

A Monthly from the East African Sustainability Watch Network founded by Uganda Coalition for Sustainable Development (UCSD), Tanzania Coalition for Sustainable Development (TCSD) and SusWatch Kenya

‘Inspired to Take Action by the Effect Indoor of Air Pollution on My Mother’ – David Nkwanga



Innovation: The Nyota stove (Photo: D. Nkwanga)

The detection of cancer in David Nkwanga’s Mum (who later died in 2012) was devastating, but a turning point in his life to explore ways in which millions of women and girls who endure kitchen smoke each day, could be saved from this hazard. He saw this tragedy as an ‘opportunity’ to address the daily risks resulting from indoor air pollution. ‘It eventually led me to think: Aren’t there better and simple cook stoves that rural women could access and which could ensure their kitchens remain safe from indoor pollution?’, David pondered.

Unfortunately, pollution as a silent killer is ripe and kicking in countries like Uganda where everyday millions of mothers and children continue remain relegated to use polluting biomass fuels, including fuel wood, charcoal, dung, and agricultural residues on rudimentary stoves like the inefficient traditional three-stone stove. According to the United Nations Industrial Development Organization (UNIDO), in Uganda 19,700 people die each year as a result of indoor pollution the majority of whom (17,800) are children due to pneumonia, mental impairment and cardiovascular diseases caused by the resulting noxious gases. The International Renewable Energy Agency (IRENA) puts the number of people whose health is affected by indoor pollution in the East African Community at 138 million, resulting in 60,000 premature death.

Furthermore, according to the recently launched Uganda National Development Plan (NDPIII), biomass contributes 87% in form of firewood, charcoal and crop residues. This has adverse socioeconomic implications on health, environment, gender and household productivity. For example, annually, Uganda loses 120,000 hectares of forest cover of which 60% is due to charcoal and firewood extraction.

So, David Nkwanga (Nature Palace Foundation) founded Adapt Plus Ltd (ADAPT+) in 2013 - a social enterprise with a purpose of promoting clean energy solutions. So far, two innovations by ADAPT+ stand out in the fight against indoor air pollution: The ADAPT+ Ethanol stove which uses the clean ethanol fuel, and the NYOTA multi-fuel Stove which efficiently uses a range of biomass while at the same time reducing pollution.

The NYOTA multi-fuel stove (designed to make optimum use of biomass fuels) addresses the problem of indoor pollution, inefficient, and dangerous cooking practices that have led to loss of millions of lives every year, in addition to addressing the fuel-wood scarcity problem. The NYOTA multi fuel stove can work with all kinds of solid fuels, including firewood, wood charcoal, briquettes, maize cobs, grass, and twigs among others. The stove effectively burns the fuel and emits less smoke when burning, thereby tremendously decreasing indoor pollution. The Nyota multi-fuel stove has so far been promoted in Refugee settlements (Kyaka II and Rwamwanja) in Uganda. As refugee settlements are some of the most energy-insecure areas, the NYOTA multi-fuel stove has provided a practicable option to offset this challenge.

For more information about the NYOTA multi fuel stove and other ADAPT+ interventions, please contact David Nkwanga (Nature Palace Foundation) on email: naturepaldn@gmail.com

World Energy Day 2020: Investing in Clean Cooking Stoves and Fuels in East Africa Needs Harmonized and Supportive Policies



The widely used inefficient 3-stone cookstove (photo: D. Nkwanga)

Faith Nabbanja (who lives in Nateete, one of Kampala’s suburbs) wakes up each day to light her three-firewood stove using disposed plastic carry bags as ‘starter’ fuel. Many women in East Africa face a challenge of caring for their families including the daily cooking chore that takes up substantive time. According to the 2020 World Bank / ESMAP’s *State of Access to Modern Energy Cooking Services Report (2020)*, four billion people around the world still lack access to clean, efficient, convenient, safe, reliable, and affordable cooking energy. The Report notes that progress towards ensuring access to modern cooking solutions, a key component to achieving Sustainable Development Goal 7 (SDG 7), has been slow.

Today, 2.8 billion people globally still cook with traditional polluting fuels and technologies, costing the world more than 2.4 trillion dollars each year, driven by adverse impacts on health (1.4 trillion dollars), climate (0.2 trillion dollars), and women (0.8 trillion dollars from lost productivity).

For the World Energy Council, ‘Energy is ultimate connector of human hopes and fears and it interconnects peoples and geographies across the globe’. But according to a Report: *Situation Analysis of Gender and Sustainable Energy in the East African Community (2018)*, the East African region has been experiencing major challenges in achieving universal energy access. Among others, there are issues of affordability and accessibility that have long remained large challenges in implementing a modern energy transition at scale; while clean cooking solutions, especially in the rural areas, have not been keeping pace with electrification. This is mostly due to population growth and deep-seated cultural cooking and heating norms that have a disproportionate effect on women.

Mari Elka Pangestu – the World Bank Managing Director of Development Policy and Partnerships recently while writing about the ‘triple G of clean cooking: Green, gender, and good health’, on the occasion of the World Energy Day warned that, ‘Among regions, Sub-Saharan Africa is faring worst, with only 10 percent of its people able to access modern cooking. She recommends that, ‘making the cooking process “modern” and finding the right solution involves looking at the whole system of interactions, starting with the users’ cooking experience (what and how to cook), their housing conditions (kitchen location, room size, construction materials, and ventilation), and the markets and energy ecosystem in their country’.

Therefore, women like Faith Nabbanja across Sub-Saharan Africa, who must wake up each day to find fuel to cook demand urgent cleaner options, if East Africa and the wider global South will survive further devastation from indoor pollution, related climate change effects, and further forest loss. Part of the solution lies in sustained long-term and customised public and private investment models to promote clean cooking that reaches out to all segments of society (rich and poor included). Indeed, *The 2020 World Bank / ESMAP Report* rightly calls for the formalization of cooking energy demand in national energy planning and development of strategies for achieving universal access that reflect diverse users’ needs, local market conditions, and national comparative advantages on energy resources.

For East Africa, there are indications of a net gain for households that avoid pollution-related illness and death by investing in clean-cooking stoves and fuels, with dividends in energy conservation and attainment of the wider SDGs. But this calls for harmonised supportive policies in the region.

COVID-19 Recovery Policies & Plans in East Africa Should Stimulate Uptake of Affordable Clean Energy Options



Energy Saving Stove by JEEP at Blessed Harvest Day & Boarding Primary School - Nakasongola

Globally, about 2.8 billion people lack access to clean cooking solutions and rely on biomass solutions, which has heavy impacts on health and limits time available for productive activities. In Sub-Saharan Africa, without COVID-19 pandemic about 527 million people were estimated to still lack access to electricity by 2030.

These people still rely on inefficient cooking practices that mostly involve use of kerosene, wood, charcoal, peat, and coal, among others that cause about 4 million deaths per year (mostly women and children) due to household air pollution.

But the actual number will be higher given the extent to which COVID-19 has disrupted policy implementation and the abilities of low income earners including women to afford clean energy, including impacts on the already vulnerable Small and Medium Enterprises operating in the off-grid energy sector (ECDPM, 2020).

Sub-Saharan Africa's commercial businesses experience constant power outages leading to financial losses. While in some countries, only 28% of health care centers have access to reliable energy supplies, numbers on access to clean cooking solutions are even worse. According to a joint report of the custodian agencies of Sustainable Development Goal (SDG 7) titled, '*Tracking SDG7 – The Energy Progress Report (2020)*', the top 20 access-deficit countries accounted for 82 per cent of the global population. Six out of these 20 countries with access to clean fuels less than or equal to 5 per cent, are in Africa and include the Democratic Republic of Congo, Ethiopia, Madagascar, Mozambique, Uganda, and Tanzania.

According to the above SDG 7 Report, the resulting pollution linked to various illnesses is not limited to the household environment alone, as it also contributes to localized pollution by upsetting regional environments. Household air pollution affects climate change: cooking and heating account for some 25 per cent of black carbon emissions worldwide (Bond and others 2013), and around 30 per cent of the wood fuel harvested globally is unsustainable, which results in climate-damaging emissions equivalent to 2 per cent of emissions worldwide (Bailis and others 2015). These facts make a compelling case for policies on universal access to clean cooking fuels and technologies. It makes it even more urgent, when COVID-19 pandemic that has impacted rural areas, informal and small businesses, is brought into focus. This calls for COVID-19 recovery policies and plans that take into consideration this grim reality.

In addition, interventions that seek to improve the livelihood of groups like women, children, the elderly, Persons With Disabilities and the sick should be given precedence, if the above dismal statistics are to be overturned. For example, actions like those of the *East African Civil Society for Sustainable Energy and Climate Action (EASE-CA)* Project need to be scaled up. Through this Project, the International Network for Sustainable Energy, Uganda Coalition for Sustainable Development, Nordic Folkecenter for Renewable Energy, Tanzania Traditional Energy Development Organization and Sustainable Environment Development Watch Kenya seek to increase access to sustainable energy and other climate solutions to local communities in Uganda, Kenya and Tanzania with both women's and men's full and effective participation and leadership for improved livelihoods and reduction of poverty.

Read more about the EASE-CA Project (2019 – 2020) from: <http://inforse.org/africa/EASE.htm>