

How electricity changed our lives

Michael J. Ssali



There is a kerosene lamp known in the Luganda language as *tadooba*. It burns like a candle and it gives off thick dark smoke that slowly causes a black coating on the roof of the house, the walls, the furniture and other household items. It is the commonest type of lamp used in poor homesteads in Uganda. Meanwhile, our forests are diminishing because about 95 per cent of the country's households depend on firewood and charcoal for cooking. The use of lamps such as *tadooba* for lighting and firewood for cooking leads to household air pollution dangerous to human health. Nearly 20,000 young children die of indoor air pollution-related pneumonia annually in Uganda, while globally an estimated 3.5 million deaths every year are associated with the problem – mainly women and children in low-income countries¹.

Currently, according to the government's Rural Electrification Strategy and Plan 2013–2022, less than 5 per cent of Uganda's rural population has access to hydroelectricity. This low level of electrification is an impediment to achieving the desired transformation, which includes the provision of cleaner and more efficient technologies for cooking and lighting in all households².

During the civil war in our country (1980–1986) my wife, Mary, and I lived in Nairobi, Kenya, where we used electricity for lighting and other household purposes. As we prepared to return to Uganda when the war came to a close, we sold off the television, the cooker, the refrigerator and all our other electrical appliances, since we would not be able to use

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them in southern Uganda where we meant to set up a small farm and where we had no electricity.

Both Mary and I had grown up in homes without electricity and we knew what to expect, but not our children. When they saw

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their mother lighting the *tadooba*, one of them said, “Mama is lighting a small stove”. They had to see for the first time a charcoal flat iron used for pressing our clothes. They were alarmed to watch her laying the firewood and lighting the fire in the small grass-thatched shade that passed as our kitchen, fearing that it could catch fire and that she could even get burnt herself. It took all of us quite some time to get used to life without electricity.

In 2004, thanks to DANIDA, a Danish donor agency, and the government of Uganda, hydroelectricity was to be extended to neighbouring Rakai district, and our Member of Parliament, Gerald Ssendaula, announced that the transmission lines were to pass through our home area and that several villages including ours – Ngereko in Kisekka sub-county – were to benefit. The good news arrived when we were still burdened with our children’s college tuition fees and the construction of our present house.

Building a house

In rural Uganda people may build their houses according to the materials available to them and according to their financial ability. Even simple houses of mud and wattle can be connected to electricity. To build a strong modern house, however, one must have an architect’s plan approved by the government. The building materials, including bricks, timber, sand, cement and other items, all have to be purchased and the builder has to be paid. Some people spend nearly all their lives saving money and buying building materials for their houses. Mary and I were in the process of building such a house and at the same time trying hard to raise university fees for our daughter and son when it was announced that hydroelectricity was to be extended to our home area. So it was not until 2010 that we were able to have our house connected to electricity.

There are costs involved: a qualified electrician must be hired to carry out the house wiring; households must apply to the electricity distribution companies to be connected; and then they must pay for the electricity they use³. Currently, one has to part with 98,000 shillings (US\$ 40) or 326,000 shillings (US\$ 120) for a “no-pole” or a “one-pole” service, respectively. In a country such as Uganda, where close to 70 per cent of the population lives on less than US\$ 2 a day and the average annual per-person income is US\$ 6,244, these are very high costs, and the great majority of

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Clean water – one of the myriad benefits of electrification.

households are still unconnected. Recently, the government came up with a plan to make free connections to houses located close to electric power lines (no-pole connections), which may see several thousands of homes connected.

Changed lives

Electricity dramatically changes lives². Soon after getting connected we purchased a digital satellite television set, an electric flat iron and a few other household electrical appliances, and it is possible for us nowadays to use the computer and to access the internet, right in our home. However, power cuts are nearly a daily fact of life and a nuisance to live with. Sometimes as we watch an interesting television programme the power goes off with no warning from the providers⁵. UMEME, the main distribution company in Uganda, explains that this is inevitable due to the ongoing construction of extension lines.

Before new extension lines are constructed, the distribution companies and government representatives hold meetings with community members to agree on the terms of compensation for people who may have their crops trashed or their houses pulled down in

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the process of setting up the power lines. The people are warned that electricity can be very dangerous if it is not well installed wherever it has to be connected, and they are also warned not to engage in power theft.

Since it is a long-term government strategy to extend household electricity access to all corners of the country, many youths have acquired training in electrical installation so as to be hired to install power in homes that have to be connected. Some of them, however, are often engaged by dishonest people to make illegal connections or to wire their houses in such a way that some of the power used is not metered. In some cases, people with no training at all in electrical installation have made connections that time and time again have caused house fires and deaths. Distribution companies make routine checks and culprits are often disconnected and made to pay heavy fines.

New businesses

The demand for electricity in rural areas has increased in the past two or so decades with the mushrooming of vocational schools that turn out youths eager to start their own businesses as welders, tailors, carpenters and motor vehicle mechanics among other crafts, all of which require electricity. In our own home area, youths have begun to trade as steel welders, making doors, windows and other things that they easily sell within our community. “With unnatural precision and surprising grace, a mechanical claw dances around a half-meter piece of metal, neatly pouring lubricant down one side and welding it shut in a final flurry of sparks. An auto part falls into a waiting bin”⁶. Others have set up hair and beauty salons while bar owners and shop keepers have acquired refrigerators and sell cold drinks. Rural health centres can now use such equipment as X-rays, scanner machines and other electrical diagnostic appliances. The extension of hydroelectric power to rural trading centres and villages has facilitated the provision of clean piped water and increased the use of water closet (WC) lavatories.

Given the high cost of extending power lines to far-off rural areas, the government is encouraging new energy options such as solar panels for lighting, charging phones and powering household amenities like televisions. Local banks and microfinance institutions are required to prioritise granting loans to people

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intending to install solar power in their homes. Generators are another option, but they burn expensive fuel – often involving long treks to obtain it – and they pollute the environment with smoke and noise. But they are often the machines used to power the music systems needed at rural discotheques and “trans-night” parties, as well as being depended upon to pump water or provide electricity to hospitals, schools and some towns. Given the recurrent power cuts in communities connected to the grid, a standby generator comes in handy whenever the power goes off.

To a large extent, rural electrification has contributed to a reduction in the migration of youth from rural to urban areas, since some of the amenities of large African towns – such as watching football on TV, discotheques, and opportunities for self-employment – are brought closer to home by the availability of electricity. Some youths have opened up internet cafés, phone repair workshops, tailoring shops complete with electric sewing machines, and other such small-scale enterprises in their own villages.

Nearly every home these days owns a mobile phone which must be charged. Yet only a very small percentage of homes have electricity. Some people connected to the grid or to solar power have set up phone-charging centres as a form of income generation. The mobile phone is used for money transfers, and it is a strong driver of agriculture in rural areas. With the use of the mobile phone the rich men in the towns can pay their farm employees without having to travel, and they can also give day-to-day instructions to their workers.

Jobs for a growing population

Electricity is a useful form of energy in agriculture since it can be converted into light and used to power pumps that push water to farms⁷. It is also used for refrigeration and for providing heat⁸ – in the past, if a farmer failed to sell some of the day’s milk he had to use firewood or charcoal to boil it to preserve it, whereas nowadays many farmers safeguard the milk by keeping it in refrigerators. Here and there, farmers’ groups have set up coffee hullers and maize mills that add value to their produce. A farmer in our village uses electricity to pump underground water for his poultry farm and he also uses it to hatch eggs and keep the chicks warm. His poultry farm employs some six youths, which gives credence to an observation made by Engineer

Some risks can be addressed through the business model of the electrification entrepreneur, but others need to be addressed by the public sector

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Peter Kiwanuka Ssebalamu, Head of the Mechanical Engineering Department at Mutesa One Royal University, that “provision of electricity to the remote rural areas will keep the youths there instead of going to Kampala and other towns seeking employment”.

Countries with unchecked population growth and widely differing GDP per person will continue to present challenges to completing rural electrification

The International Energy Agency reports that globally, 1.3 billion people lack access to electricity and 2.7 billion lack clean cooking facilities⁹. Even with investments of \$1 billion per year between 2010 and 2030 for on-grid electricity connections, a billion people would still be without electricity. And with current population growth, billions of people will continue to live without cooking facilities. There is a huge gap in power supply in most developing countries, especially in East Africa, illustrating the need to review their energy policies in order to bridge this gap. Countries in Sub-Saharan Africa with unchecked population growth as well as widely differing GDP per person⁴ will continue to present challenges to completing rural electrification.

References

1. **UBOS. 2012.** *Statistical Abstract*. Uganda Bureau of Statistics, Kampala, Uganda. <http://www.ubos.org/onlinefiles/uploads/ubos/pdf%20documents/2012StatisticalAbstract.pdf>
2. **Ministry of Energy and Mineral Development. 2012.** *The Government of Uganda Rural Electrification Strategy and Plan 2013–2022*. Kampala, Uganda. <http://tinyurl.com/kkc7lr3>
3. **Daily Monitor. 2014.** 30,000 to get free power connections, 17 December. p. 3. <http://tinyurl.com/l4z75e9>
4. **Global Property Guide.** www.globalpropertyguide.com/Africa/Uganda/gdp-per-capita
5. **New African. 2014.** Africa’s lightbulb moment, December Issue 544. pp. 86–87. <http://newafricanmagazine.com/africas-lightbulb-moment/>
6. **Norbrook, N. 2014.** Join the adding value chain, *The Africa Report*, December issue p. 54.



SMART VILLAGES

7. Ngugi, D.N., Karau, P.K. and Nguyo, W. 1978. In: *East African Agriculture*, p. 312. Macmillan Education Ltd, London, UK.

8. Kabeera, E. 2014. *The Independent*, December Issue 346 (05.11.2014) p. 24.

9. IEA. 2014. *World Energy Outlook 2014*. International Energy Agency, Paris, France.

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