The Republic of Uganda

Office of the Auditor General

VALUE FOR MONEY AUDIT REPORT

ON IMPLEMENTATION OF RURAL ELECTRIFICATION PROGRAMME BY THE RURAL ELECTRIFICATION AGENCY IN THE MINISTRY OF ENERGY AND MINERAL DEVELOPMENT

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LIST OF ABBREVIATIONS

ED	Executive Director
ERA	Electricity Regulatory Authority
ERT	Energy for Rural Transmission
GEF	Global Environment Facility
GIREPs	Government-Initiated Electrification projects
GIS	Geographical Information System
GoU	Government of Uganda
IEA	International Energy Agency
IDA	International Development Agency
IREMP	Indicative Rural Electrification Master plan
JICA	Japan International cooperation Agency
MEMD	Ministry of Energy and Mineral Development
MoFPED	Ministry of Finance Planning and Economic Development
MoLG	Ministry of Local Government
MV	Medium Voltage
NORAD	Norwegian Agency for Development
PEAP	Poverty Eradication Action Plan
MDGs	Millennium Development Goals
PPDA	Public Procurement and Disposal of Public Assets Authority
PSFU	Private Sector Foundation - Uganda
PV	Photovoltaic
RE	Rural Electrification
REA	Rural Electrification Agency
REB	Rural Electrification Board
REF	Rural Electrification Fund
REP	Rural Electrification Programme
RESP	Rural Electrification Strategy and Plan
SIDA	Swedish Development Agency
U Shs	Uganda shillings
UBA	Uganda Bankers Association

US$	US Dollars
WENRECO	West Nile Rural Electrification Company Ltd.

EXECUTIVE SUMMARY

BACKGROUND

An estimated 1.6 billion people in the developing world have no access to electricity [Saghir, 2005] with Sub Saharan Africa accounting for 37%. According to the International Energy Agency (IEA), Uganda's electricity access was 9% compared to Kenya (15%) and Tanzania (11.5%) in 2008. The access in the urban areas in Uganda was 39% as compared to 3% in the rural areas where 88% of the population lives.

Inaccessibility to electricity has slowed down socio-economic development and led to high dependence on wood fuel in Uganda.

The Government of Uganda (GoU), recognizing the importance of electricity in reducing poverty with the intent to improving the welfare of people and saving the environment, formulated the National Energy Policy for Uganda in September 2002. One of the Strategies highlighted in the Policy was the implementation of the Rural Electrification Strategy and Plan (RESP) 2001-2010 which had been approved by Cabinet in February 2001 as required by Section 63 of the Electricity Act 1999.

To implement RESP, the Minister for Energy formulated the Electricity Statutory Instrument No.75 in 2001 as mandated by Section 65 of the Electricity Act. The instrument established three mechanisms for the management of Uganda's Rural Electrification Programme (REP), namely: the Rural Electrification Fund (REF), the Rural Electrification Board (REB) and the Rural Electrification Agency (REA).

The Rural Electrification Agency (REA) was to spearhead the implementation of the rural electrification program aimed at equitable regional distribution of electricity and increasing rural electricity access from 1% in 1999 to 10% by the year 2012. In order to implement this program, the GoU and the development partners spent Shs 197 billion between financial year 2006/07 and 2009/10 on rural electrification program.

Despite the substantial investment in rural electrification by the Government and development partners, access to electricity continues to be low and the majority of the population continues to rely on wood fuel which in turn leads to environmental degradation.

It is against this background that an independent assessment of the performance of the Agency was undertaken to assess the extent to which the rural electrification programme has achieved its intended targets.

This report covers four years from the Financial Year (FY) 2006/07 to FY 2009/10.

FINDINGS

The following audit findings were noted:-

PLANNING

Strategic, Business and Annual Planning

It was noted through document review that the Rural Electrification Agency (REA) developed a strategic plan covering the period 2005/06-2011/12 setting out rural electrification objectives, targets and implementation framework. It was further noted that two (2) business plans were developed for the period July 2005-June 2008 and July 2008-June 2011.

Although REA prepared annual work plans and budgets, which were approved by the Board, the business plan for July 2008- June 2011 was not approved. We also noted that at the time of audit (January 2011), the plan was only remaining with 5 months to expire.

Indicative Rural Electrification Master Plan

The Indicative Rural Electrification Master Plan (IREMP) was produced in January 2009 as opposed to mid 2006 as earlier planned, which was a delay of 2½ years. It was also noted that although the data in the spreadsheets of the IREMP was updated, the MAP had not been updated. We further noted that the dissemination of IREMP to stakeholders through REA website and mailing facilities was not possible due to its voluminous nature. Failure to update the MAPs in the IREMP hinders management's effort to provide visual and geographical up-to-date information on rural electrification to the public (Government) and donors.

The dissemination of the IREMP is still inadequate, and this coupled with old Maps in the IREMP, may hamper the ability of stakeholders to make informed investment decisions.

FUNDING

In the period under review, it was noted that REA received only US$ 105.88 million (U Shs. 197 billion) instead of US$ 204 million, culminating in a funding gap of US$ 98.12 million (U Shs. 181 billion). It was however noted that REA did not mobilize enough funds to bridge the funding gap and as a result it was not able to meet its funding requirements.

REA may not able to fully implement rural electrification programs and this may affect the realization of the 10% target by 2012.

IMPLEMENTATION

Rural Household Accessibility to Electricity

An analysis of connections revealed that there were low connections compared to planned connections showing performance levels of 39%, 31% and 26% in FYs 2006/07, 2007/08 and 2008/09, respectively. The low level of rural electrification connection has impeded the ability of some rural households to engage in income generating activities.

Given the low connection rate, there is a possibility that REA may not realize the 10% target by 2012.

Electricity Generation

Interviews and document review revealed that no power was generated in the FY 2006/07 and FY 2007/08. However, at the time of audit (January 2011), REA had facilitated projects with operating capacity of 37.8 MW, pipelined 37 MW of generation capacity, in advanced stages, and 53 MW projects were still under study.

Failure to facilitate the generation and operation capacities of projects in time resulted in inadequate power available for the rural electrification program during the strategic period (2005-2008).

Public Education and Awareness

The public information and outreach unit was in the Ministry of Energy and Mineral Development (MEMD) developed sensitization materials, conducted public education and awareness campaigns and uploaded the investment guide on the REA website. However, the local people interviewed during the inspection of REA projects revealed that they were not aware of connection

requirements which management attributed to inadequate capacity in the unit. Inadequate awareness campaigns on rural electrification activities leaves an information gap which hinders the rural populace from embracing the program initiatives.

Inadequate awareness leaves an information gap which hinders rural connections.

REA's Institutional Sustainability

By the time of audit (January 2011), REA had not attained self accounting status and the Permanent Secretary (PS) of MEMD was still the designated accounting officer. This limits REA's ability to operate independently.

REA has not attained autonomy and this may affect its ability to make independent decisions regarding its operations to increase rural access to electricity.

MONITORING AND EVALUATION OF RURAL ELECTRIFICATION PROJECTS

It was noted that M&E reports were not produced. Management instead conducted inspection visits and produced inspection reports. The evaluation of the REA's performance was not done, but annual performance was always reported in annual performance reports.

The management of REA has not been able to evaluate its performance in rural electrification; to identify challenges, track progress and devise corrective measures and this may affect the attainment of the 10% rural connections by 2012.

RECOMMENDATIONS

Resulting from the aforementioned findings, we suggest the following recommendations:-

PLANNING

Strategic, Business and Annual Planning

Annual work plans should be prepared by REA on the basis of business plans, which are approved by the Board, to enable the alignment of the Board's policy/decisions with management operations.

Indicative Rural Electrification Master Plan

- The Consultancy work to upgrade the Agency's IT systems using Geographical Informatin System (GIS) should be expedited to allow regular updates of Maps in the IREMP.
- Management should improve its strategy on the dissemination of the IREMP to allow a wider coverage.

FUNDING

- REA should mobilize funds as stipulated in the electricity Act and business plan so as to bridge the funding gaps
- REA should reconcile the revenue received on transmission levy with the amount levied on generation by the electricity transmission company.

IMPLEMENTATION

Rural Household Accessibility to Electricity

- Institutional structures should always be set up in time to avoid implementation delays.
- Appropriate investment models should be developed to attract investors to the rural electrification program.
- Initiatives should be developed to explore possibilities of lowering the connection costs and providing affordable electricity to the rural populace.
- REA should expedite the process of updating their data base to include connections under rural electrification.

Electricity Generation

REA should continue facilitating the on-going electricity generation projects and encourage the operation of the completed ones so as to have adequate power to enable increased rural household electricity connections.

Public Education and Awareness

REA should build the capacity of the public information and outreach unit to enable it to carry out its awareness activities.

REA's Institutional Sustainability

REA should continue engaging relevant stakeholders in the pursuance of attainment of autonomy as stipulated in the strategic plan.

MONITORING AND EVALUATION OF RE PROJECTS

REA should build capacity to monitor and evaluate its performance to enable it track progress, identify challenges and devise corrective measures.

CHAPTER 1

INTRODUCTION

BACKGROUND

1.1 Motivation

An estimated 1.6 billion people in the developing World have no access to electricity [Saghir, 2005] with Sub Saharan Africa accounting for 37%[1]. According to the International Energy Agency (IEA), Uganda's electricity access was 9% compared to Kenya (15%) and Tanzania (11.5%)[2] in 2008. The access in the urban areas in Uganda was 39% as compared to 3% in the rural areas where 88%[3] of the population lives.

Inaccessibility to electricity has slowed down socio-economic development and led to high dependence on wood fuel. 97% of Ugandan households (Uganda Population and Housing Census, 2002) depend on wood fuel and this has led to loss of forest cover whose annual cost is estimated at US$ 3-6 million (NEMA 2000).

The Government of Uganda (GoU), recognizing the importance of electricity in improving the welfare of people and saving the environment, implemented structural reforms which were in line with the Millennium Development Goals (MDG's) and the Poverty Eradication Action Plan (PEAP) to reduce poverty. The Rural Electrification Agency (REA) was established to spearhead the implementation of the rural electrification program which was aimed at ensuring equitable regional distribution of electricity and increasing rural electricity access from 1% in 1999 to 10% by the year 2012. In order to implement this program, the GoU and development partners spent Shs 197 billion in the financial years 2006/07- 2009/10 on the rural electrification program.

Despite the substantial investment in rural electrification by the Government and development partners, access to electricity continues to be low and the majority of the population continues to rely on wood fuel which in turn leads to environmental degradation.

[1] World Energy Outlook - IEA, 2008
[2] World Energy Outlook - IEA, 2008
[3] Uganda Population and Housing Census, 2002

It is against this background that an independent assessment of the performance of the Agency was undertaken to assess the extent to which the rural electrification programme has achieved its intended targets.

1.2 Description of the Audit Area

1.2.1 Mandate

The Government of Uganda (GoU), recognizing the importance of energy in transforming the quality of life of Ugandans, embarked on the process of systematic energy planning with the formulation of the National Energy Policy for Uganda in September 2002. One of the Strategies highlighted in the Policy was the implementation of the Rural Electrification Strategy and Plan (RESP) 2001-2010 which had been approved by Cabinet in February 2001 as required by Section 63 of the Electricity Act 1999.

To implement RESP, the Minister for Energy issued the Electricity Statutory Instrument No.75 in 2001 as mandated by Section 65 of the Electricity Act. The instrument established three mechanisms for the management of Uganda's Rural Electrification Programme (REP), namely: the Rural Electrification Fund (REF), the Rural Electrification Board (REB) and the Rural Electrification Agency (REA).

The REB is responsible for managing the Fund and overseeing the Programme on behalf of the Minister for Energy and Mineral Development (MEMD) while REA is the Board's Secretariat with a broad mandate in rural electrification which includes, among others: providing policy advice to the Board and the Minister; operationalization of Uganda's Rural Electrification Strategy and Plan (RESP); Administering the Fund on behalf of the Board and maintaining a reliable and comprehensive database to facilitate Rural Electrification (RE) policy planning and investment decisions.

The institutional mechanisms of REP, however, commenced operations in July 2003, which delayed the implementation of RESP by two years.

REA implements Rural Electrification through the following Rural Electrification Projects:-

- **Grid extension: -** Extend the transmission grid to cover new communities.

- **Mini-Grids: -** Support the installation, management and control of independent grids (off main-grid) in areas where the demand is not large and the distance from the main grid is great.
- **Co-power generation: -** Support and promote co-power generation activities with the private sector.
- **Thermal electricity: -** Provide of assorted diesel generators to the rural communities.
- **Electricity co-operatives: -** Encourage/promote the rural electrification co-operative model that encourages community involvement in rural electrification development.
- **Renewable energy: -** Promote the use of renewable energy as a cost effective method of electrification in areas that are remote from the grid.
- **Photovoltaic (PV) systems: -** Promote the solar electrification programme.
- **Community sensitization: -** Enhance public and stakeholder awareness and involvement in electricity supply, demand and utilization while highlighting benefits of the programme to the rural communities.

1.2.2 Vision and Mission

Vision

REA's vision is "Universal access to electricity by 2035."

Mission

REA's mission is "To facilitate provision of electricity for socio-economic rural transformation in an equitable and sustainable manner."

1.2.3 Main Goal, Objectives and Key Functions

Main Goal

REA's main goal in the fulfillment of REA's vision is "To facilitate achievement of Uganda's target of 10% rural electrification access by 2012"[4].

Overall Objective

The overall objective is to improve the rural quality of life and facilitate significant rural non-farm income by accelerating main grid extension based rural electrification with a tentative target of contributing to increasing rural electricity access from 1% in 2000 to 10% in 2012.

Specific Objectives[5]

[4] Strategic Plan 2005/06-2011/2012

1. To facilitate an average connection rate of at least 1% of rural consumers per annum to 10% by the year 2012.
2. To promote equitable rural electrification access having special regard to those areas of the country that are currently marginalized.
3. To establish and maintain a comprehensive database on Uganda's RE sub-sector to facilitate informed decision making.
4. To enhance the available financial resources base for rural electrification by an average of US$40m per annum over the planned period.
5. To promote the institutional sustainability of REA.

Key functions

1. Build and maintain a national data base on rural electrification projects in Uganda.
2. Promote rural electrification.
3. Facilitate rural electrification projects.
4. Receive and review applications for subsidy.
5. Advise the MEMD on policies pertaining to rural electrification.
6. Implement Government Priority Rural Electrification Projects and community Schemes (PREPS).
7. Monitor and evaluate rural electrification projects.

1.2.4 The Organization Structure

REA is governed by a Board, which consists of seven members made up of three Permanent Secretaries from the MEMD (as chairperson), MoFPED and MoLG; in addition to ministerial appointees, there are four other members representing the private sector appointed by the Private Sector Foundation Unit (PSFU), the financial sector appointed by Uganda Bankers Association (UBA), the NGOs (appointed by the NGO/CSO community) and development partners. REA is headed by an Executive Director (ED) who is appointed by the Board and acts as its secretary. REA also has an Internal Auditor who reports to the Board. Below the ED are the Legal Officer and Technical Assistant Officer and four Departments, namely: Project

[5] Strategic Plan 2005/06-2011/2012

Planning, Project Monitoring & Evaluation, Finance & Administration and Public Information & Outreach respectively. For the detailed organizational structure, **refer to Appendix 1**.

1.2.5 Funding

The Rural electrification program is funded by the GoU and development partners. In the period 2006/07 to 2009/10 the funding amounted to Shs.197 billion as detailed below:-

Table 1: Showing funding by GoU and development partners

Source	Financial Years				
	2006/07 Shs '000	2007/08 Shs '000	2008/09 Shs '000	2009/10 Shs '000	Total Shs '000
GoU (REF)	13,771,785	10,035,839	30,799,779	35,011,750	89,619,153
Development Partners					
SIDA-TECH	788,686	354,054	804,099	363,402	2,310,241
SIDA II	502,472	7,223,929	6,079,624	5,012,262	18,818,287
IDA	7,057,568	22,036,923	18,546,438	-	47,640,929
GEF	2,967,010	2,679,023	3,378,639	-	9,024,672
JICA	-	-	29,710,742	-	29,710,742
Total	**25,087,521**	**42,329,768**	**89,319,321**	**40,387,414**	**197,124,024**

Source: REA's Audited Accounts

- **Not funded**

1.2.6 Audit Objectives

The audit sought to ascertain whether:-

1. REA activities were well planned,
2. REA activities/projects were well funded,
3. REA activities were implemented as planned and
4. REA projects were well monitored, evaluated and reported on.

1.2.7 Scope

The study was carried out at Rural Electrification Agency headquarters. We also visited the Rural Electrification Projects of Kyabugimbi-Buhweju (Bushenyi District), Kakumiro-Kibaale-

Kagadi (Kibaale District), Namayemba-Namuntere (Bugiri District) and Nabitende-Namungalwe-Itanda and Iwemba-Bugeso (Iganga and Bugiri Districts), Kikorongo-Bwera-Mpondwe (Kasese), Corner Kilak-Pader-Patongo-Abim with a tee off to Kalongo (Pader and Abim), Mpanga-Kamwenge-Kahunge-Nkingo (Kamwenge), West Nile Rural Electrification Company (WENRECO) (Arua) and Sub stations at Mpanga and Kahunge (Kamwenge) to ascertain their existence, status of works executed and electricity generation capacity.

The study covered four financial years namely 2006/07, 2007/08, 2008/09 and 2009/2010.

CHAPTER 2

AUDIT METHODOLOGY

This audit was conducted in accordance with the International Organization of Supreme Audit Institutions (INTOSAI) Auditing Standards and the Office of the Auditor General (OAG) VFM audit manual. The standards require that the audit be planned in a manner which ensures that an audit of high quality is carried out in an economic, efficient and effective way and in a timely manner.

2.1 Data Collection

Data was collected using the following methods:-

Document review

The documents listed below were reviewed with the view of ascertaining the entity's mandate, objectives and operations in rural electrification.

- Electricity Statutory Instrument No.75 of 2001.
- Electricity Act, 1999.
- Financing Agreements with development partners.
- Ministerial Policy Statements FY 2006/07 and 2008/09.
- National Energy Policy.
- Rural Electrification Agency Strategic Plan FY 2005/06-2011/12.
- Rural Electrification Agency, 3 year business Plan, 2005-2008.
- Annual Work plans and budgets FY2006/07, 2007/08 and 2008/09.
- Indicative Rural Electrification Master Plan, January 2009.
- Inspection reports.
- Audited Financial Statements FY 2006/07, 2007/08 and 2008/09 and 2009/10.
- Procurement Guidelines for SIDA, JICA and IDA.
- Rural Electrification Subsidy Policy.
- Annual Rural Electrification Reports FY 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09.
- Rural Electrification Subsidy Agreements.
- REA accounting, financial reporting and administrative system manual, September 2003.

- Financial management reports to financers.
- Project implementation agreements.

Interviews Conducted

A total of 11 officers were interviewed. In MEMD (2) and in REA (9) as detailed in **Appendix 2**. We interfaced several times with these officers throughout the audit. We also interviewed officers operating REA projects.

2.2 Data Analysis

Collected data/information was analysed using variances and percentages. Comparisons of the intended and actual project deliverables were made. Electricity coverage over the years was analysed in order to establish the trend and ascertain if REA is on track in as far as attaining the 10% target by 2012 is concerned.

CHAPTER 3

SYSTEM AND PROCESS DESCRIPTION

3.1 Roles and responsibilities of Key Players

The key stakeholders in the rural electrification programme include the following:-

- **Minister of Energy and Mineral Development**

This is the principal political head responsible for Electricity policy formulation, planning and development in Uganda. The Ministry prepares the Energy policy and Strategic plans. The Minister also appoints the members of the REB and submits the RE annual Status Report to Parliament.

- **Permanent Secretary-MEMD**

The PS MEMD is the Chairman of the REB and the Accounting Officer for the REF. He chairs Board meetings and he is accountable for the release and use of funds by REA.

- **Executive Director**

The ED is the Chief Executive and Secretary to the Board and is responsible for:-

1. Day-to-day operations and administration of the Agency
2. Implementation of the policies and programmes of the Agency.
3. Organization and control of the staff of the Agency.
4. Preparation of the annual work plans and budgets of the Agency and rural electrification status for approval by the Board.
5. Establishment and maintenance of efficient rural electrification database and information management system.
6. Establishment and maintenance of strong linkages with relevant stakeholders like ERA
7. Regularly reviewing the rural electrification regulations and providing feedback to ERA on where adjustment may be required.
8. Recommending to the Board the most efficient use of the REF.
9. Providing information for the promotion of investment in rural electrification.
10. Overseeing the planning and preparation of projects by the Agency.
11. Overseeing the processing of applications for financial support by the fund.

- **Department of Project Planning**

The main functions of the department of project planning are:-

1. Preparing feasibility studies for the Government funded priority RE projects in collaboration with ERA, MEMD and Private Sector Foundation-Uganda (PSFU).
2. Promoting Government initiated Projects to potential contractors.
3. Developing and promoting fundable Community supported projects.
4. Managing the RE project development process
5. Identifying priority Rural Electrification Projects (PREPs), coordinate the preparation of their feasibility studies, develop an annual pipeline of projects on priority basis and package them for public and/or private sector investment.
6. Assist private sector initiated projects to access assistance from other facilitating institutions (eg ERA, PSFU).
7. In collaboration with the Public Relations Officer, mobilize local authorities/communities to identify and initiate rural electrification projects.

- **Monitoring and Evaluation**

The M&E's department is charged with duties and responsibilities of:-

1. Providing the link with all other ERT implementing institutions.
2. Undertaking technical supervision of on-going projects on behalf of the Government. He evaluates the progress of projects under implementation and their performance after implementation.
3. Representing REA on the implementation Committees of private sector projects within the framework of the ERT programme.
4. Monitoring the compliance of projects under implementation with World Bank, Environmental and social safeguards.
5. Preparing annual status reports showing the level of realization of rural electrification targets, effective use of subsidy funds and other ERT projects implemented by the various Government institutions.

- **Finance and Administration**

The Finance and Administration (F&A) department is concerned with management of the human resource function and the general financial administration of the Agency. The F&A department is specifically responsible for:-

1. Implementing accounting and administrative system manuals of the Agency and reviewing them when necessary.
2. Supervising and evaluating the performance of Human Resource (HR) and administrative functions of the Agency.
3. Providing technical support in project appraisal, supervision, monitoring and financial reporting.
4. Managing project special accounts and ensuring timely funds requisition from development partners on the basis of required submission criteria.
5. Preparing financial management reports and submitting them to the World Bank and other financers in accordance with criteria set out in the credit agreements.
6. Ensuring timely procurement and payment of goods and services provided to the Agency.

REA operates in conjunction with other external players as stated below:-

- **Ministry of Finance, Planning & Economic Development**

The Ministry of Finance, Planning & Economic Development is responsible for mobilization of development funds within the framework of the PEAP. Accordingly, the Poverty Monitoring and Analysis Unit in the Ministry undertakes regular M&E of Rural Electrification to assess the impact of the initiatives on the quality of life of the people. REA has to coordinate its M&E strategies and operations with the MoFPED.

- **Ministry of Local Government**

The Ministry of Local Government is involved in sensitization campaigns at the local level and also advocates for local governments and the rural population to benefit from the ERT program. REA works closely with the Ministry to forge strong linkages with Local Authorities in the various Local Governments. The Chairperson of the Uganda Local Authorities Association (ULAA) attends the Annual Meetings of RE Stakeholders.

- **Ministry of Agriculture Animal Industry & Fisheries**

The Ministry of Agriculture, Animal Industry & Fisheries (MAAIF) is involved in the ERT component that supports the agricultural modernization program (PMA and NAADS). MAAIF's involvement is geared towards increasing incomes by raising farm productivity through use of renewable energy.

The ERT agricultural support component identifies key projects where energy is a major constraint like coffee, tea and fish processing; horticulture production, processing and marketing; dairy and poultry production. It also develops subsidy guidelines. REA provides the leadership for policy guidelines to ensure effective coordination and harmonization of incentive measures for RE development in the Country.

- **Ministry of Health**

The Ministry of Health is involved in ERT projects targeting improvement of health institutions, diagnostic services/laboratory equipment, cold storage for blood and vaccines, water supply pumping and heating, communication, health education and data management. The strategy is to promote the use of electricity and other renewable sources of energy to improve energy efficiency and management in the health sector.

- **Ministry of Education & Sports**

The Ministry of Education & Sports, through its Department of Education Planning (DEP), is interested in RE to facilitate the improvement of the quality of education in rural areas and develop energy policy guidelines for energy and information communications technology (ICT) in post-primary education.

- **Ministry of Water, Lands & Environment**

The Ministry of Water, Lands & Environment, Department of Water Development (DWD), aims at improving water supply services through the adaptation of appropriate energy packages to water supply systems in small towns and rural growth centres. REA has to encourage investment in small power projects to support the realization of the vision of "water for all" within the shortest time possible.

- **Ministry of Works, Housing & Communications**

The Ministry of Works, Housing & Communications is responsible for infrastructure policy and development including: roads and communications, crucial for successful development of Rural Electrification. MWHC also participates in the Annual Meetings of Stakeholders.

- **Electricity Regulatory Authority**

The Electricity Regulatory Authority (ERA) was established by the Electricity Act of 1999 as a regulator and licensing authority for electricity projects in the Country. Most electricity activities have to be licensed and the process begins by issue of a feasibility study permit and ends with

the issue of a full-blown investment license. ERA works very closely with REA in all stages of licensing and setting of electricity tariffs.

- **Private Sector**

The private sector is supposed to play a major role in the implementation of RE by:-

1. Investing in the construction projects for RE
2. Operating and managing the project
3. Recouping their investment as well as maintenance and operating costs.

3.2 Process Description

3.2.1 Planning

REA undertakes the top-bottom participatory planning approach. The Minister prepares a Strategy and Plan (Ministerial policy document) which guides REA in drawing up its strategic, business and annual plans.

Strategic planning is done in consultation with several key stakeholders ranging from consultants, top REA staff, development partners, participating ministries, civil society and public institutions. The strategic plan is intended to serve as a strategic decision platform for the formulation of the 3-year medium term business plan and the annual work plans and budgets for rural electrification projects to be undertaken, which are chosen basing on agreed selection criteria.

The planning process involves a sequence of activities geared towards addressing the demand for electricity. It comprises identifying appropriate technologies and designs to be applied to rural electrification, identifying potential rural electrification areas and projects, selecting and applying appropriate technologies to these projects and prioritizing amongst the various projects. This is sometimes referred to as the project packaging/formulation stage.

3.2.2 Implementation

After packaging, REA advertises the projects for open competitive bidding through the print media of wide circulation, usually the New Vision and the Monitor newspapers. Private firms submit bids which are evaluated by REA's technical arm of the contracts committee and the successful bidders are awarded rural electrification contracts in accordance with the Public Procurement and Disposal of Assets (PPDA) guidelines of the GoU. Where PPDA guidelines are inconsistent with the donor regulations, the later prevails.

The successful bidders have to obtain feasibility study permits from the Electricity Regulatory Authority (ERA) before they can undertake the feasibility studies of the respective projects. On completion of the studies, depending on the outcomes/reports, the bidders are able to apply to ERA for operational licenses in order to implement the projects. If the application is accepted, the bidders sign project implementation Agreements before they are awarded licenses by ERA. The agreements spell out among, other things, the amount of subsidies due to the bidders from REA, if any.

The original implementation model (2002) anticipated much initiative for RE to be undertaken by the private sector. The primary objective behind the aggressive restructuring of the electricity sector was to promote Private Sector Participation (PSP).This was seen as a means to re-capitalize the sector, develop additional capacity and improve operational efficiencies. Under this model the private sector was expected to make investments upfront while the GoU was expected to give out concessions and subsidies below investment costs on the assumption that the difference would be recovered during the operation of the projects.

Currently the programmme is being implemented under three models as shown below:

Construction projects

Under this arrangement, the private firm (investor) undertakes to construct and own the electricity line. It may be handed over to the GoU depending on the contract terms as is the case with most donor funded projects.

Management projects

REA undertakes the construction of the distribution line but contracts out its management to a private firm. In this case, the GoU represented by REA owns the project infrastructure (backbone investment) but maintenance and operation is contracted to the private party.

GoU/Donor projects

These are projects constructed by REA with or without donor support. They are explicitly owned, controlled, operated and maintained (managed) by government.

Today, REA facilitates rural electrification by leading the process after the private sector failed to respond due to high investment costs. The private sector is now engaged in electricity distribution, revenue collection i.e. operation and maintenance and not investment.

3.2.3 **Monitoring and Supervision**

MEMD has a coordination unit which plays the oversight role of following the progress of the RE projects and advises the Minister. REA on its part has an M&E department which carries out site visits, conducts site meetings, prepares and submits quarterly and annual monitoring and supervision reports to REA management for necessary action. Due to capacity constraints, sometimes REA procures supervision consultants to carry out this task on its behalf.

At the local level (where RE projects are situated) REA requests the Chief Administrative Officers (CAO's) to appoint focal persons to introduce the contractors to the local communities. The focal persons also monitor the project progress on behalf of the Districts.

3.2.4 **Public Information and Outreach**

REA's interface with stakeholders is paramount and, therefore, it has a unit that provides information to the investors and the general public. The sensitization of the public on advantages and usage of rural electrification is undertaken through awareness campaigns, as well as marketing REA's services through the website and other forms of mass media. In this regard the unit formulates and implements communication strategies so as to reach all targeted stakeholders and assists project developers by availing relevant information on RE projects.

CHAPTER 4

FINDINGS

This chapter presents the findings on planning, funding, implementation, monitoring and evaluation of the rural electrification activities by the Rural Electrification Agency (REA).

4.1 PLANNING

4.1.1 Strategic, Business and Annual Planning

According to the electricity Act 1999, Sec 64, the minister is required to prepare a "strategy and plan" setting out rural electrification objectives, targets and implementation framework. REA should develop its strategic, business and annual plans basing on the "strategy and Plan". The strategic plan should be operationalised by the business plans which in turn should be elaborated in the annual work plans and budgets. The annual work plans and budgets should be approved by the Board by end of April every financial year.

It was noted through document review that REA developed a strategic plan covering the period 2005/06-2011/12 setting out rural electrification objectives, targets and implementation framework. It was further noted that two (2) business plans were developed for the period July 2005-June 2008 and July 2008-June 2011.

Although REA prepared annual work plans and budgets, which were approved by the Board, the business plan for July 2008- June 2011 was not approved. We also noted that at the time of audit (January 2011), the plan was only remaining with 5 months to expire. Management attributed the omission to delayed finalization of the plan by the Consultant.

Management response:

It was an omission not to have presented the Business Plan 2008 – 2011 to the Board for formal approval because the Consultant delayed to finalize it. However, the Annual work plans and the budget are approved by the Board before the beginning of every financial year.

4.1.2 Indicative Rural Electrification Master Plan

According to the strategic plan 2005/06-2011/12 and the three year business plan (2005-08), REA is required to develop the Indicative Rural Electrification Master Plan (IREMP) by mid 2006.

REA should use the (IREMP) to disseminate information on investment opportunities to stakeholders through website and mailing. The IREMP should be updated annually[6].

A review of the IREMP revealed that it was produced in January 2009 as opposed to mid 2006 which was a delay of 2½ years. It was also noted that although the data in the spreadsheets of the IREMP was updated, the MAP had not been updated.

We further noted that the dissemination of IREMP to stakeholders through REA website and mailing facility was not possible due to its voluminous nature. However, management explained that stakeholders are given CDs of the IREMP.

Management attributed the delay to develop the IREMP to a shift in REA project implementation strategy from Private financing to Public and donor financing, and as a result the focus of the IREMP changed to identifying rural electrification projects for public financing. This also led to the eventual change in its dissemination strategy.

Management further explained that a consultancy to upgrade the system using the Geographical information System (GIS) technology has been procured which will enable them easily update MAPs and upload information faster on the system.

Failure to update the MAPs in the IREMP hinders management efforts to provide visual and geographical up-to-date information on rural electrification to the public (Government) and donors.

Management response:

Initially, the development of the IREMP included identifying 4 priority RE projects for private sector implementation and producing the required bidding and concession documents. However, when the 4 Priority Rural Electrification Projects (PREPS) were advertised, they did not receive interest from the private sector because of perceived risks and low returns. As a result the focus of the IREMP changed to identifying RE project for Public Sector financing. The change in the focus delayed the finalization of the IREMP.

6 The Strategic Plan and the business plans.

Because of the change in the implementation modality, the IREMP is no longer targeting private sector participation in RE but was geared at identifying and prioritizing RE projects for public financing. As a result it was no longer necessary to disseminate the IREMP to the private sector as previously anticipated. The IREMP was therefore disseminated to sector agencies and development partners and a number of projects have been funded by the Government of Uganda and Development Partners.

It was not anticipated from the beginning that the entire IREMP would be annually updated, rather it is the spreadsheet in the IREMP that is updated to track the status of implementation of projects. The spreadsheet is updated each time a project is selected.

The IREMP is currently being updated with tools that will give REA the flexibility to regularly MAP in the GIS component.

4.2 **FUNDING**

According to the electricity act Sec. 65 as amplified in the business plans REA's financing should be generated from the following sources: appropriations by Parliament, surpluses from operations of Electricity Regulatory Authority (ERA), transmission levy on purchases of electricity from generation companies and donations, gifts, grants & loans acceptable to the Minister of Energy. REA's projected annual funding requirements are shown in **Table 2**.

According to the three year business plans for FY 2005-08 and 2008-11, REA was supposed to mobilize funds to bridge the forecast funding gap through a funds mobilization strategy.

Through document review, it was noted that REA received only US$ 105.88 million (U Shs. 197 billion) out of US$ 204 million resulting into a funding gap of US$ 98.12 million (U Shs. 181 billion) as shown in **Table 2**. It was also noted that REA did not mobilize enough funds to bridge the funding gap.

Table 2: Showing REA's funding gap

Actual	2006/07	2007/08	2008/09	2009/10	Total
	Funding in US $ in Millions				
Annual Requirements	36	53	75	40	204
Funding	14.23	24.75	47.72	19.18	105.88
Gap	**21.77**	**28.25**	**27.28**	**20.82**	**98.12**

Source: OAG analysis of REA's funding and internal projections

Further analysis of GoU funding revealed that funds were not received from the surplus operations of ERA. Management explained that although they received funding from transmission levy, they were not certain of whether they were receiving the correct amounts. We noted that there were no reconciliations between the amounts that were received by REA and the 5% levy on electricity transmission. Management also explained that its effort to mobilize funds is limited by REA's legal status. REA is not a corporate body and that all fund's mobilization strategies have to pass through MEMD and MOFPED.

A review of ERA audited accounts and interviews with REA officials revealed that ERA was not remitting funds because its operations were in deficit throughout the years. The failure to reconcile the 5% levy was because REA had not obtained data on electricity generation and transmission from the respective companies. Failure to realize more funding was also attributed to REA's inability to come up with a comprehensive funds mobilization strategy to attract more investors.

As a result of the failure to mobilize adequate funds, REA has not been able to meet its funding requirements.

Management response:

At the time when the Strategy was prepared focus was on giving advice to the private sector on the sources of funding necessary to participate in the RE sector.

With the change in implementation modalities from private led to public financing, REA started undertaking feasibility studies that led to the packaging of RE projects for public financing by the Government of Uganda and Development Partners.

Packaged RE projects are now sent to MEMD and MoFPED for funding using the normal Government channels. REA no longer sources funding directly as was the case in the past. As a result REA has been able to secure funding from World Bank (USD 45m), BADEA ($ SFD 21m) and is in the process of obtaining funds from NORAD (USD 45m), JICA (USD 30m), and from the Kuwait Fund which will bridge the shortfall.

4.3 IMPLEMENTATION

4.3.1 Rural Household Accessibility to Electricity

According to the business plans, REA is expected to connect at least an additional 400,000, which is 10% rural electrification access by 2012, broken down as 20,000 (FY 2005/06) 30,000 (FY 2006/07), 50,000 (FY 2007/08) and 300,000[7] (FY 2008/09-2011/12). According to the ***investment guide for rural electrification***, by REA, these additional connections should be distributed as 220,000 on main grid, 100,000 on independent grids and 80,000 on solar-PV.

A review of annual rural electrification report by REA revealed that by end of FY 2009/10 REA had attained a 7% rural electrification access. However, management did not maintain data on the actual connections made over the periods and audit could not independently confirm the accuracy of the reported performance.

An analysis of connections revealed that there were low connections compared to the planned connections showing performance levels of 39%, 31% and 26% in FYs 2006/07, 2007/08 and 2008/09, respectively as shown in **Table 3**.

[7] No breakdown

Table 3: Showing rural electrification connections by REA

Period	Planned connections	Actual connections	Performance (%)
2006/07	30,000	11,700	39%
2007/08	50,000	15,562	31%
2008/09	75,000*	19,187	26%
2009/10**	-	-	-
Total	**155,000**	**46,449**	**30%**

Source: OAG analysis of REA Annual Reports

***Planned connections during FY2008/09 have been prorated (300,000/4 Yrs)**

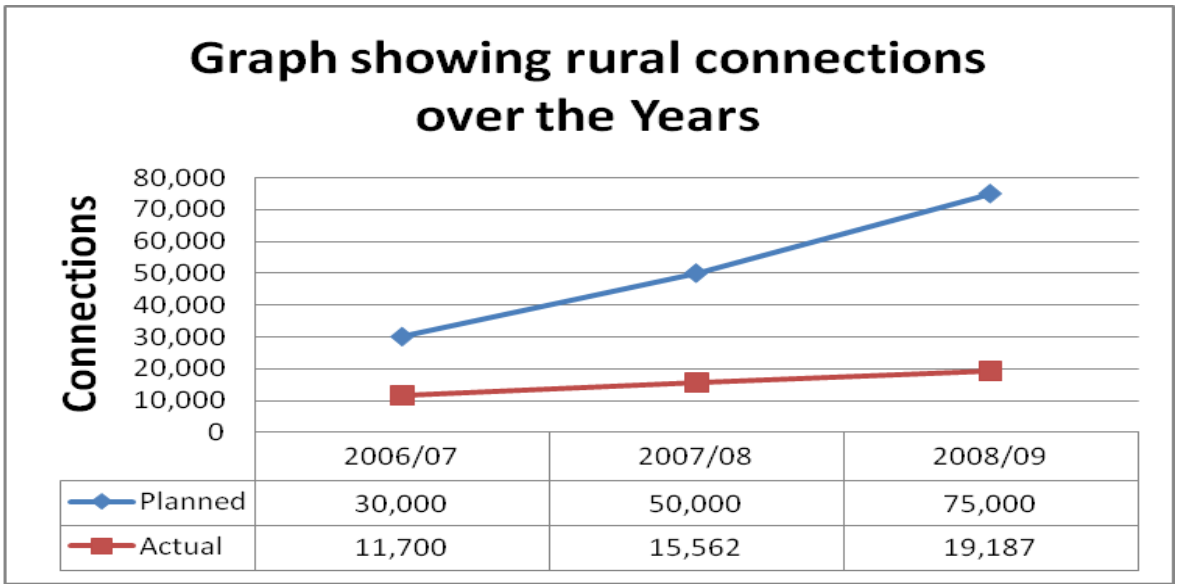
****** **Figures for 2009/10 could not be availed because the annual report was still being compiled by the time of audit (January 2011).**

Connection rates in the project types of main grid, independent grids and PV system could not be analyzed because of incomplete data. A breakdown of connections into: main grid, independent grids and solar PV were not availed and therefore analysis of total connections by type could not be done.

We noted that REA did not have an accurate record of rural connections made. The above quoted actual connections are estimates derived from connections by the main electricity distributing company (UMEME) and contracted rural operators such as FERDSULT. Management explained that the ministry is conducting a survey to establish actual connections.

Through a review of REA's annual performance reports, field visits and interviews with management, we also noted that rural connections were still low as shown in **Figure 1**.

Figure 1:



Management attributed the low level of rural connections to the setbacks in the implementation of the rural electrification strategy model, which was based on the public private partnership approach. The model did not attract enough investors in the rural electrification program due to the high investment costs and uncertainties in the returns. In addition, the capacity of the local private sector to undertake projects was low and this was compounded by the unwillingness of the local financial institutions to provide long term financing for such investments[8].

Interviews with management revealed that REA is currently taking the lead in the development of the power infrastructure and outsourcing the operation and management of the constructed lines.

Management also attributed the low level of rural connections to the delayed implementation of Energy for Rural Transformation (ERT) programme. ERT I, which was designed for capacity building and establishment of institutional framework, delayed to take off. This in turn affected the commencement of ERT II, which was designed for project investment. With successful implementation of ERT II, REA expects a great increase in rural connections under ERT III, which was designed for accelerated investment.

[8] Annual Reports

Management further attributed the low level of connections to the low capitalization of rural electrification activities in the period 2005 to 2007 resulting from the diversion of funds meant for rural electrification to thermal generation when the country was hit by adverse power shortage.

Field visits also revealed that the majority of the rural populace was unable to connect to the existing electricity infrastructure. They cited wiring costs, connection fees and unaffordable electricity tariffs. For example West Nile Rural Electrification Company (WENRECO) Ltd., charged new consumers connection fees ranging between Shs. 1.2 million to 1.5 million inclusive of pole service. REA management acknowledged this challenge and explained that it had introduced the ready board technology **(See Picture 1).** The technology uses a board to house the essential electrical gadgets all in one place. It requires a single wire from the service point instead of wiring the entire house hence reducing both the wiring and connection costs to the rural households. Management explained that the technology has been piloted in Bundibugyo district and found acceptable to the community. It currently costs US $ 80 (Shs.200,000) and this will further reduce to US $ 40 (Shs.100,000) on subsidization by Government. Plans are underway to roll it out to other districts.

Picture 1: Showing the ready board

Pictures taken on 24th January 2011

According to document review and interviews with management, the low connections were initially attributed to insufficient power generation in the country which leads to load shedding. This made it difficult for REA to extend the grid to rural areas. The electricity demand is between 260 MW and 350 MW (Peak hours) and 190 MW (Off Peak) per day as compared to the current power generation capacity which is between 240 MW and 260 MW per day. Management further explained that the dilapidated electricity infrastructure causes inconsistent power supply which discourages further connections.

The low level of rural electrification connection has impeded the ability of some rural households to engage in income generating activities such as grain milling, food preservation and milk pasteurization, selling cold drinks, entertainment centres, metal fabrication, poultry farming and operation of barber salons.

Management response:

Some constraints that contribute to the low rural electricity connection rate include: high connection costs, high domestic house wiring charges and an unambitious low number of mandatory connections in UMEME concession. To try and address some of these constraints, REA has put in place programmes such as community initiated projects and the provision of subsidies for no pole connection. However these programmes delayed because of the late commencement of the ERTII project which was to fund them.

REA has piloted connection subsidies using the Electricity Cooperative model in Pader and Abim (through the Pader and Abim Community Multi Purpose Electricity Cooperative (PACMECS), through the Kyenjojo Concession & in Bundibugyo (through the Bundibugyo Electricity Cooperative Society (BECS). This has resulted in increased number of connections. The model will be replicated to the rest of the country.

Ready boards to reduce house wiring costs have been promoted in areas where REA has granted concessions to eligible companies. Plans are also underway to introduce micro-financing loans for new connections and rollout loans for solar PV products to cover the entire country.

4.3.2 **Electricity Generation**

According to business plan (2005-2008), Logical Framework, REA should have facilitated at least 30 Mega Watts (MW) of operating capacity by June 2008 and pipelined at least 40 MW of generation capacity, in advanced stage, by June 2006. A further 50 MW was supposed to be pipelined during the period 2008 to 2011.

Interviews and document review revealed that no power was generated in the FY 2006/07 and FY 2007/08. However, at the time of audit (January 2011), REA had facilitated operating capacity of 37.8 MW, pipelined 37 MW of generation capacity, in advanced stages and 53 MW projects were still under study as shown in **Table 4.**

Table 4: Showing MWs generated by the projects that REA facilitated

	Projects	**Mega Watts**	**Status**
1.	Kakira co-generation project	16	In operation
2.	Kisiizi mini grid	0.3	In operation
3.	Bugoye hydro project	13	In operation
4.	WENRECO	1.5	In operation
5.	Kinyara	7	In operation
	Total Operating Capacity	**37.8**	
6.	Mpanga hydro project	18	Completed; awaiting commissioning
7.	Ishasha/Kanungu hydro project	6.5	Completed; awaiting commissioning
8.	Buseruka hydro project	9	Completed; awaiting commissioning
9.	Nyagak	3.5	Under construction
	Total pipelined in advanced stage	**37**	
10.	Kikagati	14	Under study
11.	Nyamwamba	14	Under study
12.	Siti	25	Under study
	Total pipelined NOT in advanced stage	**53**	

Source: REA's IREMP and Investment guide.

Picture 2: Showing the Mpanga hydro project

Picture taken by OAG on 13th Nov 2010

Failure to facilitate generation in FY 2006/07-2007/08 and the low generation in the subsequent period was partly due to the funding gap and the poor response by the private sector.

Failure to facilitate generation and operation in time resulted in inadequate power available for rural electrification program during the strategic period (2005-2008).

Management response:

REA was supposed to facilitate the generation of electricity from renewable sources through provision of capital subsidy. However, this implementation model was changed to providing a cost reflective tariff in 2007. As a result, REA is no longer directly involved in supporting generation of electricity but only provides the interconnection to grid where it is required.

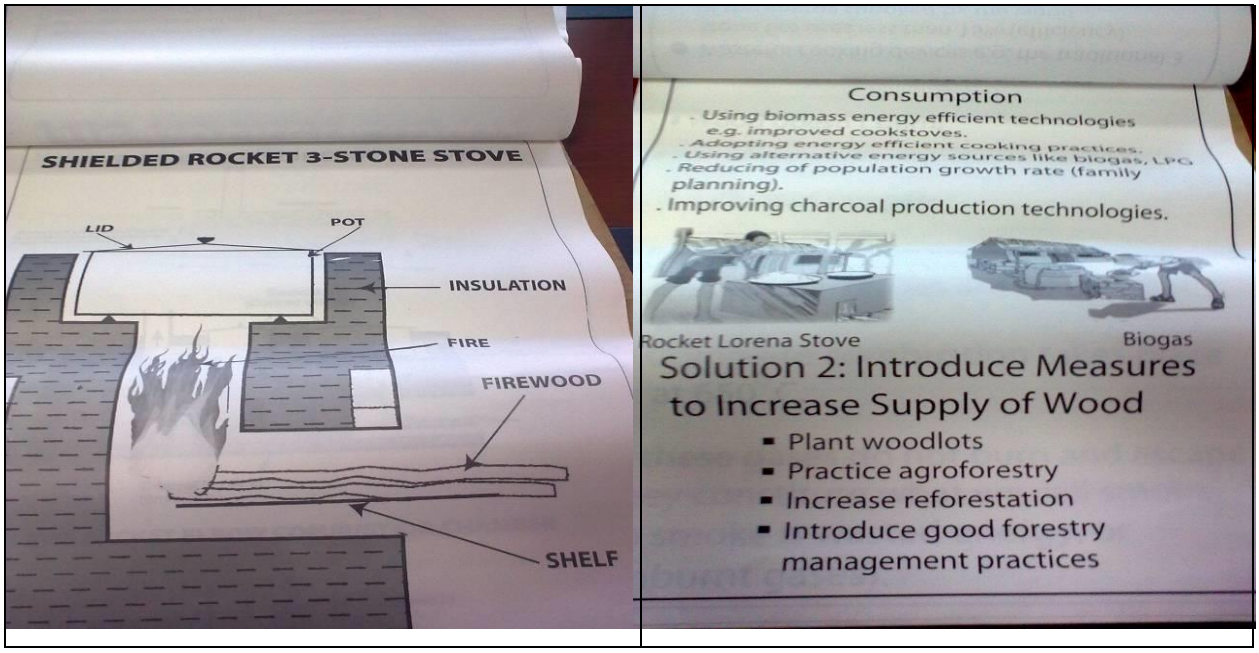
The target in the business plan of (2005 – 2008) was to facilitate 30 MW in operation and 40MW was meant to be pipelined during the period 2008 – 2011.

4.3.3 **Public Education and Awareness**

According to the three year business plan for the period 2005-08, REA was to establish a public information and outreach unit which would sensitize communities on project activities, educate the public and raise awareness on the benefits of electricity, efficient use and safety. The unit was also supposed to raise awareness on the rural electrification investment opportunities.

It was observed that the public information and outreach unit was established and sensitization materials developed **(See Picture 3).**

Picture 3: Showing sensitization materials used by the unit in public education and awareness



Pictures taken by OAG on 17th May 2010

It was noted that public education and awareness campaigns were conducted prior to project commencement, during implementation and after completion (commissioning). This involved sensitizing the public on the benefits of electricity, efficient use and safety as well as introducing project contractors to local leaders, administrators of the districts and the communities. It was also noted that the investment guide had been uploaded on the REA website.

However the local people interviewed at Mbarara-Kyabirukwa line during inspection of REA projects, stated that they were not aware of connection requirements. Management acknowledged that awareness campaigns were not conducted to cover all rural consumers as they sometimes used radio and TV programmes. Management further explained that for lines constructed and handed over to UMEME, they do not carry out sensitization. Management also attributed the challenge to limited capacity in the unit where there was only one officer and REA's staff structure only provides for only two staff. Plans are underway to appoint the second person.

Inadequate awareness campaigns on rural electrification activities leave an information gap which hinders the rural populace from embracing the program initiatives.

Management response:

REA carries out sensitization programmes for all projects before, during and after construction. These include public meetings with stakeholders and the use of mass media. REA regularly interacts with Local Leaders and Members of Parliament whenever a project is proposed in a particular location.

Under the ERT I (2003 – 2009) REA carried out sensitization at both regional and district level to explain the benefits of rural electrification and how communities participate and how the local leaders could play a facilitative role.

REA is increasing the internal capacity of the unit as well as out sourcing consultants to increase the reach of public education and awareness. A way-leaves unit to address compensation was established and is now fully functional.

4.3.4 **REA's institutional sustainability**

According to the business plan for FY 2005-08, REA should have been granted self accounting status by Dec 2006 and established as an autonomous body by an Act of Parliament by the end of 2008.

By the time of audit (November 2010), REA had not attained self accounting status and it continued to operate as a unit under MEMD with the Permanent Secretary (PS) designated as its accounting officer. It was also noted that a bill that would have established REA as an

autonomous body had not been enacted by Parliament. This matter has been featuring in the previous Auditor General's financial audit reports and has not been addressed.

A review of the World Bank Project Appraisal Document revealed that it was decided by the Rural Electrification Framework Review Team not to upgrade REA's legal instrument of creation from the current statutory instrument to an Act of Parliament. The review recommended that REA's focus should remain on achieving overall rural electrification targets in the meantime[9]. Failure to grant autonomy limits REA's ability to operate independently.

Management response:

Discussions are underway on the review of the entire electrification sub-sector which may lead to the amendment of the Electricity Act. A bill was drafted and discussions on it commenced, however, there has been slow progress. It is, therefore, assumed that with the amendment of the Act, the challenges* of *institutional sustainability shall be tackled.

4.4 MONITORING AND EVALUATION OF RE PROJECTS

According to the Strategic plan, REA should produce annual Monitoring and Evaluation (M&E) reports.

It was noted that M&E reports were not produced. Management instead conducted inspection and monitoring visits and produced reports. Management explained that initially an M&E unit was designed to monitor the Private sector under the PPP approach. With a shift in approach, the unit has been monitoring and supervising the construction of projects by REA and concessions to private operators. The evaluation of REA's performance was not done due to a lean structure of the agency, but annual performance was always reported in annual performance reports. Management further explained that proposals were being forwarded for setting up a formal and fully fledged M&E unit.

Management did not carry out the evaluation of the activities of REA and as a result the reported performance figures (especially rural connections) in the annual performance reports were not validated by REA.

[9] World Bank ERT 1 Appraisal Report

Due to failure by REA to carry out evaluation of its overall performance; the progress in rural electrification could not be tracked, and diversions from targets recorded and addressed. This explains why REA lacks information on the number of rural households provided with electricity in the country.

Management response:

The focus has been mainly in monitoring and evaluation of project implementation progress and impact. However, REA is in the process of building capacity to continuously monitor overall performance of Rural Electrification indicators. A manual was developed and tools are being put in place to effect proper monitoring.

CHAPTER 5

CONCLUSIONS

This chapter presents conclusions on planning, funding, implementation, monitoring and evaluation of the rural electrification activities by the Rural Electrification Agency (REA).

5.1 PLANNING

5.1.1 Strategic, Business and Annual Planning

REA's business plan for the period from 2008 to 2011 was not approved by the Board and this led to preparation of annual work plans for the FYs 2008/09 and 2009/10 basing on an unauthentic business plan.

5.1.2 Indicative Rural Electrification Master Plan

The Agency did not update the visual and geographical information in the IREMP, which was meant to provide information on existing and potential electrification projects to Government and donors. The dissemination of the IREMP is still inadequate, and this coupled with old Maps in the IREMP, may hamper the ability of stakeholders to make informed investment decisions.

5.2 FUNDING

REA did not mobilize enough funds to run its activities as planned and it may not be able to fully implement rural electrification programs and this may affect the realization of the 10% target by 2012.

5.3 IMPLEMENTATION

5.3.1 Rural Household Accessibility to Electricity

REA has not connected electricity to rural households as planned and given the low connection rate, there is a possibility that REA may not realize its 10% target by 2012.

5.3.2 Electricity Generation

REA did not facilitate operating and generation capacities as targeted and this affected planned connection of additional rural households during the period (2005-2008).

5.3.3 **Public Education and Awareness**

Inadequate awareness leaves an information gap on connection requirements and benefits which may hinder public participation in and ownership of rural electrification projects thus affecting connection levels in the rural areas.

5.3.4 **REA's institutional sustainability**

REA has not attained autonomy and this may affect its ability to make independent decisions regarding its operations to increase rural access to electricity.

5.4 **MONITORING AND EVALUATION OF RURAL ELECTRIFICATION PROJECTS**

Management of REA has not evaluated its performance and as a result, the challenges faced in electrifying rural households have not been tracked and corrective measures taken to address them. This condition may affect the attainment of the 10% rural connections by 2012.

CHAPTER 6

RECOMMENDATIONS

To improve on the activities of REA, the audit recommends as follows;

6.1 PLANNING

6.1.1 Strategic, Business and Annual Planning

Annual work plans should be prepared by REA on the basis of business plans, which are approved by the Board, to enable the alignment of the Board's policy/decisions with management operations.

6.1.2 Indicative Rural Electrification Master Plan

- The Consultancy work to upgrade the Agency's IT systems using Geographical Information System (GIS) should be expedited to allow regular updates of Maps in the IREMP.
- Management should improve its strategy on the dissemination of the IREMP to allow a wider coverage.

6.2 FUNDING

- REA should mobilize funds as stipulated in the electricity Act and business plan so as to bridge the funding gaps
- REA should reconcile the revenue received on transmission levy with the amount levied on generation by the electricity transmission company.

6.3 IMPLEMENTATION

6.3.1 Rural Household Accessibility to Electricity

- Institutional structures should always be set up in time to avoid implementation delays.
- Appropriate investment models should be developed to attract investors to the rural electrification program.
- Initiatives should be developed to explore possibilities of lowering the connection costs and providing affordable electricity to the rural populace.
- REA should expedite the process of updating their data base to include connections under rural electrification.

6.3.2 **Electricity Generation**

REA should continue facilitating the on-going electricity generation projects and encourage the operation of the completed ones so as to have adequate power to enable increased rural household electricity connections.

6.3.3 **Public Education and Awareness**

REA should build the capacity of the public information and outreach unit to enable it to carry out its awareness activities.

6.3.4 **REA's institutional sustainability**

REA should continue engaging relevant stakeholders in the pursuance of attainment of autonomy as stipulated in the strategic plan.

6.4 **MONITORING AND EVALUATION OF RE PROJECTS**

REA should build the capacity to monitor and evaluate its performance to enable it to track progress, identify challenges and devise corrective measures.

John F.S. Muwanga

AUDITOR GENERAL

KAMPALA

22nd March 2011

GLOSSARY OF TERMS

Grid extension

means extending the transmission grid to cover a new community.

Main grid

means he main network transmitting electricity in the country.

Mini-grids

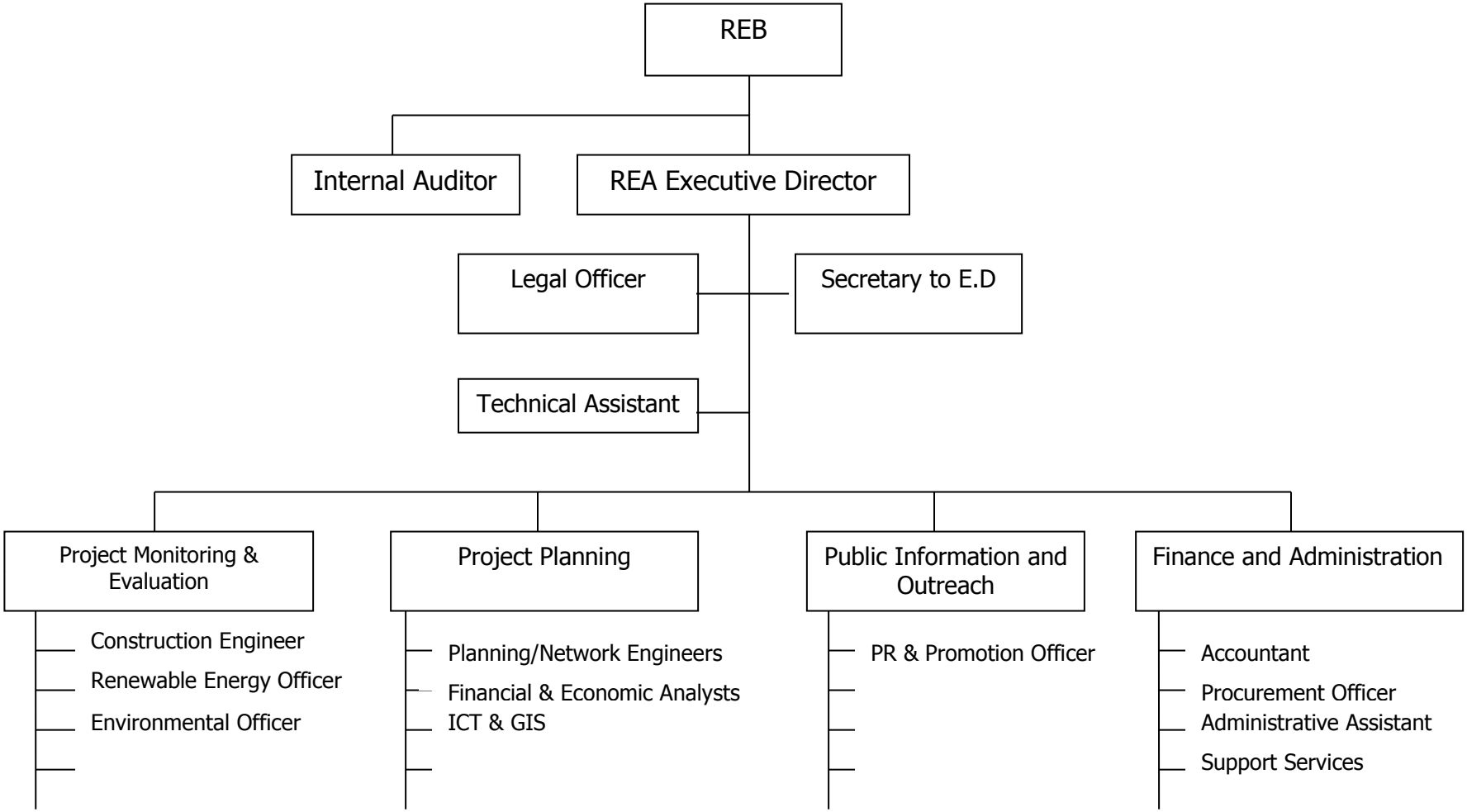
Means expansion generating capacity used for self-generation, or on diesel or renewable energy capacity. Such grids are particularly well adapted to relatively concentrated areas with a potential for productive uses like trading centres and other clusters of businesses and homes.

PV

means photovoltaic technology for solar power.

APPENDICES

Appendix 1: Organization Structure



Appendix 2: Interviews Conducted

Duty Station	Designation	Purpose
MEMD	Permanent Secretary (1)	To obtain a general background/overview of the project and designate a contact person in REA for purposes of the audit.
REA Head quarters	Executive Director (1)	To ascertain the overall REA functionality and management and overview of REA activities
REA	Finance and Admin. Manager (1)	To ascertain the overall REA functionality and management in as far as:- - Project funding and organization structure. - Activities undertaken by REA and their progress - Challenges in Rural Electrification
REA	Manager Monitoring & Evaluation (1)	-To ascertain the overall REA functionality and management -M&E function -Rural electrification schemes undertaken by REA and their status -Connection levels achieved -Information on the Database
REA	Manager Project Planning (1)	To obtain information on - IREMP - connection levels achieved - Subsidies -Generation schemes and their capacities -Solar PV aspects
REA	Accountant/Financial and Economist analyst (1)	To obtain information on funding and funds performance
REA	Project Engineers (2)	To ascertain project stages/ progress, M&E status and challenges in Rural Electrification -To ascertain location of project sites
MEMD	ERT project	-To obtain information on the coordination role of the

	coordination unit (1)	components in ERT II -Progress of the ERT II program -Challenges faced
	FERDSULT Technicians (2)	To ascertained FERDSULT 's role in Rural Electrification, billing system and Challenges faced
	Regional Manager (WENRECO)	To ascertain connection costs for electricity, installation costs, tariff rates, hours of service, challenges faced.
	Beneficiaries	To ascertained benefits so far derived, challenges met and general opinions.
Field inspections- Inspection of constructed rural electrification lines	Rural residents	-Reasons for non connection -Problems faced with electrification -Performance of the private operators