



IMPACTS AND POSSIBLE SOLUTIONS ON THE WATER AND ELECTRICITY CRISIS ON SMALL SCALE BUSINESS AS IN UGANDA



A welder at work. He at is at least wearing protective glasses.

The continuing decline in Lake Victoria's water levels has greatly led to poor performance in the small-scale businesses in Uganda.

Lake Victoria, which is the second largest fresh-water lake in the World and the largest in Africa, is reported to have started shrinking in 2003. Research has shown that ever-since this problem started the lake has never regained its original levels, but is only regressing.

A number of factors have been attributed to this cause and these include drought, evaporation, and forest degradation in the Lake's basin and over-release of water at the power stations at Jinja above the Agreed Curve. However, some of these factors have on several occasions been disputed by the government of Uganda.

Apart from leading to shortages in the water supply in and around Uganda's major towns, the dropping levels of the lake have negatively affected hydro-electric power production and thus leading to frequent load-shedding. This has affected the operations of both large and small-scale business in the country.

It should be noted that agriculture is the backbone of Uganda's economy and employs more that 80% of the population that is rural-based.

The raw materials derived from agriculture comprise of animal-based materials such as milk, butter, meat, fat, horns, hides and skins. The plant-based materials include cotton, coffee, wood, timber, oils, fibres, fruits, grains and vegetables.

The industry is entirely dependent on the reliable supply of water and electricity which are obtained

from the main water bodies (rivers and lakes) in the country, especially Lake Victoria. Most rivers and lakes have receded significantly, making it difficult for the industries to effectively operate.

The power and water shortages have led to an arbitrary increase in the water and electricity tariffs. In addition, this frequent and haphazard load shedding and power blackouts have led to the destruction of domestic electricity appliances.



A fish market at Lambu landing site in Masaka

Uganda Coalition of Sustainable Development (UCSD) and National Association of Professional Environmentalists (NAPE) conducted a study in September–October 2006 on the impacts of Lake Victoria water decline and the subsequent water and electricity crisis on Uganda's agro-processing industry.

This study was carried out in Uganda's main geographical industrial base of Mukono, Masaka, Jinja, Mbarara, Kampala, Wakiso and Entebbe municipality. The study was intended to obtain views of the people operating small-scale businesses and to establish the impacts of water and electricity shortages on the businesses. The businesses surveyed included fish processors and vendors, grain millers, meat processors, dairy industry, fruit processors, metal and wood works, groceries, bars, restaurants, lodges and hotels, schools, clinics, hospitals and fresh food markets.

Additional information was obtained from various institutions, including Uganda Bureau of Statistics (UBOS), National Fisheries Research Institute (NFRI), Lake Victoria Environment Management Project (LVEMP), Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Makerere University, Uganda Fish Exporters Association (UFEA), Fisheries Resources Department in Entebbe, among others.

Key findings

The study found out that shortages of water and electricity were the major limitations to the operations of small-scale businesses.

The specific findings of the study include:

a) Fishing Industry

As a result of the shrinking Lake Victoria, fish has been exposed to easy-catch leading to over-fishing that is threatening fish population in the Lake. This is further complicated by the increasing number of fishing companies on the Lake. Due to shortage of electricity supply and load shedding, fish factories are operating below capacity and at extremely high costs, because they must use generators to maintain the cold-chain to meet market demand. The electricity from generators is very expensive and causes environmental and health problems. The failure and disruption in the cold-chain, due to electricity blackout has led to increased post-harvest economic losses in the fishing industry.

b) Dairy Production and Meat processing

Like in the case of the fish industry the current electricity and water crisis is negatively affecting meat and milk processing. This has led to a lot of milk and meat spoilage as a result of failed cooling systems. This problem has led to drastic rise in prices of meat and milk. A litre of milk that used to cost shs600 in Kampala before the crisis now costs up

to shs1,800. A kilogram of meat that used to cost shs2,200 before the crisis now costs up to shs3,500 in Kampala.

c) **Grain Milling Industry and Confectionaries**

It was found out that some of these establishments operate few hours a day and sometimes do not operate at all. Out of 30 days, they operate an average of 10 days in a month, which has led to reduced incomes and has compelled managers of businesses to lay-off staff. As a result of frequent and haphazard power cuts, the businesses incur great losses.

d) **Flower Industry.**

In this industry, the quality and quantity of products for export has drastically reduced leading to a reduction in total export revenues loss of about US\$ 20million (Uganda Flowers Exporters Association, 2005).

e) **Food Markets**

Apart from dry foods that tend to have longer shelf-life, markets incur great losses of fresh food staffs, due to failed preservation systems. Markets that have opted to use generators and inverters during load-shedding periods have incurred extra costs that have led to hiking the prices of their goods. Despite the extra costs, markets that have used alternative electricity sources, have attracted more customers compared to those that use open-flame lighting during load-shedding.

f) **Hotels, Restaurants, Bars, Saloons**

Hotels, restaurants and bars, that serve cold foods and drinks, have had their businesses disrupted by the load-shedding and have lost customers, because they can no longer provide the required services. In all the bars visited in Kampala, Jinja and Mukono, it was reported that frequent power surges had destroyed their refrigerators, thus adding an extra cost for their replacement or repair. The use

of generators by these establishments has increased their overall operational expenses, led to noise pollution, inconveniencing customers and subsequent reduction in sales.

g) **Institutions**

Hospitals and clinics experience disruption in surgical operations and treatments due to power blackout.

In schools, it was found out that 10–15% of the school's budget is spent on electricity bills, because the tariffs have drastically increased in the last two years. Consequently, schools are compelled to compromise on other necessities such as food for students, teachers' salaries, reduction on term-duration and student's reading hours.

Some schools have been gutted by fire as a result of using open flame lighting during load-shedding. For example, in Islamic Kabarole East Primary School, (Fort Portal) a dormitory caught fire, leading to death of some students.

h) **Wood and metal works**

Due to the frequent absences of electricity during day-time, wood and metal workshops remain closed leading to redundancies, loss of customers and income that has led to increased unemployment in the sector.

Generally it was found that:

- Government is providing subsidies on electricity to large business establishments such as industries and hotels, among others in order to cushion the high electricity tariff, while the small businesses are not catered for. There is need for rationalization of the subsidies to cater for all businesses, if this is going to foster economic development and reduce poverty among the population



Current electricity sources in Uganda

(Source: File photo)

- When decisions on raising electricity tariffs are being made, it is only the large-scale businesses that are consulted, leaving out the small scale-enterprises and domestic users
- High and rising taxes levied on businesses have led to hiked production and operational costs of both large and small-scale producers and service providers, leading to exorbitant prices of essential goods and services like sugar,salt and soap etc. that are finally charged to the end-user or consumers.
- All these problems of shortage of water and electricity supply attributed to the continuing decline of Lake Victoria water levels are a result of each of long-term and synergistic planning in the various sectors of the economy, particularly the energy and water sectors.

Other issues of public concerns

- How is the government responding to the energy and water crises? Are the policy actions efficient? If not what are the options that could be applied and have not been considered?
- What are the missing links in coming up with appropriate, effective efficient solutions to the current electricity and water crisis
- How are the various stakeholders such as consumers, investors and development partners responding to the crisis? What is the role of the various stakeholders in resolving the water and energy crisis?
- How have other countries such as Kenya, Tanzania, etc responded to such crises? Are there lessons to learn from their experiences?
- Is the privatization of the water and energy sector still the best way to go? Is there an opportunity to review the privatization of the water and energy sectors?

Possible solutions

- There should be increased campaign and public awareness on the efficient utilization of water and electricity in homes and industries. ‘Industry best practices’ should be promoted in energy and water management. Regular energy and water audits should be carried out for both domestic and industrial sectors in Uganda
- Increase awareness campaigns for rainwater harvesting in homes and institutions
- Formulate immediate strategies for intervention to address the dropping water levels in Lake Victoria and other water bodies in Uganda
- Put more emphasis on investing in other cost-effective energy alternatives such as solar, geothermal, biogas, wind, bagasse to avoid over-dependence on hydropower
- Civil Society Organisations (CSO) and the private sector, particularly small-scale businesses should also be brought on board in the discussions and decisions regarding the current water and electricity crisis, with a view of coming up with more participatory and comprehensive solutions.
- Government should rationalize subsidies in the electricity sector, not only focusing on large-scale businesses, but also including the small-scale enterprises.
- Comprehensive studies on the impacts of water and electricity crises in the country should be conducted to come-up with more appropriate interventions to address the problems.
- The implementation of the recent electricity tariff increase should be halted, until comprehensive discussions with all stakeholders, including small-scale businesses, CSO, the Parliament, researchers and the consumers are conducted. It is unreasonable for government to increase electricity tariffs to only cater for the interests of electricity service providers (UMEME, UEDCL, UEGCL, UETCL, ERA) without putting into consideration the affordability of electricity to final consumers social and enviromental consequences to the country.