MECS
Modern Energy
Cooking Services

Landscape Analysis of Modern Energy Cooking in Displacement Settings – Executive Summary

Electric cooking in an Internally Displaced People (IDPs) camp in Myanmar, Photo Pesitho 2020

Modern Energy Cooking Services (MECS) Programme

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"Clean Cooking is...Life!"

Julie Gichuru, Clean Cooking Forum 2019 Emcee

Executive Summary

Cooking safely and sustainably in forced displacement settings is an enduring energy challenge in the humanitarian sector. There were an estimated 79.5 million forcibly displaced people globally at the end of 2019, with approximately 26 million refugees, 46 million internally displaced people (IDPs), 4.2 million stateless people, and 4 million asylum seekers[1] living in urban, peri-urban, rural and camp areas. Exact proportions in each category are not clear but in 2019 an estimated 2 out of 3 IDPs and 60% of refugees were in urban or semi-urban areas[2,3]. Facilitating transitions to modern energy cooking (i.e. cooking with electricity or gas) for all displacement settings is complex and requires multi-pronged and multi-sectoral approaches.

The landscape report identifies a diversity of settings – rural areas and camps, and urban and peri urban, acknowledging that the distinction between rural and peri-urban is often blurred and that this is not a binary cluster but a spectrum of settings and experiences. We note that data on energy in urban and peri-urban displacement settings is a neglected area.

For rural and camp areas it has been shown that 85% still primarily rely on solid fuels, such as charcoal and wood, and open fires or traditional stoves for cooking[4]. To the humanitarian institutions seeking to support the care and wellbeing of displaced people in rural and camp settings, clean cooking, and indeed energy, is too often relegated as a second-tier priority despite the negative health and environmental impacts associated with biomass cooking. This challenge is compounded by the lack of sustained investment in energy, little local capacity, high turnover of humanitarian staff, the sheer number of displaced people, sensitivity for the deep cultural connection people have with food, the arbitrary separation of electrification and cooking agendas in humanitarian strategies, and gender inequalities.

We define displacement settings (or situations) as inclusive of displaced and host populations with both household and community-level energy needs and call for this holistic approach to be reflected in the design of clean, modern energy cooking solutions. Rural area and camp displacement settings themselves are complex environments where the issues at stake do not only concern the displaced but also the host communities, who frequently face similar challenges, leading to potential tensions and competition over already scarce resources.

In contrast, those displaced into urban and peri-urban settings often have the local infrastructure to draw on but can be isolated by an absence of social inclusion, illegitimacy or informal land occupation that prevents access to formal energy services (such as signing on to a utility for electricity), a lack of awareness of the options and limited household budgets for upfront capital expenditure that results in poor energy access.

Data on the displaced in urban and peri-urban areas is scant. While the headline data is that over 50% of displaced people live in these areas, suggesting over 40 million (and likely significantly more),

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[1] (Muggah & Abdenur, 2018) Refugees and the City the Twenty-first-century Front Line
[2] Ibid.
[3] (Lahn & Grafham, 2015) Heat, Light and Power for Refugees. Saving Lives, Reducing Costs
[4] (ESMAP & MECS, 2020) Analysis of the Drivers and Barriers for Transition to Modern Energy Cooking Services

there are a very limited number of studies that provide insight into their energy situation and context. This reflects the absence of data on urban cooking generally, including in the MECS priority countries. A systematic review conducted by MECS[5] found that there were few studies on cooking in an urban context, prompting a recommendation that given the growing trend of rapid urbanization, particularly amongst the young, whom the evidence suggests are more likely to adopt modern technologies, this is worthy of future study.

Most urban contexts offer at least some level of infrastructure access and therefore opportunities that the rural areas and camps do not. However, the marginalised, including the displaced, in urban areas may be vulnerable to issues such as exploitation, arrest or detention, and competition over limited resources and jobs[6]. A lack of social capital and inclusion in the society only exacerbates existing vulnerabilities.

The purpose of this report is to analyse the landscape of modern energy cooking in a diversity of displacement settings. It seeks to identify the drivers and constraints for the transition from traditional biomass fuels to modern energy cooking. The study focuses on displacement settings in 15 countries in Sub-Saharan Africa (Ethiopia, Ghana, Kenya, Malawi, Rwanda, Tanzania, Uganda, Zambia, Cameroon, the Gambia and Nigeria) and South, South-East Asia (Bangladesh, Cambodia, Myanmar and Nepal)[7]. Relevant examples from other displacement settings are also drawn upon where appropriate, in light of the limited evidence on energy in displacement settings across the 15 priority countries. The study is based on a desktop literature review of academic and grey literature. The focus of the study centres on three main themes:

- Technological requirements
- Role of different stakeholders
- Policy and finance

The landscape study will inform the Modern Energy Cooking Services (MECS) programme strategy and open up wider discussion within the humanitarian sector to shift the narrative on clean cooking in situations of displacement. For rural areas and camps, this might mean moving away from fuel distribution and direct combustion of biomass to the provision of modern, sustainable and affordable cooking services with the people in displacement settings and their host communities at the heart of their design. For urban and peri-urban areas, for which we again note there is a lack of data and is a neglected constituency of displaced persons, the priority is to fill a data gap and open up the narrative on how displaced persons might access local infrastructure. This is less about designing new infrastructure programmes and more about awareness raising for local officials, mechanisms for inclusion, and changes in law and status for energy access such as utility connections and upfront capital lending.

By mapping out modern energy cooking projects and interventions in displacement settings to date, the report has identified several critical gaps, including lack of understanding of cooking in urban and peri-urban displacement settings, and community-scale cooking (e.g. in schools, clinics, businesses etc.); limited application of innovative financing and business models for energy solutions across all

[5] (ESMAP, n/d) Analysis of the Drivers and Barriers to for Transition to Modern Energy Cooking Services (MECS)
[6] (GPA, 2018) The Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement Framework for Action
[7] The 15 countries are the MECS programme's priority countries.

displacement settings; short-term approaches to what proves to be a long-term challenge, and an overall scarcity of data on energy access (electricity and cooking).

TECHNOLOGICAL TRENDS AND OPPORTUNITIES

For rural areas and camps, energy for cooking has predominantly been based on traditional biomass fuels such as firewood and charcoal used over a three stone fire and other basic devices. In addition to limited local capacity building and market system development, the investment of international donor funding has focused on technologically basic improved biomass cookstove (ICS) interventions with little evidence of improvement to the health and safety of displaced people. Only more recently have the cooking transition efforts focused on truly clean, modern energy cooking based on liquid or gas fuel, or electricity (including solar), though few projects have managed to reach scale. For example, in response to humanitarian emergencies, **cooking primarily with LPG has shown to be successfully scaled as a viable short to medium term "transitional" solution in refugee camps** in Bangladesh and across the Middle East[8]. The drivers for these interventions were protection needs (i.e. security and safety from potential violent events when leaving settlements or camps, including significant risk of sexual and gender based violence (SGBV) due to firewood collection) with a sudden significant influx of refugees from a conflict situation, major environmental degradation due to shelter building and firewood fuel usage, and lack of locally available firewood fuel.

For protracted humanitarian crises, the major long-term constraints for widespread LPG adoption in displacement settings are the significant on-going economic burden, lack of established distribution networks and the challenges of setting them up in displacement settings, and the increased risk of supply-chain disruptions during times of global crisis.

As prices of photovoltaic (PV) systems have been falling, decentralised solar solutions such as solar lanterns, solar home systems and mini-grids have been playing an important role in rural electrification efforts, as well as in displacement settings as of recent. These developments in Sub-Saharan Africa (SSA) and parts of Asia offer an opportunity to explore electricity as a viable cooking solution for these contexts, especially if paired up with innovative business models deployed in the off-grid solar sector. Even though issues such as sufficiency and reliability of power supply through such solutions can be a barrier to cooking with electricity they are increasingly being overcome with the emergence of high-efficiency electrical cooking technologies such as electric pressure cookers (EPCs), rice cookers, slow cookers and induction stoves. Other barriers include technical and economic barriers such as the costs per kWh and low levels of rural electrification where rural displaced are located (e.g. majority of refugee camps)[9,10], social barriers such as perceived reliability of power generation and distribution, as well as cooking habits and traditions; and political and legal barriers such as the legal rights of refugees to work, restricted freedom of movement and land tenure arrangements, which limit their ability to participate in local markets and perpetuate the reliance on free fuel distribution and collection.

A particular opportunity rests with institutional responses within rural and camp displacement. Within camps there are often feeding centres, schools and clinics each of which have a need for large scale cooking. Provision of new infrastructure to tackle this addresses a need while avoiding the social

[8] (UNHCR, 2020) Rohingya Refugee Response – Bangladesh.
[9] (HEC, 2019) Humanitarian Energy Conference 2019 Conference Report
[10] (Batchelor, Brown, Scott, & Leary, 2019) Two birds, one stone-reframing cooking energy policies in Africa and Asia

barriers often found in household cooking. In some instances, host communities do not have robust health clinics and schools, and where the displaced communities are integrated there are opportunities to upgrade the host communities' institutional infrastructure for the benefit of all.

In urban and peri-urban settings, new opportunities for the host communities are constantly being explored. For instance, over the past 5 years, the availability of commercial, highly energy efficient electric household appliances, including cookers, has gained traction in the argument for **electric cooking as a primary cooking method as access to electricity stands at a high rate in urban settings.**[11,12] This is important for the 60% of refugees and two-thirds of IDPs who live in urban and peri-urban settings.[13]

In addition to the issues brought up by their settlement status, the displaced have many of the other barriers that have been identified for the transition of biomass cooking to modern energy cooking in urban and peri-urbans areas. These include a lack of awareness, the perception that electricity costs more than other fuels, perceived (un)reliability of power generation and distribution, as well as cooking habits and traditions.

ROLE OF DIFFERENT STAKEHOLDERS

The modern energy cooking eco-system in displacement settings involves a multitude of stakeholders from UN organisations, humanitarian agencies, local and national governments, to non-government organisations (NGOs), donors, businesses, research organisations and the displaced people themselves. Their concerns vary from human protection, poverty alleviation, climate change, environmental conservation, health, education, energy, and gender inequality. Not all organisations that implement MECS interventions identify SDG 7 (energy access for all) within their organisational goals, even if there are clear linkages between energy access and their priority areas which fall under SDGs 1 (no poverty), 2 (zero hunger), 5 (gender equality), 8 (decent work and economic growth), 13 (climate action), 15 (life on land) and 17 (partnerships to achieve the Goal). This can be a source of strength in ensuring that modern energy cooking services contribute to broader development goals.

Individual strategic partnerships between humanitarian actors, private sector actors, academia and governments exist at the project level, but have been historically ad hoc with poor coordination. Since 2018, the high-level, international coordination of these stakeholders has been facilitated by the UN-led Global Plan of Action for Sustainable Energy in Situations of Displacement (GPA), a non-binding framework for inter-agency collaboration of 200+ organisations to ensure that all refugees and displaced people enjoy safe access to affordable, reliable, sustainable, and modern energy services by 2030. The GPA together with the UN High Commissioner for Refugees (UNHCR) under the Clean Energy Challenge (CEC) launched in 2019 to boost multi-sectoral cooperation and coordination. Additionally, improvements have been made in sharing lessons learnt, for example through the Energypedia webinar series on Sustainable Energy in Humanitarian Settings, though there are still barriers for transparent and systematic reporting on energy projects and programmes, clean cooking energy indicators, fragmented data collection and its limited availability. Greater involvement of people in displacement settings in the dialogue could help to accelerate the roll out of and increase the impact

[11] (Batchelor, Leary, Leach, & Brown, 2018) eCook Global Market Assessment. Where will the transition take place first?
[12] (Muggah & Abdenur, 2018) Refugees and the City The Twenty-first-century Front Line
[13] (UNHCR, 2020c) Global Trends Forced Displacement in 2019

of energy services in these challenging contexts. This will involve shifting the narrative to recognise the skills and knowledge of people in displacement situations and moving towards people-centred design.

As said above, data for urban and peri-urban settings are in short supply, including the role of stakeholders and the political economy between humanitarian organisations and government and developmental actors. Collection of such data should be deeply integrated with local planning – for instance municipalities are often aware of informal or semi-formal settlements and take them into account for their long-term planning. They rely on data collection across many agencies, all of which could also benefit stakeholders in the humanitarian sector.

POLICY AND FINANCE

Governments of areas hosting large numbers of displaced people have an important role in the success of energy interventions. Enabling policies and mandates that build alliances between governments, humanitarian organisations, NGOs, research organisations and businesses are critical to safeguarding and providing support for the access to modern energy cooking for people in the entire range of displacement settings. National and local electrification and cooking strategies should be inclusive of all people affected by the lack of access to clean, modern energy. Such approaches can ensure that no-one is left behind.

Enabling policies that empower and build resilience among refugees, asylum seekers and stateless persons **include the right to work, freedom of movement and land tenure arrangements**. International humanitarian organisations also have a significant role to play in long-term energy cooking solutions. The enactment of the UNHCR Global Compact for Refugees in 2017, places a mandate to support both refugees as well as host communities. This major shift from humanitarian response to long-term community development policies enables long-term planning of infrastructure that supports the development of all people affected by displacement. This translates into both host and displaced populations gaining access to critical infrastructure, which can diffuse potential conflicts and tensions between them, whether that be a camp setting surrounded by a host community, or where it is the displaced integrated into an urban community but perceived as being outsiders.

The current policies of free distribution of cooking fuel to displaced people in camps have distorted energy markets and reduced the willingness of displaced people to pay for cooking energy. The piloting of local market systems in rural areas and camp displacement settings for clean cooking provision is a new strategic approach to move towards resilience, the ability to choose solutions and having a sense of ownership over energy services. Enabling the narrative change to modern energy cooking will require a whole systems approach encompassing innovative implementation models, progressive funding mechanisms and collaborative private-public partnerships developed with a long-term view, and capacity building within humanitarian, energy, donor and business sectors as well as with people in displacement settings who will benefit from access to modern energy cooking.

Importantly, a narrative shift will be required in the way energy interventions are designed in displacement settings. Humanitarian agencies which are responsible for the majority of the displaced globally, have a short-term focus due to the nature of their mandate to act quickly and effectively in crisis situations. This approach, however, is not aligned with the needs of the displaced in protracted crises situations, including access to energy and infrastructure, which call for much longer time frames.

According to UNHCR[14], there were 15.7 million refugees in protracted situations (5 years or longer as a refugee) at the end of 2019. Protracted internal displacement has also been on the rise as a result of conflict and disasters[15]. The inadequacy of traditional humanitarian approaches hinders the much-needed long-term intervention planning and is among the top factors needing change if universal energy access in displacement settings is to be achieved in the next decade.

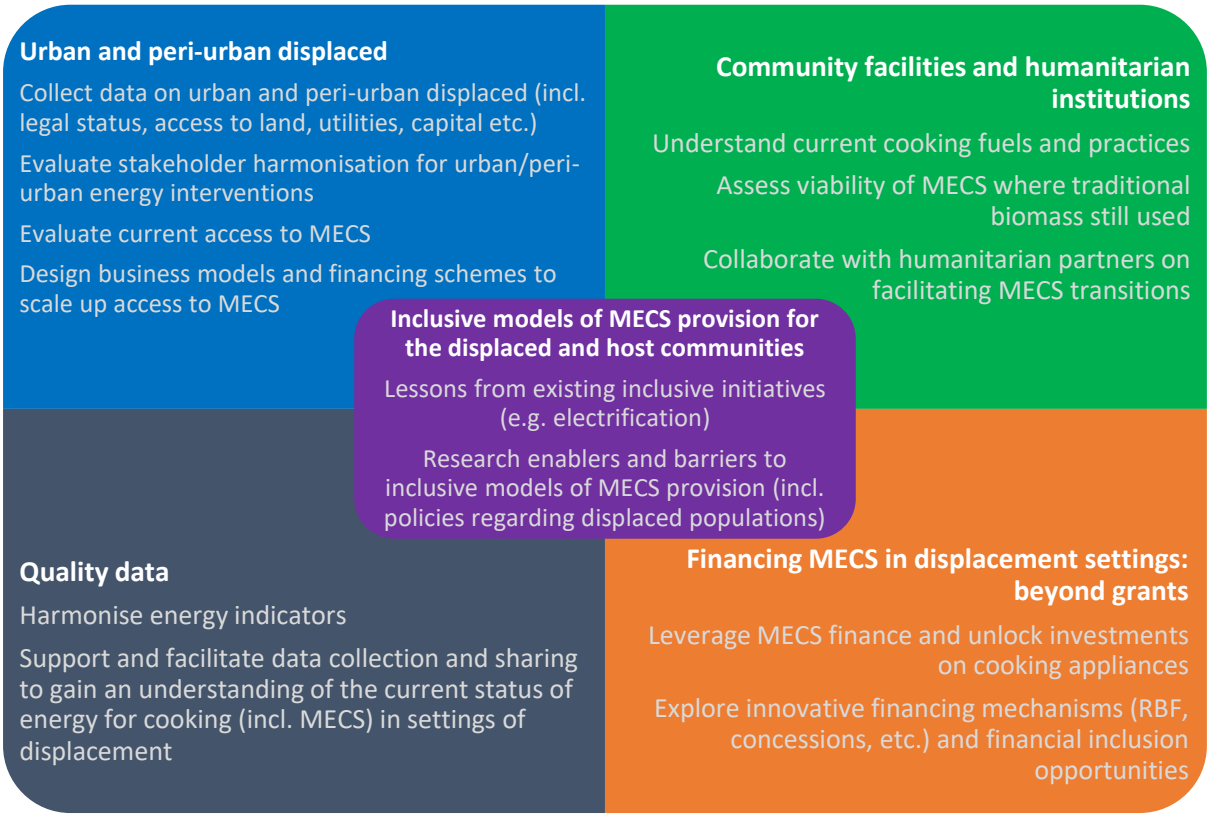
A matrix of enabling policies relating to refugees', asylum seekers' and stateless persons' right to work, freedom of movement and right to land ownership identified **Gambia (the), Ghana, Uganda, Cameroon and Ethiopia** as the most progressive countries in term of displaced populations policies for self-reliant livelihoods. This provides an opportunity for the displaced to increase their purchasing power for MECS solutions of their choosing, creating a sense of dignity and empowerment.

A more nuanced question lies over the role of humanitarian stakeholders working with the urban and peri-urban displaced. Previous research by the MECS programme has shown that MECS interventions are more likely to succeed in urban and peri-urban settings in which electricity and gas infrastructure are already established alongside high prices for firewood and charcoal[16]. Considering these factors, MECS interventions in displacement settings are more likely to succeed in countries with significant number of displaced people in peri-urban and urban settings such as **Uganda, Kenya, Ethiopia, Nigeria, Myanmar and Cameroon**.

KEY RESEARCH PRIORITIES

This landscape report has identified five priority research areas which would make the biggest impact for modern energy cooking services in displacement settings (see Figure 1). We call for inclusive models to be at the core of energy interventions, including for modern energy cooking services, which meet the energy needs of all people in situations of displacement.

[14] (UNHCR, 2020c) Global Trends Forced Displacement in 2019
[15] Ibid.
[16] (ESMAP & MECS, 2020) Analysis of the Drivers and Barriers for Transition to Modern Energy Cooking Services



Research needs for modern energy cooking services in situations of displacement.

Firstly, cooking with electricity can be a reliable, scalable, and an economically viable long-term solution for if the right enabling eco-system is in place. Political commitments and innovative funding mechanisms have facilitated successful electrification efforts in refugee camps and many urban centres in SSA and South, South-east Asia. Including electric cooking as part of electrification programmes to tackle the most pressing energy challenge for all, including people affected by displacement, has now become a feasible next step in many regions of the world. MECS could leverage existing country and local municipality strategies to *include displacement settings*, particularly urban and peri-urban settings, in which electricity access and LPG supply chains are available to transition the many who still cook with biomass to MECS. However, there is a scarcity of data on urban and peri-urban displacement settings which has to be addressed first in order to understand the needs in those contexts and to design appropriate business models and financing mechanisms.

Secondly, rolling out clean, modern cooking services in institutional settings, including schools and health clinics, community marketplaces, businesses, welcome reception centres and UN kitchens for staff, may be more successful than at the household level as those facilities have greater access to resources, including funding mechanisms, with the potential to be the first cooking innovators in displacement contexts. In addition, MECS in institutional settings can help to build awareness and capacity for household-scale and communal cooking interventions in situations of displacement.

Thirdly, although energy access in displacement settings has seen more interest from different stakeholders, including governments, NGOs, donors, private sector actors, and humanitarian organisations themselves, most of the support towards this area has been through grant funding, which is often limited in scope and has a relatively short lifespan as compared to the long-term nature of the energy challenge. To provide sustainable MECS, a more diverse range of funding mechanisms is urgently needed. These could include concessions, Results Based Financing (RBF)

schemes, crowdfunding and more, with lessons learnt from energy access financing in the development sector and the wider MECS programme used to guide their design. The programme could also leverage existing innovations in energy financing and investments in electric appliances to support their applications, and potential adaptations needed to tailor them to displacement settings.

Fourthly, significant data gaps exist on displacement settings within urban and peri-urban areas. As energy access has fallen outside of humanitarian organisations' mandates, data on the subject in displacement settings has not been collected in a systematic way or at all. To support MECS transitions, greater effort is required to collect quality data and harmonise energy access indicators to understand the needs of populations affected by displacement and the impacts of modern energy cooking interventions. With the existing expertise in evidence building and the ongoing collaborations with partners involved in pushing the agenda for improved data collection (e.g., the Global Plan for Action and UNHCR under the Clean Energy Challenge), there is an opportunity for the MECS programme to help facilitate suitable data collection and knowledge building mechanisms for displacement settings.

Finally, a commitment should be made to work with people in displacement settings towards a long-term programme sustainability as a central feature at the conception of clean cooking programme design. Those affected by displacement should be recognised as not just passive receivers of aid, but as self-organising, active leaders of their own solutions. There should also be recognition of emerging power relations among the range of stakeholders involved in the transition to MECS, who shape decision-making on what solutions should be deployed, by whom and under what models. At the centre of MECS interventions must be the **voices of people in displacement settings and the ability to choose solutions that meet their self-identified needs, to enable them not only to survive but to thrive.**