 14.1 The relationship between the policy environment and objectives

A summary of the main drivers impacting on quality of life and on economic growth is set out in Figure 14.2 below. The provision of infrastructure will have a significant impact on many of these key drivers. Sometimes the linkage is direct, as with the importance of transport for market access, the importance of reliable utilities for maintaining productivity and the importance of telecoms for communication. In other cases the linkage is indirect; for example, gaining market knowledge requires communications infrastructure, and basic health requires affordable access to reliable and safe water supplies.

Impact of infrastructure provision on economic development and poverty alleviation

Uganda currently has a very low provision of most infrastructure services, with generally poor quality provision and limited availability (access figures for each sector can be found in the Annex). This clearly constrains economic growth and has a direct impact on quality of life. We summarize the main linkages between infrastructure provision and the drivers of economic growth and quality of life in the following paragraphs.

Water and sanitation. The water and sanitation sector is almost certainly the infrastructure sector that has the greatest direct impact on quality of life and welfare (see Figure 14.3). Only 42 percent of Ugandans have access to safe water (defined as piped water, boreholes and protected wells or springs). Sanitation is also a key health issue. According to the 1995–96 Household Survey, 20 percent of rural Ugandans had access to neither a pit latrine nor a flush toilet. This lack of even the most basic sanitation is a clear hazard to public health—such poor sanitation has led to outbreaks of cholera in Kampala in recent years.

Although irrigation is not within the remit of this report, it is clear that the provision of infrastructure for irrigation would enable a substantial increase in agricultural productivity in the drier parts of the country. It may also encourage semi-nomadic populations to settle, thus making provision of social services to these groups easier and less costly.

Transport. Transportation plays a critical role in economic development, and roads are the dominant mode of transportation in Uganda for both people and goods (see Figure 14.4).

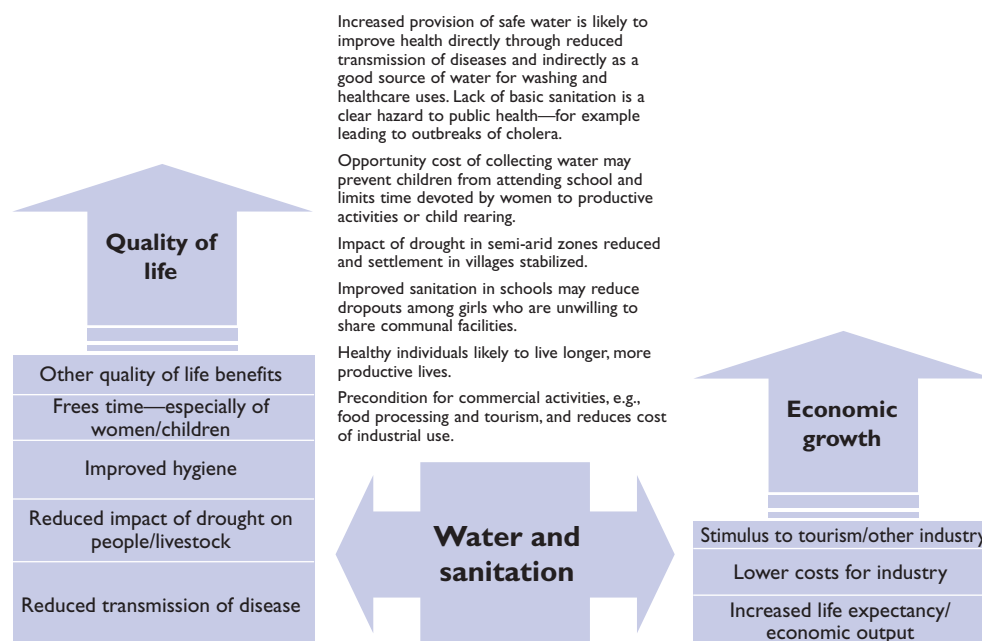
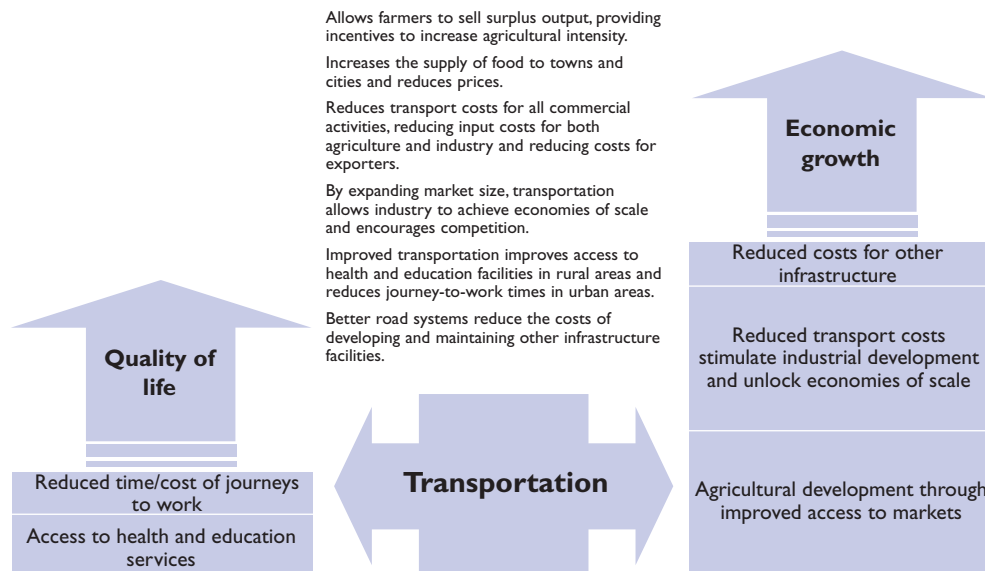
Figure 14.2 Impact of infrastructure provision

Drivers of economic growth	Drivers of quality of life (in approximate order of importance)
<ul style="list-style-type: none"> • Productivity <ul style="list-style-type: none"> • workforce skills/availability • reliable availability of inputs (electricity, raw materials, etc.) • management capability • Macroeconomic management <ul style="list-style-type: none"> • internal stability/low inflation • external stability • exchange restrictions • export diversification • Technological change <ul style="list-style-type: none"> • innovation/R&D • access to knowledge • Access to markets <ul style="list-style-type: none"> • availability and cost of transportation • security/reliability of transport • regional/international links • transit times/intermodal facilities • reduced trade barriers • market information • Access to affordable capital <ul style="list-style-type: none"> • efficient capital markets • availability of term finance • focused and effective donor funding • foreign investment • microfinance • clear land rights as collateral • Minimal transaction costs <ul style="list-style-type: none"> • efficient communications • reliable and stable legal framework • minimal barriers to entry • minimal taxation • removal of unnecessary bureaucratic/regulatory barriers • Governance framework <ul style="list-style-type: none"> • accountability/transparency • ethics/corruption • stable policy/planning environment 	<ul style="list-style-type: none"> • Basic needs (access to food and water) • Income and the opportunity to do useful work • Basic freedoms (association, expression, movement, religion, peace, justice) • Healthcare • Environment (including housing) • Education and access to information (radio, Internet, etc.) • Equal opportunity (gender, race, age, geography) • Mobility • Ability to participate in civil society (government accountability and informed citizens) • Communications (posts, telecoms, etc.) • Access to reliable electricity supplies (facilitating a range of useful appliances and entertainment)

Currently rural Ugandans are, on average, roughly 3 km from an all-season district road and, depending upon the region, between 20 km (eastern) and 67 km (northern) from a tarred road. These averages conceal the fact that a significant minority is a very significant distance from an all-season road, with predictable consequences for access to markets, inputs and social services. World Bank research suggests that the farther a household is from a road, the less likely it is to partici-

pate in education and in important markets, including the labor market and the market for agricultural products. Household income is likely to be lower, access to goods and services restricted and, consequently, poverty more likely and more severe.

Electricity. There are currently over 150,000 UEB connections in Uganda, and this has been growing steadily in recent years. However these connections are con-

Figure 14.3 Contribution of water and sanitation development to economic growth and quality of life**Figure 14.4 Contribution of transportation development to economic growth and quality of life**

centrated almost entirely in urban areas. In rural areas access to electricity has also been increasing but this has been due to small-scale independent action rather than a coordinated official program. The World Bank's AFRREI is intended to provide a decentralized framework for facilitating more rapid rural electrification,

with financing coming from a 5 percent levy on electricity bills. (See Figure 14.5 on how electricity affects economic growth.)

Communications. Communications are increasingly important in the modern world, enabling communities to

participate more actively in national life and in the global economy (see Figure 14.6). A substantial number of Ugandan Districts have either no telephone connection, no postal service or neither, thus depriving them of the opportunity to benefit from this participation.

Interdependence of sectors

In addition to the links outlined above between infrastructure provision and poverty alleviation and development, there are also links between the infrastructure sectors themselves, the recognition of which

Figure 14.5 Contribution of electricity sector development to economic growth and quality of life

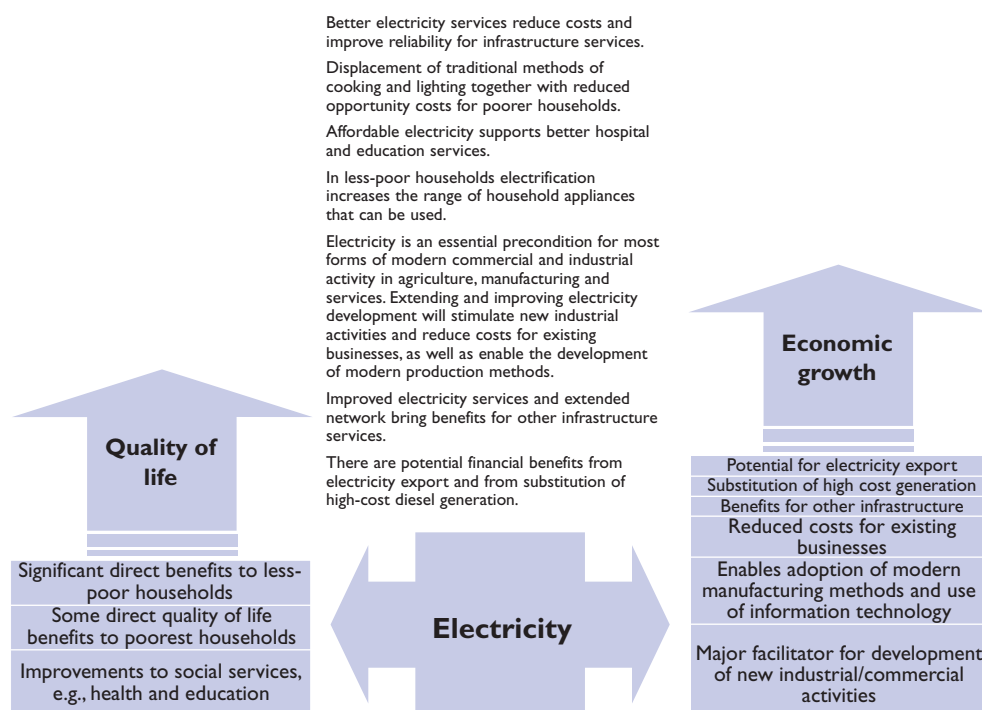
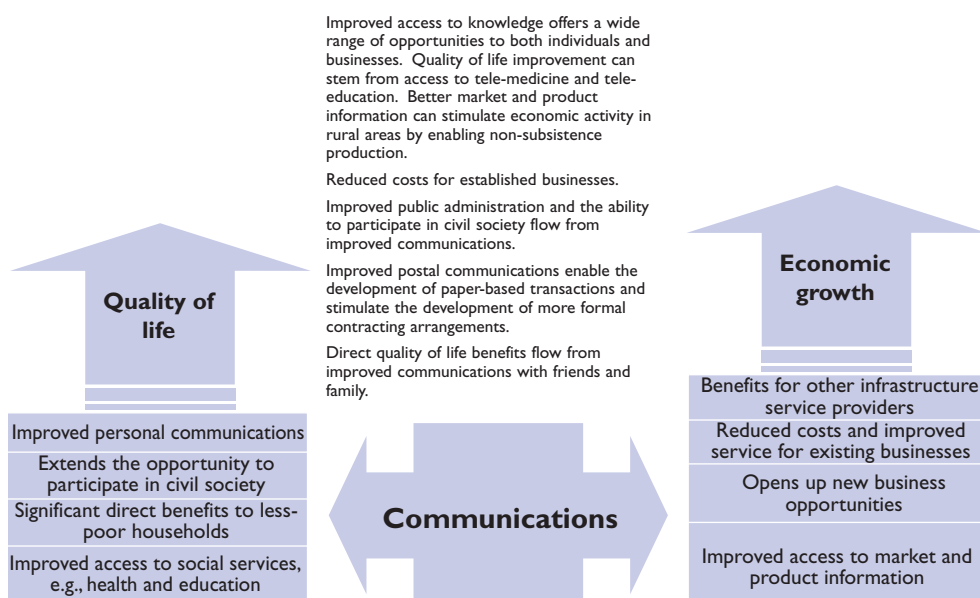


Figure 14.6 Contribution of communications sector development to economic growth and quality of life



can increase the cost effectiveness of infrastructure investment.

Specifically roads are an important precondition for most other forms of infrastructure because it is difficult and costly to transport the necessary machinery and equipment without them. In the longer term they also facilitate easier maintenance of infrastructure. In the case of communications a postal service is clearly impossible without a comprehensive transport network. In addition, by raising incomes, roads will increase the likelihood that communities will be able to pay user charges for other infrastructure services. Water and sanitation provision may also have a similar beneficial impact on household incomes.

Electricity can be an important input into the water and telecom sectors. Rural water supplies can generally be provided using manual hand pumps, provided the boreholes are not too deep, but industrial usage and large-scale urban piped water usually require power for pumping. Similarly, although both fixed line and cellular phones do not need electricity to work, the networks do, and the batteries of cellular phones also regularly need an electricity supply to recharge.

These links between sectors have clear implications for the planning of infrastructure investments.

Summary of impact of infrastructure development on economic growth and quality of life

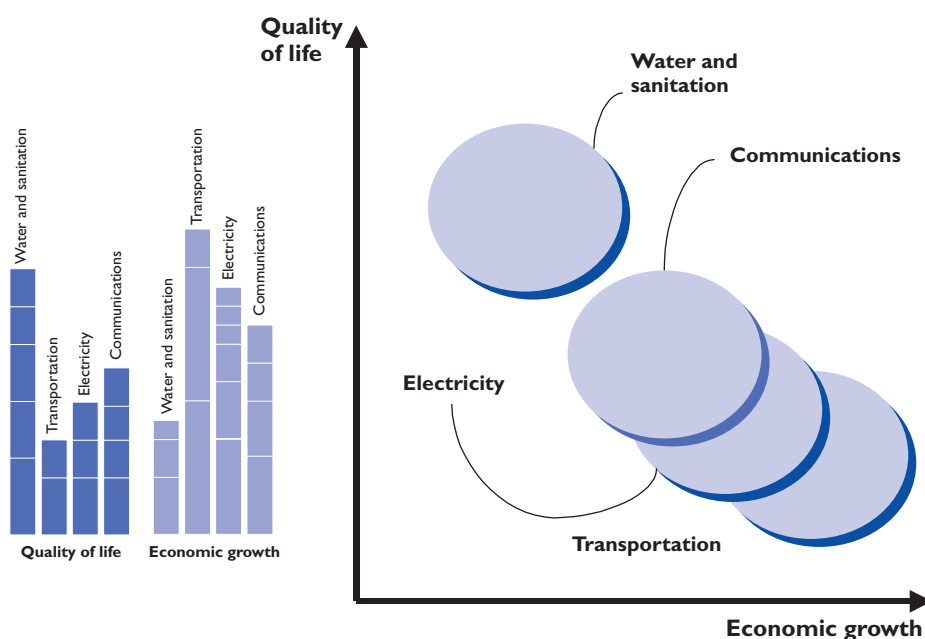
An overall summary of the impact of infrastructure development on poverty alleviation, through its implications for economic growth and on quality of life, is set out in Figure 14.7 below.

Implications for the reform program

The ultimate objective of infrastructure sector reform is to accelerate Uganda's economic development and reduce poverty. These objectives should therefore play a significant part in shaping Uganda's sector reform program. We summarize some of the key implications below (a more detailed discussion is set out in the Annex).

Willingness/ability to pay. A fundamental problem for the provision of rural infrastructure in Uganda is that potential users are often unwilling or unable to pay economic user charges, both because of poverty and because of the wide availability of cheap (albeit often inferior) alternatives, notably in relation to water and power. As a consequence the public sector will continue to play an important role if basic services are to be made available to poorer and especially rural com-

Figure 14.7 Summary of contribution of infrastructure development to economic growth and quality of life



munities. PSP is not necessarily impossible in these circumstances. But continuing public or donor agency involvement will be necessary, for example, through the provision of *efficient* subsidies, and the role of the private sector may be limited to non-core activities or restricted to management/operation of infrastructure with ownership and funding responsibility retained in the public sector.

Appropriate provision. It is clear that infrastructure provision in Uganda has often not been appropriate to the needs of recipients, with a tendency toward over-specification. This has undermined the sustainability of infrastructure because the cost of operating and maintaining services exceeds what users can afford in charges. Overprovision in any one location also diverts limited available resources away from other opportunities, therefore reducing the overall returns obtained from public and donor investment. There are notable examples of overprovision in the water sector. Similarly expensive tarred roads have often been built on routes where actual and prospective traffic volumes do not justify such expense and where local resources are inadequate to provide for maintenance at the established standard.

Increased PSP and/or decentralization of planning and funding responsibility offer possible solutions to the problem of overprovision by strengthening incentives to develop facilities at affordable and sustainable levels.

The preferred option will depend upon the sector. In sectors with more limited direct poverty alleviation benefits, such as telecoms and electricity, pursuing the greatest possible degree of PSP (through sale of assets or long-term concessions) is likely to be the optimum section. In sub-sectors where welfare benefits dominate economic development benefits, such as rural water and sanitation, decentralized public provision may be a preferable option.

Liberalization. There has already been limited *de facto* liberalization of the electricity and urban water sectors: the unreliability and poor coverage of UEB's electricity supply have led a large number of businesses and wealthy households to run their own generators at considerable expense to themselves and to Uganda's import bill. While the lack of universal water supplies for the urban poor has led to the growth of illegal yard

taps, where enterprising individuals sell water from their own connections at a significant mark-up to the price they are charged by NWSC.

In general such *de facto* deregulation should be legitimized and encouraged. Legalization of service provision by means of yard taps would result in greater competition and thus lower charges to those urban users who currently lack access to safe water, which would mainly be the poorer households. Direct water supply for the urban poor is clearly the optimal long-term solution, but liberalization provides a significant, immediate benefit.

It should be added that liberalization will generally need to be accompanied by appropriate regulation to ensure that minimum standards are upheld; and in some instances there will be benefit from retaining a single provider, for example, where there are major economies of scale.

Limitations of private participation and the role of the public sector. PSP on its own will not bring the potential benefits of improved infrastructure to all Ugandans, and additional measures will be required to pursue key social objectives: purely demand-led infrastructure services will be provided on the basis of ability to pay, reaching only those customers who can afford commercial rates.

Leaving infrastructure provision to the market alone is likely to result in unacceptably uneven provision of infrastructure, will widen and entrench the large differences in infrastructure provision and economic activity that already exist between different regions and communities and, because rural communities are likely to be the least well served, will accelerate rural-urban migration.

There are a number of possible solutions to the problem of combining PSP (and the associated access to additional resources and efficiency improvement) with better infrastructure provision for the poor:

- include network expansion obligations when privatizing/concessioning utilities or licensing new entrants while ensuring that the overall mix remains commercially attractive;
- explicit subsidies for additional connections, either individually or in bulk, with the level of subsidy either set by the Government or, where feasible, by competitive auction; and

- adopt PSP models that involve continued asset ownership and funding of new asset development by the public sector, combined with outsourcing of support functions and potentially of management responsibility (through management contracting).

Where state subsidies are not feasible, the use of specific levies, as with the 5 percent electricity levy to finance rural electrification, represents an alternative. All forms of subsidy carry cost, however, reducing the benefits achieved from stimulating economic development and improving Uganda's international competitiveness.

Realism and a balanced approach will be essential. In the longer term pursuing economic growth facilitated by demand-led infrastructure provision may provide benefits for poorer communities equal to or greater than those provided by an approach focused directly on poverty alleviation.

Prioritization. Pursuing the Government's objectives of economic development and poverty alleviation raises the following issues for prioritization of the infrastructure reform program:

- appropriate balance—what is the appropriate balance between expending resources on projects that impact directly on poverty alleviation as opposed to focusing them on programs directed toward economic growth?
- availability of resources—resources are severely limited, a fact that will clearly constrain its choices. Furthermore Government choices will be limited by what donors are willing to finance.
- the interdependence of the sectors—some infrastructure sectors are an important prerequisite for other infrastructure sectors. Providing the best conditions to stimulate economic activity in any area will depend on the presence there of at least adequate power, roads and telecommunications infrastructure. There is a clear need for coordinated, “balanced” infrastructure development.
- the need for regional cooperation—the formulation and implementation of infrastructure programs should be coordinated with neighboring countries, notably in the transport and electricity sectors.
- impact on other policy initiatives—reform of the infrastructure sectors will contribute to the effectiveness of policy initiatives in other areas and vice

versa. For example, the development of Uganda's capital markets would be boosted by well-planned, phased utility privatization, while deeper more efficient capital markets could in turn provide an important source of finance for private infrastructure providers (see discussion of this issue below).

In terms of *infrastructure reform* the imperative is to achieve the greatest possible stimulus to economic growth by encouraging private participation wherever demand-led infrastructure provision is feasible:

- to speed up the rate of infrastructure provision;
- to tap new resources and encourage efficiency, thereby releasing additional resources for use in developing facilities where social provision by the public sector and donor agencies remains the only feasible route; and
- to encourage appropriate provision.

Again in terms of *infrastructure reform* there is a strong general presumption in favor of liberalization (including legitimizing existing *de facto* liberalization) wherever this has the potential to extend basic services and/or provide greater choice to poorer communities without seriously undermining the opportunity to benefit from economies of scale and scope in infrastructure service provision.

Capital market development

Introduction

Efficient capital markets in Uganda, with adequate capacity, potentially have an important part to play in the country's development by providing:

- a means of mobilizing capital available from investors and allocating it to the companies that are best able to utilize it productively to add economic value;
- access to locally available sources of finance, normally on better terms than are available from overseas sources—avoiding the penalties associated with exchange rate and country risk;
- mechanisms for pooling small individual savings and to provide wide participation in the benefits of growth and development, for example, through the operation of pension funds and unit trusts;
- related to this last point, a means by which investors can spread the risks involved in investing in the Ugandan corporate sector;

- an independent measure of management/company performance and, as a consequence, a framework of incentives to good management performance; and
- a medium through which *competition for corporate control* can take place through merger and acquisitions activity, again creating incentives for efficient and innovative management.

A strong and vigorous capital market in Uganda would also contribute to broadening the base of asset ownership. Reducing the concentration of ownership would, in turn, be expected to erode the influence of a small number of wealthy individuals in the operation of Uganda's economy and limit opportunities for the improper exercise of personal influence. Ultimately the diversification/democratization of ownership can be expected to strengthen common interest in the performance of Ugandan companies and of the economy in general.

Uganda's capital markets are, however, relatively poorly developed. The Ugandan Securities Exchange (USE) became operational only in January 1998 and, at the time of drafting this report, only two corporate bonds and one corporate share were listed on the Exchange. The Exchange also acts as a secondary market for trading in Treasury Bills.⁴ Principal investors on the Exchange include the NSSF, Ugandan insurance companies and the private pension funds. Trading volumes on the Exchange are at present modest, reflecting the small range of securities that are currently listed.

Regulation of capital markets is the responsibility of the Capital Markets Authority.⁵ The CMA is the licensing body for the industry and issues, monitors and enforces regulations concerning conduct of business, advertising, protection of investor interests, etc. and enforces securities laws. While the main regulatory areas

are covered by existing regulations, the CMA is continuing to develop regulations concerning, for example, continuous disclosure requirements and registry.

A key factor underlying the underdeveloped state of Uganda's capital markets is the low level of savings potentially available for reinvestment. As illustrated in Table 14.1 below, the savings ratio in Uganda has been among the lowest in Africa (although it appears to have risen significantly in recent years) and is very low by the standards of developing economies more generally.

Official statistics are likely to provide a poor indication of the real propensity to save. Underdevelopment of the banking sector and the limited range of options available to personal savers means that saving is often channeled directly into private assets such as land and housing and will be difficult to distinguish from consumption.

Since a proportion of domestic savings will be diverted into investment in such private assets, funding the Government deficit and into overseas investment, the amount of domestically generated funds available for investment in the corporate sector is less than total domestic savings.

The implications of underdeveloped capital markets for infrastructure sector reform

The underdevelopment of Uganda's capital markets has a number of important implications for infrastructure sector reform (see Figure 14.8). These include:

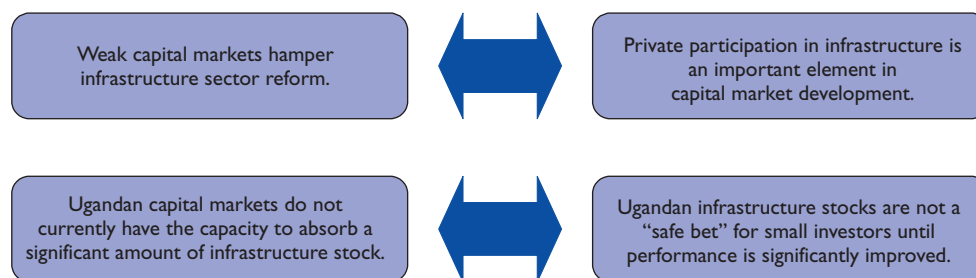
- constricting the range of PSP options that can be implemented. PSP options involving sale of shares to the public will be difficult to implement where significant amounts are involved;
- the limited opportunity to raise long-term finance through the corporate bond market (which is well

Table 14.1 Comparative savings ratio

	GDP (millions of dollars)		Per capita GDP (dollars)		Annual savings as % of GDP		Annual per capita saving (dollars)	
	1995	1998	1995	1998	1995	1998	1995	1998
Uganda	5,646	6,469	240	320	3.0	5.7	7	18
Kenya	9,095	11,600	280	330	13.0	6.7	36	22
Zambia	4,100	3,400	400	330	3.0	5.3	28	17
Ethiopia	5,287	6,600	100	100	7.0	6.3	7	6
Sub-Saharan Africa				480		16.4		
Developing countries				520		26.4		

Note: Annual Ugandan saving in 1995 was measured at \$345 million, whereas in 1998 it had risen \$538 million.

Source: CMA (from World Bank), *World Development Report 1999*.

Figure 14.8 Implications of weak capital markets

suited to the financing needs of utility businesses, where the long tenor of bond issues is better matched to typical asset lives than is the shorter tenor of commercial loan capital);

- shortage of loan funds for private sector participants in rural infrastructure projects;
- restricting access to domestic sources of funds for on-going investment, increasing the need to rely on retained earnings or more expensive overseas sources of finance. As a consequence worthwhile capital projects, which could contribute to the country's economic growth and development, will fail to proceed.

Addressing the capital markets issue

There is no “quick fix” solution available for the capital market development issue in Uganda. While weak capital markets hamper infrastructure sector reform, further private participation in infrastructure itself represents an important element in stimulating capital market development.

Realism is essential in developing PSP solutions in the Ugandan situation. Ugandan capital markets do not currently have the capacity to absorb a significant amount of infrastructure stock or to provide very substantial domestic finance through either commercial loans or bond issues. At the same time caution is advisable in encouraging very extensive personal sector investment in Ugandan infrastructure stocks. Based on historic financial performance, new stock issues in Ugandan utilities cannot be regarded as a sufficiently “safe bet” for small investors with limited savings available for investment. The process of building public confidence in Ugandan stocks could be significantly set back if personal investors in utility stocks were to incur significant early financial losses. In the medium to longer term, however, the nature of infrastructure activities

should offer relatively safe returns to smaller investors. The public issue of utility stocks would not only significantly add to the volume of stocks available for trading on the USE but would also provide a relatively safe haven for personal savers with a limited appetite for risk.

The above factors point to the need for a progressive and symbiotic approach to the capital market development issue. Options include:

- adoption of interim management contracts/concessions where the current performance of companies is weak, delaying the public issue of stock until a satisfactory track record of profitable performance has been established;
- combining initial placement of stock with strategic investors with a commitment by these investors to release a proportion of their holdings at predetermined trigger points;⁶
- phasing the public offering of shares retained by the Government;⁷
- use of employee/customer share ownership schemes. The issue of a proportion of stock to employees and/or customers has the added benefit of extending stakeholder interest in the performance of infrastructure companies;
- use of aid agency guarantees, linked to performance provisions, to back corporate bond issues by infrastructure companies; and
- encouraging the establishment of pooling funds to allow investors to spread the risks involved in investment.⁸

Another, more wide-ranging measure that would stimulate the development of competition and choice would be the liberalization and independent regulation of the pensions industry, combined with measures to put the state-operated fund (NSSF) and private funds on the same tax footing.

More generally there is a vital need to devote effort to educating the public regarding the nature of capital markets, how they operate and the opportunities that they provide.

Need for appropriate regulatory institutions and mechanisms

Establishing appropriate regulatory institutional arrangements and mechanisms is a key component of infrastructure sector reform in terms of:

- attracting private sector participants;
- achieving the right incentive framework; and
- ensuring that customers share in the economic benefits of structural reform.

Figure 14.9 below summarizes the regulatory requirements of private sector participants while Figure 14.10 sets out the requirements of the Government.

In the light of these requirements there are three key regulatory issues for infrastructure reform in Uganda:

- should structural reform proceed on the basis of a single multisector regulator or separate regulators for each industry (or group of related industries)?
- what balance should be adopted between a rules-based regulatory approach as opposed to allowing regulatory discretion?

- how should the policy and planning priorities of the Government be allowed for within regulatory arrangements?

Single vs. multisector regulator

There has been extensive debate in Uganda regarding the advantages of sector-specific regulation as opposed to those of appointing a multisector regulatory body. This is characterized by the conflict between the draft Public Utilities Authority Bill, which specifies a multisector regulatory body, and the Electricity Act and the Uganda Communications Act, which specify a sector-specific regulator. The arguments in favor of each approach are summarized in Box 14.1.

On balance, in Uganda's circumstances, the arguments appear strongly to favor the multisector regulator option. It is doubtful that there is adequate regulatory capacity within Uganda to support a range of effective regulatory bodies. Even if resources can be found, this will inevitably be at the expense of drawing talented individuals away from other important areas of administration and will only be achievable at a significant financial cost. This cost will be borne, via the regulated industries, by service users. Moreover, where regulatory bodies are financed by the industries they regulate, a relatively high burden of cost increases the risk of regulator capture (the regulator is overdependent on the regulated industry for

Figure 14.9 Regulatory requirements of private sector participants

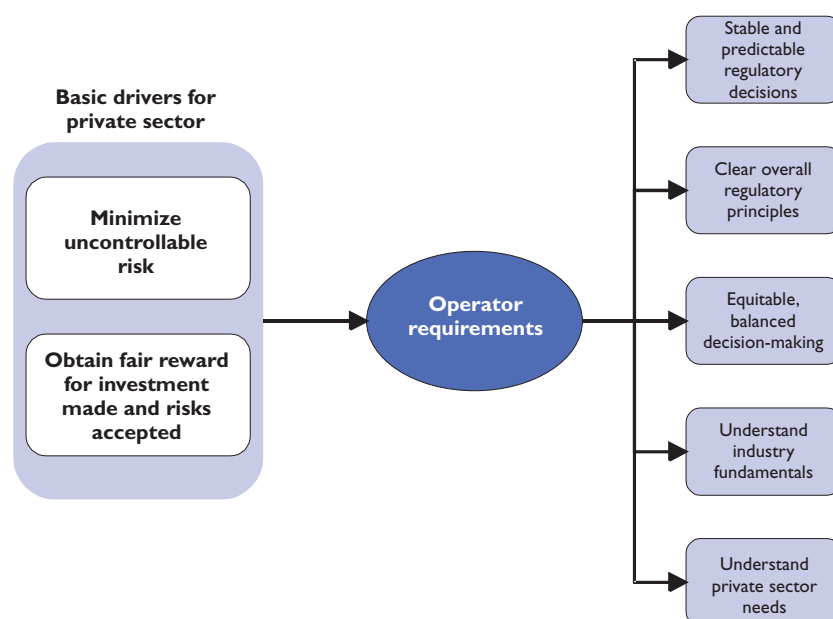
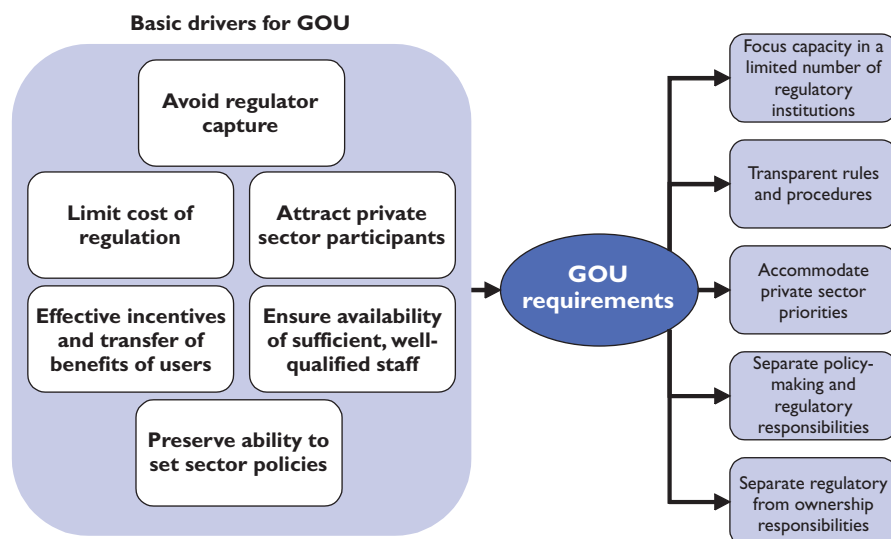


Figure 14.10 Regulatory requirements of the Government

its own survival). The chances of successful infrastructure reform will be significantly increased if a high priority is given to establishing a single multisector regulator as soon as is practicably possible.

Rules-based regulation vs. regulatory discretion

In general greater reliance on published “rules” increases regulatory transparency, consistency and predictability and hence:

- reduces the risks faced by private investors;
- can help prevent exercise of improper influence and corruption; and

Box 14.1 Multisector vs. sector-specific regulators

Multisector regulator

- likely to be more cost efficient (imposes lower cost burden on industry/customers)
- avoids overstraining regulatory capacity (in terms of staff with necessary specialist skills)
- encourages build-up of expertise through “cross-fertilization” between sectors
- minimizes the risk of “regulator capture” (by industry or by the Government)
- encourages stability and predictability in regulatory decision-making

Sector-specific regulator

- allows sector specialist industry skills to be concentrated in regulatory bodies
- providing incentives for good performance

- will improve public understanding of the regulatory approach and specific decisions.

Excessively rigid rules will, however, make regulation inflexible and hamper adaptation to new and unforeseeable circumstances.

While a wholly contractual, rules-based approach may provide the best option in the simplest privatization options—management contracts, support service outsourcing and BOO(T) schemes—there is likely to be a greater need for flexibility in more complex/extended PSP approaches, especially where the duration of the involvement is to be long term or permanent. The latter would include most cases where partial or complete privatization through disposal of shares is involved or where long-term concessions are to be put in place. In order to encourage PSP, however, it is clear that even in such a case, the preferred approach should involve initial contracts or licenses that clearly set out:

- the principles that regulators will employ in making decisions;
- regulatory processes and procedures;
- the limits of regulatory discretion;
- arrangements by which regulator decisions can be appealed by regulated businesses; and
- the basis on which contracts/licenses can be amended if circumstances demand.⁹

In either case achieving a high degree of regulatory transparency—requiring the regular publication of

general reports by regulators and public consultation on, and reporting of, all regulatory decisions—should be a priority in designing and implementing infrastructure reform in Uganda.

Allowing for the policy and planning priorities of the Government

The Government has been used to a structural environment in which it has been able to set “supply-led” plans for the development of the country’s infrastructure—although it has been markedly less successful in implementing these plans. Sector restructuring will inevitably lead to a reduction in the Government’s ability to direct infrastructure development in an environment where it has a more arm’s length relationship with infrastructure providers and provision will be increasingly demand led. While the Government has firmly committed the country to infrastructure sector reform, there is inevitably some reluctance in certain quarters to the consequent loss of direct control and there will be a strong temptation to re-exert this control through manipulation of the regulatory system. As we note above, however, the confidence of private sector participants in the regulatory system and their willingness to invest in Uganda will be undermined if government interference occurs.

The Government needs to find means of making its own policies and priorities effective in ways that preserve the stability of the regulatory environment and that are sympathetic to a demand-led approach. Experience of restructuring in other countries has demonstrated the need to adopt a consultative approach—including operators, regulators and the public—so that changes in policies and priorities are intro-

duced in a manner that is consistent with the regulatory contract and protects the legitimate interests of private sector partners.

Environment

Infrastructure development brings both environmental benefits and disbenefits. Overall Uganda does not face major environmental concerns at present, and accepting some temporary environmental disbenefit is likely to be an acceptable price to pay for economic development and poverty alleviation. A key principle here should, however, be the avoidance of significant irreversible environmental damage.

Capacity of the Government to implement infrastructure sector reform effectively

Designing and, perhaps more importantly, implementing appropriate reform requires great care and effort, and restructuring errors will be extremely difficult and potentially costly to put right. While there are many well-qualified and highly competent officers in key Government ministries, the overall availability of relevant expertise is constrained and the Government has limited experience in dealing with the difficult issues involved in successful infrastructure sector reform. The Government should therefore avoid being over-ambitious in setting reform plans and timetables. Successful reform will require:

- setting clear priorities;
- a phased “step-by-step” approach; and
- the adoption of realistic timetables firmly followed.

Notes

1. *Uganda Poverty Status Report*, 1999, p. 4, based on monthly expenditures.

2. *World Development Indicators*, World Bank, 1999.

3. The latest published Household Survey (1995) revealed that average household expenditure was Ush 167,900 in urban areas and only Ush 71,700 in rural areas.

4. The Government does not currently issue long-dated, fixed income securities.

5. The CMA is not responsible for regulation of the insurance sector. There is at pres-

ent no independent regulator for the pensions industry, where regulatory responsibility falls to the trustees of individual funds.

6. Strategic investors will often wish to release a proportion of their initial investment in any case. This enables them to “crystallize” some of the added value generated from their success in improving the operating and financial performance of companies.

7. A benefit for the Government is that this approach should enable the Exchequer to obtain better value from the disposal of

shares in companies that combine poor current performance with strong underlying potential.

8. Note that at the time of drafting this report a draft bill was about to go to the Cabinet, which would enable the operation of pooling funds, such as Unit Trusts, in Uganda.

9. We note that consultations with potential private investors have indicated a strong preference for the appointment of a clearly independent arbitration body, such as the International Court of Arbitration.

15

Other issues impacting on infrastructure development and management

Issues impacting directly on infrastructure reform

A wide range of other issues with a direct impact on infrastructure reform in Uganda was identified in the course of the CFR exercise. These are listed below. Further discussion of these issues and possible means of resolving them are set out in the Annex.

- Poor public awareness/understanding of industry and restructuring fundamentals
- Poor coordination between Government Ministries
- Lack of a clear policy on incentives
- Lack of a clear policy on subsidies
- Centralized vs. decentralized provision
- Difficulty in adapting to changing roles
- Poor past track record in PSP
- Run-down state of existing parastatal organizations

Issues impacting indirectly on infrastructure reform and management

Other wider issues having an indirect impact on infrastructure sector reform in Uganda are set out below. Once again further discussion of these issues and possible means of resolving them are set out in the Annex.

- Corruption and maladministration/political interference
- Land management
- Lack of management resources
- Need for regional coordination
- Project selection, prioritization and planning
- Use of debt swaps
- Government and interutility debt
- Impact of dependence on donor funding
- Health
- Lack of coordination between utilities and local planning authorities
- Poor delimitation of the roles of Parliament and the Executive in the Government

PART D. RECOMMENDATIONS

The summary of recommendations presented in this section of the CFR represents a distillation of key recommendations drawn from the previous sections of the

report. No ranking of importance is implied by the order in which these recommendations are presented.

Main recommendations	Examples and subsidiary recommendations
Realism is essential in the development of PSP solutions that can work effectively in the Ugandan context	<ul style="list-style-type: none"> • Develop PSP approaches that are realistic in the context of weak capital market development in Uganda and that also contribute to the future development of Ugandan capital markets • Use of interim management contracts/concessions where the current performance of companies is weak, delaying the public issue of stock until a satisfactory track record of profitable performance has been established • A short-term private sector management contract for URC (with a clear incentive regime) coupled with government support for major financial and operational restructuring would be preferable to a short-term concession with full commercial risk transfer. Longer term, an integrated concession model would seem to be the most suitable restructuring option in the Ugandan situation • Phase the public offering of shares where applicable • Encourage aid agency guarantees, linked to performance provisions, to back corporate bond issues by infrastructure companies • Encourage the establishment of pooling funds to allow investors to spread the risks involved in investment
Exploit all beneficial options for private sector involvement even where PSP in core operations is not feasible at present	<ul style="list-style-type: none"> • Where large-scale private (or foreign) sector participation is not feasible or is considered undesirable, opportunities to outsource specific “non-core” functions should be fully exploited. (Examples include revenue collection, logistics, vehicle and non-specialized equipment maintenance, etc.) • There is a potential role for PSP schemes (such as BOTs and concessions) as a method of raising private finance and introducing PSP into rural water supply operations • A section on PSP should be included in the National Water Policy document • Mechanisms to enable the funding of “demand-led maintenance” by major commercial users should be developed as a means of funding regular maintenance activities for parts of the roads network supporting more intense economic activity

Main recommendations	Examples and subsidiary recommendations
Close attention must be given to developing effective incentive frameworks while taking steps to mitigate uncontrollable risks for private sector participants	<ul style="list-style-type: none"> • The proposed concessions in the electricity sector need to be structured so that there are strong incentives to increase billable consumption and to build new load by reinforcement/extension of the network and connection of consumers who do not presently have grid-supplied electricity • Following the KRIP experience, future schemes to involve the private sector in water and sanitation activities should be based on transparent and competitive procurement processes. Greater attention needs to be given to contract design in developing future PSP schemes to ensure that they provide appropriate incentives to private operators • Both volume and foreign exchange risk associated with the Bujagali hydroelectric scheme can be reduced by entering into firm, bankable export contracts with Kenya (priced in dollars) before financial close on the scheme • Note also regulation recommendations
Introduce efficient subsidy/donor funding mechanisms to support poverty alleviation in the context of reform	<ul style="list-style-type: none"> • Focus on ensuring that subsidy mechanisms, where necessary to promote poverty alleviation, are well focused and minimize the distortion of commercial incentives • Where feasible, use bidding for lowest temporary subsidies as an element in the PSP procurement process • Focus subsidies on initial capital investment, not continuing operations • Utilize targeted subsidies to reinforce market mechanisms and incentives
Ensure that capacity is available to execute a reform program effectively and provide for effective coordination of the reform program to improve implementation and maximize economic development/poverty alleviation impacts	<ul style="list-style-type: none"> • Implementation of sector reforms to be led by line ministries but supported if possible by temporary co-option of specialists from URU or the private sector to increase reform capacity (“task force” approach)
Strong bias toward sector liberalization except where this would result in significant loss of economies of scale or scope	<ul style="list-style-type: none"> • Progressive liberalization of the postal sector should be considered, initially by permitting local operators to provide service in areas that are currently unserved by UPL. Monitor progress with view to further liberalization if overall service does not meet reasonable performance targets • Exclusive rights provided to concessionaires/licensees should be revocable in the event of failure to meet agreed, realistic and clearly stated performance measures relating to service coverage

Main recommendations	Examples and subsidiary recommendations
Ensure appropriate provision	<ul style="list-style-type: none"> • Avoid specification of excessively stringent or rigid standards, especially in relation to rural schemes and less affluent urban areas (to encourage initial development and sustainability of provision) • Where feasible, notably in urban areas, increased PSP will assist in achieving this. For rural infrastructure provision (notably water, electricity and roads) emphasis should be on decentralization and community participation
Capacity-building initiatives to be pursued at both the central and local levels	<ul style="list-style-type: none"> • Capacity building for regulatory bodies, e.g., the UCC • Institutional support for the ERA should focus on development of skills and operational capability, especially in the areas of monitoring and inspection that will be the most important in the short to medium term
Ensure separation of policy, regulatory and operational responsibilities	<ul style="list-style-type: none"> • The separation of executive functions from the MWHC should be extended to include maintenance as well as construction • CAA should seek to introduce greater accounting and management separation between its main functions (regulation, air traffic services provision, operation of EIA, operation of up-country airports). In time CAA should withdraw from direct operation of EIA and, as it is doing, from up-country airport operation. Air traffic services should not, however, be made the responsibility of a separate entity • Government to be rigorous in maintaining “arm’s length” relationship with infrastructure service providers, introducing new policy measures only within the terms of an established regulatory contract and after wide consultation • Develop strong independent regulatory institution(s) operating within clear framework of regulatory principles
Ensure <i>appropriate</i> central support for rural infrastructure schemes	<ul style="list-style-type: none"> • Action by the Government to support the maintenance of local supply facilities to support rural water and sanitation schemes • The Roads Agency’s initial role in respect of district roads should be an advisory one. Extension of its remit to procurement on behalf of the Districts should be considered as an incremental development once the new institution has proved itself. Such role extension should probably be by invitation of the Districts • The Roads Agency or the Government itself should adopt an enabling role to reduce the constraints imposed by limitations in local capacity, for example, by financing a central pool of plant and equipment that would be available for hire by private contractors on a commercial basis

Main recommendations	Examples and subsidiary recommendations
Establish an overall regulatory environment that is attractive to private sector participants, while protecting the interests of consumers	<ul style="list-style-type: none"> • Establish a program to concentrate regulatory responsibility in one or, at most, two independent regulatory bodies • Concentrate on “rules-driven” models of regulation based on transparent and detailed contracts or licenses—while providing adequate flexibility where there are complex or long-term requirements (as in long-term concessions) • The Government must move quickly to appoint the members of the ERA and to establish the authority as an operating entity so that it can play its role in the establishment of the new regulatory regime for PSP
Improve public awareness of sector reform objectives and mechanisms	<ul style="list-style-type: none"> • Institute a sustained program to build awareness and understanding, particularly among leading opinion formers such as Parliamentarians
Pursue greater regional integration, particularly in railways and electricity	<ul style="list-style-type: none"> • It is strongly recommended that a long-term regional solution be sought to the problem of ensuring access to the strategic transport corridors to the Mombasa and Dar es Salaam ports and improving operational efficiency. Achieving this through separate national concessions, supported by reciprocal open access provisions, may be strategically preferable to integration under a single private sector operator