Voices of MECS

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Figure 1: Serving school meals at Kigadye Primary school in Tanzania. Photo credit: Geoffrey Ndegwa.

MECS: Please introduce yourself and tell us what you do.

GN: I'm Geoffrey Ndegwa, I work with WFP as an Energy for Food Security Advisor, seconded by NorCap. My job is to design and implement interventions that use energy to improve the food security for refugees and vulnerable people in global south. A key priority for WFP has been promoting clean cooking in schools and households, and we have been providing support to school feeding programs as well as to vulnerable households.

MECS: Could you tell us more about the work you did in Lesotho, what was the takeaway?

GN: Schools in Africa use big volumes of firewood to cook school meals, this contributes to deforestation and global warming through carbon emissions; exposure to smoke from firewood can also cause asthma, cancer and even pre-mature death. WFP is the first organization to introduce Electric Pressure Cookers (EPCs) for cooking school meals. In Lesotho, we started with 5 schools and found out that all school meals from rice, beans, and meat, to eggs, Papa, and porridge, can be cooked on EPCs and as a result, all 5 schools switched to 100% electric cooking. Based on this change, the cost of cooking fuel per student using EPCs was reduced to one-third of the cost of using LPG and one-sixth of the cost for firewood. Switching to EPCs also resulted in a time savings of around 35% for cooking. Since this success, we decided to take this solution to schools in other countries, this is how the Tanzania project came about.

MECS: WFP and SE4ALL have started a joint initiative to change the cooking practices in Tanzanian schools, why Tanzania?

GN: Tanzania is particularly important because WFP has been working with the government, supporting school mapping and improving their school feeding programme. Tanzania has over 17,000 primary schools (with over eleven million students) of which 9,200 have a school feeding program with a staggering 99% reliant on firewood for cooking. We identified that out of 9,200 schools, 5600 are already connected to the National Grid, this presented a prime opportunity to tap into these schools and introduce eCooking.

MECS: What was your criteria for selecting the schools?

GN: We started with mapping all the schools in Tanzania by physically visiting them and collecting data on number of the students, schools' connection to the grid, and how cooking is done. We realized that a lot of schools with access to electricity, still cook on firewood. After engaging with the government, we selected two main regions, Kigoma which is rural and Dodoma which is the capital city. In Kigoma we already support school feeding activities through setting up school gardens and providing seeds and seedlings to grow vegetables which is used for cooking school meals. We are learning different lessons in the rural and urban context. In urban areas, schools buy firewood, so the money they spend on firewood can be repurposed to pay for electricity. In rural areas, the firewood is mostly collected for free, so when we offer a clean cooking solution, we need to figure out how the electricity will be paid.

Figure 2: Delivering the ECPs at Leqele Primary school to replace firewood. Phot credit WFP Lesotho.

MECS: what are the challenges of modifying traditional school kitchens to efficient spaces for electric cooking?

GN: When designing an eCooking project for schools, we need to consider the cooking space especially in the rural setting; we need to ensure that the clean cooking solutions we are offering, are sustainable and the transition to electric cooking is smooth. Our school mapping research shows that many rural schools cook outdoors and don't have a kitchen, so we need to build a kitchen first and get electricity access. Some schools especially in the urban areas have a kitchen, but their infrastructure is not robust enough to support the electric cooking, therefore we need to renovate the space and retrofit the electrical wiring systems.

MECS: Why is implementing sustainable cooking solutions in schools so important?

GN: Schools in Tanzania use firewood for cooking meals. In rural areas, students have to take a few pieces of firewood and a jerrycan of water to school for cooking. This is a burden to the little children, not forgetting that they have to collect the firewood from the forests which poses various risks including gender-based violence. On the other hand, in poor regions vulnerable children can hardly afford one meal a day, so provision of school meals improves their health and also increases school attendance and education performance. That's why at WFP targeting schools is so important.

MECS: How do you see the role of school children in transitioning to clean cooking in long term?

GN: Schools can become centres for diffusion of clean cooking solutions. When students understand the benefits of clean cooking, they can become advocates at home, especially in the rural areas where awareness is low. Schools are not the only beneficiaries; here we are looking at the entire ecosystem who benefits from this initiative where clean cooking technology will be transferred to the wider population through interaction between schools, children, and the community.

MECS: How can carbon credits generate sustainable revenue for eCooking in schools?

GN: Carbon credits have a significant role in the sustainability of our project. Through set processes, we are able to quantify the amount of firewood and CO2 emissions saved by switching to electric cooking. After going through a verification process, the avoided emissions are converted into carbon credits which can then be sold in the voluntary carbon markets. The revenue from selling carbon credits will be put back in the schools to pay for the electricity bills especially in

Figure 3: School meals preparation using firewood on three stones at Kigadye Primary school in Tanzania. Photo credit Geoffrey Ndegwa.

Figure 4: School meals preparation at Victor Nthethe Pre-School in Lesotho using EPCs supplied by WFP. Photo credit WFP Lesotho.

rural areas; it will also be used to scale up our project to more schools.

MECS: Can Tanzania capitalize on the potential of Institutional cooking and replicate this business model to scale up in other African countries?

GN: Yes, definitely. Tanzania government has directed all institutions serving over 100 people to stop using firewood and charcoal for cooking, aiming to electrify them as part of its rural electrification efforts. Transitioning to eCooking is seen as cost-effective and will help justify investments in rural electricity. This initiative is replicable in other African countries facing similar challenges and investing in electricity infrastructure to meet SDG7 goals by 2030.

MECS: How MECS Programme is supporting Tanzania project?

GN: MECS Programme has been supporting the clean cooking solutions globally through research, awareness creation and financial support. For our project in Tanzania, MECS Programme has supported us with a grant of £750,000 (through FCDO in Tanzania) enabling us to reach 50 grid connected schools, serving over 250,000 students with eCooking solutions. MECS will also provide technical support to document key lessons from our research, guiding the project's scale-up in Tanzania and beyond.

MECS: It's been great talking to you Geoffrey, thanks for your time and good luck with the Tanzania project!

Figure 3: A cook preparing school lunch at Rainbow Pre-school in Lesotho using EPCs supplied by WFP. Photo credit-WFP Lesotho.

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