

Bringing electricity to the rural areas: Designing Laws and Policies that work

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Introduction

- New policy framework for the electricity sector set out by Government in 1999 – The Power Restructuring and Privatization strategy (PSRPS).
- PSRPS emphasizes private sector participation as a driver for efficiency in the sector.
- To implement the policy change, Parliament of Uganda enacted the Electricity Act in 1999.

Introduction

- The Electricity Act, 1999 establishes the legal framework for achieving Government's objectives for rural electrification, establishes Rural Electrification Fund and a National Rural Electrification Database.
- To comply with the legal requirements of the Act, Ministry of Energy and Mineral Development developed the Rural Electrification Strategy and Plan for the period 2001-2010.
- The plan was completed in 2001.

Electricity Act, 1999

- Section 62 of the Act sets out the obligations of Government :
 - To achieve equitable distribution access to electricity.
 - Maximize the economic, social and environmental benefits of rural electrification subsidies.
 - Promote expansion of the grid and development of off-grid electrification and;
 - Stimulate innovations within suppliers.

Electricity Act, 1999

- Section 63 of Act provides as follows:
 - Minister responsible for energy shall prepare a rural electrification strategy and plan for Uganda for cabinet approval.
 - Minister shall once in each year submit to Parliament a report on progress and achievement of the plan.

Rural Electrification Strategy

- The primary objective of the Rural Electrification strategy is to reduce inequalities in access to electricity
- By 2001, electricity was available to about only 1% of rural households. The strategy aims at achieving a rural electrification rate of 10% by 2010.
- The strategy gives the policy direction as far as rural electrification is concerned.

Rural Electrification Strategy

- Under the Government's new policy approach, development is demand driven.
- Government determines policy, promotes investments, sets targets and provides guidance to investors.
- For areas which are not yet attractive for the private sector, government will promote public private partnerships to electrify them in a realistic time.

Rural Electrification Fund

- The rural electrification fund is established in accordance with section 64 of the Electricity Act, 1999.
- It is the instrument for achieving equitable regional distribution access to electricity.
- The electrification of rural areas faces the challenge of huge up front investment in grid extension projects whereas initial demand is very low

Rural Electrification Fund

- The Rural electrification fund is already providing smart subsidies given towards the development costs of rural electrification projects. The subsidy buys down the resultant tariff.

Rural Electrification Fund

- The fund consists of the following:
 - Money appropriated by Parliament;
 - Any surplus monies made from the operation of the Electricity Regulatory Authority.
 - A levy of 5% on transmission bulk purchases of electricity from generation stations; and
 - Donations, gifts, grants and loans acceptable to the Minister of Energy and the Minister responsible for Finance.

Rural Electrification Board

- Established on 20th Nov 2001 under Statutory Instrument No. 75 of 2001 by the Minister of Energy and Mineral Development.
- The Board was inaugurated in May 2002.

Rural Electrification Board

- Members of the REB are:
 1. The Permanent Secretary Ministry of Energy & Mineral Development - Chairman
 2. Permanent Secretary / Secretary to the Treasury, Ministry of Finance, Planning and Economic Development.
 3. Permanent Secretary Ministry of Local Government.

Rural Electrification Board

Members of Board cont'd:

- Managing Director, M&E Associates—
Private Sector Representative
- Northern Uganda Area Programme
Manager, ACCORD – Representative of
NGOs
- Country Manager, Diamond Trust Bank -
Representative of the Financial Sector.

Rural Electrification Board

- The Rural Electrification Board (REB) has been established :
 - To oversee the management of the Fund
 - To define the policies for subsidy levels, project eligibility criteria
 - Approve applications.

Rural Electrification Agency

- Rural Electrification Agency, also established under Statutory Instrument No.75 of 2002, became fully functional during the financial year 2003/2004
- Rural Electrification Agency was established to assist the Rural Electrification Board in the implementation of the rural electrification programmes and this is the secretariat of the Rural Electrification Board.

Rural Electrification Agency

- Roles of the Agency include:
 - Build and maintain a national database on Rural Electrification (RE) projects.
 - Prepare for the REB an annual status report on the RE programme.
 - Recommending to the REB the most efficient use of the fund.
 - Generate and provide information relating to investment opportunities, costs and benefits of RE.

Rural Electrification Agency

- Roles of the Agency continued:
 - Undertake basic planning defined by the Board as eligible for support under the fund.
 - Process applications for financial support from the fund.
 - Carry out other functions determined by the Board in consultation with the Minister responsible for Energy.

Regulation of Rural Electrification Projects

- Regulation will be the responsibility of the Electricity Regulatory Authority (ERA). ERA still building capacity to take on the role.
- Regulation of small grids will be light handed to encourage private sector participation.
- Regulatory responsibilities for small electricity systems may be delegated to local authorities, in accordance with the Electricity Act.

Achievements of Rural Electrification

- An increase in electricity access in rural areas from approximately 1% at the beginning of 2001 to about 4% to date.

Achievements of Rural Electrification

- The programme has been implemented under the following components:
 1. Expansion of the main grid.
 2. Isolated photovoltaic systems (Solar Energy Development).
 3. The Energy for Rural Transformation programme (ERT).

The expansion of the main grid

- The power distribution network has expanded by 5.1% from 15,831 km in 2001 to 16,643 km in 2003.
- The expansion of the main grid is being implemented under:
 - 1) Government funded projects
 - 2) Donor funded projects.

Government Funded Projects

- By the end of June 2004, 165 out of 261 schemes had been completed.
- The funding of Rural electrification projects by the Government was obtained from the tariff mechanism during the financial year 2003/2004. By June 2004, approximately US\$ 720,000 had been spent on Government funded projects.

Donor Funded Projects

- Pilot Project - The first donor-funded scheme was initiated as a pilot project. The scope of the project was distribution of electricity between Uganda's South Western border post at Katuna and Ryakarimira, the subcounty headquarters of Rubaya.
- The project was completed at a cost of US\$1.57 million provided by the Swedish Agency for International Development (SIDA).

Donor Funded Projects

- District Headquarters Schemes are to be executed under the second phase of Swedish Agency for International Development (SIDA) funded projects, which will cost US\$10 million.
- Under the Energy for Rural Transformation (ERT) Programme, other schemes to supply power to Uganda's district headquarters are in the pipeline.

Isolated Solar Photovoltaic Systems

- The first Solar PV system installations were made under the UNDP funded project, the Uganda Photovoltaic Pilot Project for Rural Electrification (UPPPRE), which ended in March, 2003.
- Prior to the start of the solar energy development component under the Energy for Rural Transformation Programme, the total number of systems sold from 1998 to June 2004 was 2500.

Isolated Solar Photovoltaic Systems

- The current component for Solar Energy Development is under the World Bank funded Energy for Rural Transformation (ERT) Programme and is handled by the Private Sector Foundation of Uganda.
- Under this project, about 1000 systems have been installed and audited for compliance with international standards. These systems are spread over 50 districts in Uganda.

The Energy for Rural Transformation Programme

- The main purpose of the Energy for Rural Transformation (ERT) programme is to develop Uganda's energy and information/communication technologies (ICT) sectors so that they may make a significant contribution to bringing about rural transformation.
- The programme has also a global purpose, which is to contribute to global environment protection by reducing greenhouse gas emissions.

The Energy for Rural Transformation Programme

- The programme was developed by Government with the assistance of the World Bank. Other donors like NORAD and SIDA are also participating in the programme.
- The ERT is a 10-year programme intended to implement the Government's overall goal of at least 10% electricity access in rural areas.

Implementation Arrangements

- The ERT is composed of a number of components and projects implemented by various actors/agencies namely:
 - The private sector
 - Ministry of Energy and Mineral Development
 - Electricity Regulatory Authority
 - Rural Electrification Board
 - Rural Electrification Agency

Implementation Arrangements

- Components and projects implemented by various actors/agencies continued:
 - Line Ministries
 - Uganda Communications Commission
 - Private Sector Foundation

Private Sector Projects- Public Private Partnerships

- Currently, the main highlight of the ERT Programme implementation are four “fast track” private sector sponsored projects. They were initiated as flag bearers for the various approaches in rural electrification.

Private Sector Projects- Public Private Partnerships

- The four fast track projects include:
 - West Nile Rural Electrification Project
 - Rukungiri/Bushenyi/Kanungu Project
 - Kakira Co-generation Project
 - Kisiizi Mini-grid Project.
- These projects have project sponsors. The policy of the Rural Electrification Agency is that project sponsors recover their investment

West Nile Rural Electrification Project

- This is a large, regional mini-grid project for electrification of Arua and Nebbi districts in North Western Uganda.
- A brief project description is as follows:
 - Mini hydropower generation of 3.5 MW and distribution concession.
 - Project sponsor is West Nile Rural Electrification Company (WENRECO).

West Nile Rural Electrification Project

- Project description continued:
 - Total project cost is US\$14 million. The subsidy is US\$7.5 million.
 - The project was implemented in two phases. The first phase commissioned in February 2005 involved the use of a 1.5MW Heavy Fuel Oil (HFO) generator.
 - The second phase involves the construction of the 3.5 MW Nyagak Hydro Power station.

Kisiizi Mini-grid Project

- This is a small mini grid project for electrifying a community in, Rukungiri District in South Western Uganda.
- A summary description of the project is as follows:
 - The project was to increase current generation from 60KW to 250KW with a possibility of increasing output to 365KW.

Kisiizi Mini-grid Project

- Summary description continued:
 - The project sponsor is Kisiizi Hospital Power Limited.
 - The project will cost US\$690,000. A subsidy of US\$420,000 will be provided.
 - Construction started during the second quarter of 2005 and civil works are going on.

Rukungiri/Bushenyi/Kanungu Project

- The project is expected to generate electricity from the 5.5MW Ishasha hydropower site in Kanungu District and distribute power to the districts of Kanungu, Rukungiri and Bushenyi in Western Uganda.
- The Project Developer, Eco Power Ltd. of Sri Lanka has been conducting Site Investigations since July, 2005.

Kakira Co-generation Project

- The project was set up to demonstrate support to other renewable energy sources other than hydro.
- It generates 14MW from bagasse by Kakira Sugar Works.
- 7MW are to be sold to the grid while 7MW is for internal use at the factory.

Expenditure on ERT projects

- The programme is funded from a number of sources. So far, contributions have come from World Bank (IDA, IFC, GEF and PCF), bilateral donors (SIDA and NORAD) and a levy on bulk purchases by the Electricity Transmission Company Ltd.
- Total expenditure on the ERT programme to date excluding the ICT component is US\$2,666,268.23.

Challenges to Implementation of Rural Electrification

- Inability of the local financial institutions to provide term finance .
- Likelihood of inadequate financing of the Rural Electrification Fund (REF) to provide subsidies. Estimates show that over the lifetime of the project, US\$480 million may be required and US\$120 million over the next 5 years to provide subsidies.

Challenges to Implementation of Rural Electrification

- Power supply constraints as they exist now are a deterrent to investment in distribution concessions. Investors would want to be assured of constant and reliable power supply.
- Negotiations for small power investors to sell power to UETCL have been taking too long because UETCL is not willing to take the more expensive energy from these power plants than that supplied by Eskom at off peak hours.

Challenges to Implementation of Rural Electrification

- Funding from Government sources has been limited and has not matched the requirements of the planned Government schemes.
- The resources that could have been available for the schemes were utilized to subsidize existing grid consumers following the tariff increase of 2001.

Conclusion

- The Rural Electrification Programme is important to Uganda because it will stimulate balanced national development between the rural and urban areas.
- The Programme requires massive investment to achieve the target of 10% coverage in the rural areas by 2010.
- Another challenge to rural electrification is the high unit cost of energy coupled with low demand thus needing continuous tariff subsidies.

Conclusion

- At present, Uganda's development partners are providing significant funding towards rural electrification.
- Investment through public private partnerships between the Government and private developers will help deliver socially desirable but not financially viable schemes.
- A fundraising strategy is being developed to deal with funding problems.

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Thank You