UGANDA

Key issue addressed:
Increasing Access to Energy for the Poor

Descriptive Title of Case Study:
ENERGY FOR RURAL TRANSFORMATION (ERT) PROGRAMME - EXPERIENCES AND LESSONS LEARNT

Lead Institution:
Ministry of Energy and Mineral Development (MEMD)

Other implementation arrangements and stakeholders involved:
Energy for Rural Transformation (ERT) programme targets mainly District Headquarters, Trading Centres, Agro Processing areas, Schools, Health Centres and rural Water supply units.

Below is an outline of the implementation arrangements:

- **Ministry of Energy and Mineral Development:**
  - Overall policy framework and strategies, basic studies, pilot projects, basic planning for capacity building and promotion of the programme.
- **Electricity Regulatory Authority:**
  - Grant of Permits and Licences for Generation, Distribution and Sale of Power
  - Approval of Tariffs
- **Rural Electrification Board (REB):**
  - Overseeing the management of the Rural Electrification Fund and provision of subsidies to project developers
- **Rural Electrification Agency:**
  - Secretariat of the REB; Main functions include basic planning, preparation and promotion of projects for private sector investment, assessment of projects for subsidy support, maintaining a rural electrification data base, and preparation of annual rural electrification report.
- **Private Sector:**
  - Investments and implementation of projects and provision of rural electrification services
- **Line Ministries:**
  - Ministries responsible for Agriculture, Health, Education and Water are responsible for packaging appropriate projects for their respective sectors.
  - The Ministry of Local Government links up the programme with local authorities and organises information outreach to the rural population.
  - The Ministry of Finance and Economic Development monitors and evaluates the poverty impact of the programme.
- **Uganda Communication Commission (UCC):**
  - Implementation of the ICT component to ensure telecommunication services supplement energy services.
- **Private Sector Foundation (PSF):**
  - Business-to-business advisory facility (BUDS-ERT) for providing support to private sector projects

Brief summary:

Energy for Rural Transformation (ERT) is a private sector led ten-year programme that was developed by the Government of Uganda with support of IDA/GEF. The overall goal of this programme is to increase electricity access in rural areas from 1% to 10% by 2012. Rural electricity coverage has in the past three years increased to about 4%. Projects under the programme benefit from subsidies to buy down capital costs

Key objectives:

The main goal of ERT is to stimulate rapid growth in rural areas by helping them access modern and efficient energy. The programme aims at:

- Improving the farmers' incomes as rural energy is used in enterprises that add value to agricultural products;
- Reducing poverty levels through provision of employment in rural areas;
- Bringing into the economy foreign currency through enterprises such as fish processing and coffee factories; and
- Improving people's lives through provision of energy for social services (health, education and water)

Key challenges:

1. Available resources for the Rural Electrification Fund

- Experience has shown that substantial financial resources for grants will be required once development of rural electrification (RE) projects is scaled up.
- This therefore, necessitates more support towards the Rural Electrification Fund. US$ 1 billion is required within the next 10 years to meet the target of 20% rural electrification in the next 10 years.

2. Attitude of commercial banks to long-term lending

- The local banks do not have an appetite, yet, for long term lending. This has been one of the main constraints in implementation of private sector RE projects.

Key features of the programme:

The programme is supposed to be private sector led. However, most private local entrepreneurs are less willing to commit their money into long term projects where the capital investment is heavy.

Components of the programme include:

- Extension of the existing electricity grid where feasible;
- Development of renewable energy resources to supply decentralised grid systems;
- Use of solar PVs to supply consumers located in remote areas, including households, schools, health centres as well as community centres;
- An ICT component to expand telecommunication services to places which receive electricity; and
- Water, agriculture, health and education components to maximize the benefits of availability of energy services in those sectors.

Time frame: 10 years Year started: 2002

Status: Still Ongoing

Results achieved and known impacts:

- Renewable Energy Projects being developed are:
  - West Nile Hydro Power Project – Power generation of 5.5 MW from a mini hydro
  - Kakira Cogeneration Project – 15 MW generated from bagasse with 6 MW surplus sold to the grid
  - Rukungiri-Bushenyi Power Project – 4.6 MW generated from a mini hydro
  - Kisizi mini grid Power Project – A 60 kW plant is to be upgraded to 300 kW
  - Kasese Rural Electrification Project – 5 MW generated from a mini hydro
  - Buseruka hydro Power Project – 15.6 MW will be generated from a mini hydro
- A number of firms have shown interest in investing in energy. They have submitted their proposals which are being reviewed for possible funding under a sharing programme.
- Most interest has been shown in solar energy, probably because it is cheaper and needs less mobilisation since small units like households, health centres benefit
- Provision of electricity to a fish processing plant situated near Majanji Landing Site on Lake Victoria in Busia District. This involved construction of a 10 km 33 kV line (three phase). The electricity is used to produce ice to chill fish and for refrigeration of cold rooms. Fish exports bring in foreign currency into the economy.
- Construction of a 17 km power line from Matete to Ssembabule town and provision of distribution generators. The electricity is used in communication e.g. phone charging, car battery charging and in small enterprises in the town.
- The government is providing 23 km of 33 kV line to a company called Kaweri Coffee Plantation Limited. 18 km has so far been constructed and commissioned. The total project cost is US $10M. When completed, the company will employ about 6000 people.
- More renewable energy projects for supplying decentralised grids and grid connected projects are at different stages of development.
- Several rural electrification schemes have been constructed using the Rural Electrification Fund. As a result access to electricity in rural areas has increased from 1 to 4% in the past three years.

Main obstacles faced:

Barriers in promotion of renewable energy include:

- Lack of sufficient information and data on the various renewable energy sources
- High cost of investment in renewable energy technologies (RETs)
- Lack of adequate contribution from the rural electrification fund
- Low incomes of the poor, especially in rural areas
- High upfront costs of connection to the grid or alternate systems
- Implementing reforms in the energy sector that may benefit the rich and not the poor
- Inadequate technical and business development capacity in RETs

- Poor infrastructure for distribution of modern energy
- Inadequate financing mechanisms to encourage private sector investments and for providing credit facilities
- Inadequate financing for Government to develop projects as public or IPPS
- Inappropriate policies to encourage flow of funds into the sector
- Environmental lobby against resources like hydropower
- Poor infrastructure which has inhibited fuel substitution: the use of LPG is one of the steps to improve rural energy supply

Sustainability, scalability and transferability:

- The project was designed in such a way that Phase I is a learning process with some pilot activities. In Phases II and III investment scale increases after familiarity with sub components of the program increases
- Service provision has been embedded along commercial lines; low cost technologies and processes have been promoted
- Business development support is provided to assist the private sector develop and continue in business
- It is hoped that after a number of barriers are removed, costs of projects will reduce and incomes rise; this would increase affordability of the systems

Key lessons learned:

- A good legal framework and good policies in place supporting renewable energy development create a good environment for private sector entry.
- There is a need to have subsidies such as GEF financing to buy down capital cost which lowers the tariff.
- Unlike GEF, PCF does not considerably lower the tariff.
- Programmes being developed should address the problem of affordability and the high upfront costs.
- Linkages with other social and economic sectors in developing Renewable Energy Technologies are big stimuli of development.
- There is a need to employ a mix of service delivery methods:
    - Grid extension where feasible;
    - Decentralised mini grids;
    - Solar PVs; and
    - Development of other renewable energy resources.

Further Information:

Ministry of Energy and Mineral Development
http://www.energyandminerals.go.ug