Sustainable Humanitarian Energy Services

Inclusive participation, lessons learnt, and paths forward

Sarah Rosenberg-Jansen[1]; Megan Barlow, Stella Peisch, Nydia Ponnan, and Prerna Rathi[2]

[1]Practical Action and University of Oxford
[2]London School of Economics and Political Science

The provision of sustainable energy in humanitarian settings is a relatively new sector: as it scales up, it is vital that the needs and aspirations of refugees are placed at the centre of humanitarian response. In this paper, we explore how best practices and lessons from other development sectors can inform the delivery of energy in humanitarian settings.

We suggest that energy service programmes in refugee camps can be more successful if organizations implement participatory, bottom-up, and market-based approaches. We highlight seven mechanisms and examples of best practice that implementers can adopt while responding to the energy needs of refugees.

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

UNIVERSITY OF OXFORD

PRACTICAL ACTION
Technology challenging poverty

Executive summary

Displaced people and refugees are often not included in energy access planning; however, delivering universal energy access by 2030 and meeting Sustainable Development Goal 7 (SDG7) requires meeting the energy needs and aspirations of everyone. The provision of sustainable energy in humanitarian settings is relatively new; currently the energy needs of millions of displaced people are being met inadequately or not at all (Lahn and Grafham, 2015). Existing top-down practices often result in humanitarian energy programmes that are unsuitable or insufficient for beneficiaries' needs. The purpose of this paper is to understand the barriers to inclusive energy planning, and draw out lessons from humanitarian response programming in energy and other sectors, generating invaluable insights for the field of energy provision in refugee camps. Our analysis focuses on energy from renewable or sustainable sources, and on humanitarian responses in refugee camps. However, the lessons are likely to be applicable in a wider range of contexts.

Our key recommendations for beneficiary inclusion in the provision of sustainable energy in humanitarian settings are:

Energy technologies for the long term: The sustainability of energy services in refugee camps can be considered not only in terms of energy sources, but also durability, self-sufficiency, quality, and reliability. Refugee camps are commonly misconceived as temporary settings, while in reality they are often long-standing. Residents need to be regarded as part of communities needing to re-establish their livelihoods, engage with markets, and develop relationships outside the camps with the host government and local communities. Tools and practices already exist to balance the immediacy of emergency response with the need to build long-term energy solutions.

Refugees and local communities as agents of change: Beneficiary and market-based participation are often necessities for the creation, implementation, and adoption of suitable and sustainable programmes. Humanitarian organizations can engage with communities and the private sector from the beginning and throughout projects. Interaction with local communities could include methods of informal engagement and trust building; while market engagement activities such as including energy businesses during assessments could expand the range of durable solutions available. Ideally, engagement with communities should be widespread and continuous, while taking into consideration existing power dynamics and the risk of possible marginalization of already vulnerable populations.

Refugees should not be perceived as passive receivers of relief

Beneficiary agency and market-based solutions: The conventional model of distributing items free in refugee camps is usually only appropriate during the early phases of an emergency response. For protracted crises, refugees should not be perceived as passive receivers of relief, but rather as part of a community whose needs, ideas, and solutions can be fully integrated into response planning. Solutions can be home-grown; products can be locally sourced and produced where possible, and organizations can develop strategies to engage with local markets and domestic innovation. A balance of solutions from within refugee communities and external or imported products and services is important. What is critical for the success of such programmes is there must be strong buy-in and participation from refugee communities. There is an active debate among practitioners, but certain actors argue strongly for market-based approaches. They see this as a powerful way to reposition beneficiaries as clients and, ultimately, change the relationship between providers and beneficiaries to enable a more appropriate fulfilment of needs.

Solar cinema in Kalobeyei refugee village in Kenya. Credit: Practical Action/Edoardo Santangelo

Energy in refugee camps: an introduction to inclusive participation

10% of refugees living in camps have reliable energy access

Worldwide there are more than 65 million forcibly displaced people, with over a quarter living in refugee camps, where aid agencies are the main providers of necessities such as food, water, and shelter (UNHCR, 2015). Energy access is generally overlooked; only 10 per cent of refugees living in camps have reliable energy access: energy is not prioritized as part of the 'survival toolkit', nor is energy one of the humanitarian response clusters organized by agencies (Lahn and Grafham, 2015). However, as reinforced by SDG7, energy is central to daily life and is required for heating, cooking, powering, and lighting. Therefore, being without energy dramatically reduces people's standard of living (United Nations, 2016).

Better access to sustainable energy can improve the health, security, education, and even the productivity of refugee populations

Sustainable and renewable energy sources, such as solar energy, have been proposed as financially viable and environmentally sustainable alternatives to traditional solutions currently being used in refugee camps such as firewood and kerosene. Additionally, better access to sustainable energy can improve the health, security, education, and even the productivity of refugee populations, culminating in an overall better quality of life (Lahn and Grafham, 2015). We define 'sustainable humanitarian energy services' as renewable or modern energy products, technologies, and services that meet the total energy needs of refugees and other displaced people in a financially and environmentally sustainable manner. In this terminology, renewable sources are defined as those from sources that are not depleted when used and that renew within a quick lifecycle, such as wind, solar, water, and ground-source heat. Sustainable energy sources may also include ethanol, LPG, biomass, and biogas, etc. depending on how they are produced and used: if they are produced using sustainable farming or production methods that limit the amount of carbon and pollutants being produced they may be able to be considered sustainable in terms of not impacting on climate change. Financial sustainability is a complex issue, as almost all humanitarian responses are supported by donors in some way. Here, financial sustainability is viewed as a way of working which suggests a clear and actionable long-term plan to move away from donor support and improve the self-reliance of refugees.

Lack of energy access is a complex issue that impacts more than 125 million displaced people worldwide

In this analysis, we focus on forms of energy that are either from renewable sources such as wind, hydro, or solar, or that are sustainable in their provision and supply. This focus is due to the humanitarian sector's recent shift to begin viewing energy as going beyond firewood provision and diesel-powered electricity generation in camps and for humanitarian operations. While this shift is occurring slowly and unevenly throughout the sector, there is a general recognition that sustainable energy options present a new way forward (Lahn and Grafham, 2015). This paper is focused on humanitarian responses in refugee camps, although it touches on wider situations of displacement such as self-settled refugees and internally displaced populations. One reason for this is to be able to draw concrete examples from comparative sectors. Another is to narrow our scope of enquiry to focus on specific issues and lessons for refugee situations. It is important to note that a lack of energy access is a complex issue that impacts more than 125 million displaced people worldwide, including internally displaced people and people impacted by natural disaster (Sustainable Development Knowledge Platform, 2017). Focusing on refugees is common because of the amount of data available and because many organizations directly report their experiences working with refugee communities, which enables us to draw some of the lessons for this paper. However, it is hoped that this analysis can be discussed more widely in terms of energy use across displaced settings.

This briefing paper examines current tools and mechanisms of inclusionary practice: analysing how 'beneficiaries' are involved in response programming and trying to understand alternative models for involving refugees as consumers and participants. An extensive desk review of existing literature and case studies was conducted, as were interviews with practitioners to understand the complexity of the issues. The analysis investigated best practice examples of how beneficiaries are currently included in humanitarian response programming across various non-energy sectors.

Inclusive participation in energy service provision

What tools and mechanisms are available to incorporate beneficiaries into the planning and provision of renewable energy service provision in refugee settings?

The central aim of this briefing paper is to understand the role that refugees can play in determining their own energy access and, in doing so, to start to bridge the gap between the goods and services provided by aid agencies and private markets, and the needs and wants of refugees themselves. We aim to answer the question: What tools and mechanisms are available to incorporate beneficiaries into the planning and provision of renewable energy service provision in refugee settings?

The research focuses on beneficiary inclusion, where beneficiaries are defined as the recipients or end-users of products or services distributed as part of a humanitarian programme response (Kaiser, 2002). We also understand refugees to be customers and consumers when market-based solutions are possible. This project will interchangeably use refugees, community, recipients, customers, and stakeholders when referring to beneficiaries. Beneficiary voice is defined as the agency that beneficiaries possess to determine their own path to recovery (Angle, 2015). This paper will interchangeably use agency, voice, input, inclusion, involvement, and participation when referring to beneficiary voice. Humanitarian organizations tend to use beneficiary voice marginally, as a form of gathering input, involving or including affected communities in humanitarian response programming (Anderson et al., 2012), whereas this analysis will focus on a range of ideas for how humanitarian organizations can more actively involve beneficiaries in energy planning.

To understand this issue, various projects implemented by humanitarian organizations in refugee camps were considered. This report examines lessons from wider

development and other humanitarian sectors in concert with the energy sector, with the understanding that the experiences of some technology sectors will have relevant and applicable lessons to others. Some international bodies, such as the SPHERE Handbook (Sphere Project, 2017) suggest guidelines for technology standards in humanitarian settings. The recent SPHERE guidelines contain some recommendations on energy. Such guidelines often integrate energy with other technology sectors which share similarities with energy in that these services are vital to refugees, expensive to implement, and are typically provided by humanitarian organizations. ICT, WASH, shelter, and energy are interconnected, cross-cutting fields and are often considered as one under the umbrella of environmental action (Bellanca, 2014; Gunning, 2014). The sections below consider the types of humanitarian planning and barriers to using inclusive tools across various technology sectors to draw out the lessons for sustainable humanitarian energy services.

Example of a refugee business in Kakuma refugee camp in Kenya. Credit: Practical Action/Edoardo Santangelo

Humanitarian planning and programming

The humanitarian system is a complex network of stakeholders all tasked with responding to the needs of crisis-affected communities. These actors determine the level, stage, and method of beneficiary participation. Currently, there are three modes by which beneficiaries are included in humanitarian response:

- Top-down humanitarian planning: Bloom and Betts (2013) define top-down design as a hierarchical and donor-driven response, where solutions used in programmes are conceived and designed outside the area of implementation. When these solutions are imposed on the beneficiary population, the solution is often rendered useless and rejected, which results in waste of resources. An example of how top-down design can lead to such results is the unused outdoor kitchens built in the Dollo Ado refugee camp in Ethiopia. Alexander Aleinikoff, the UN Deputy Commissioner for Refugees, asserted that these products were rejected by the recipient community because the kitchens were 'designed back in the headquarters' (Confino and Paddison, 2014).
- Bottom-up humanitarian planning: Bottom-up practices are seen as a 'people-centred approach', where affected communities are the drivers of the humanitarian response (Betts et al., 2015: 4). Figure 1 below illustrates how the bottom-up approach is a

Bottom-up approaches are premised upon meaningful engagement with the beneficiary population

process involving many activities including consultation, information provision, two-way communication, accountability, participation, and ownership. Bottom-up approaches are premised upon meaningful engagement with the beneficiary population (Bloom and Betts, 2013). When the bottom-up model is optimally utilized, beneficiaries are at the centre of the response; they are involved and provide feedback at every stage of the programme, including project diagnosis, design, and implementation phases.

- Integrated and systems approaches to humanitarian planning: Both top-down and bottom-up approaches have their limitations, and we suggest that integrated planning using systems thinking may offer one solution of how to enable meaningful participation of beneficiaries in humanitarian response planning. The World Humanitarian Summit emphasized the importance of an inclusive model of humanitarian aid by placing the affected communities at the centre and enhancing local capacities to enable communities to transition away from short-term aid (World Humanitarian Summit, 2016; Agenda for Humanity, 2017). Understanding system requirements, such as the total needs of refugees and humanitarian operators, and barriers underpinning humanitarian planning is vital to delivering adequate responses and inclusive energy access.

We argue that a mixture of bottom-up and integrated systems approaches to humanitarian planning is best suited to delivering long-lasting energy services that meet people's needs. Figure 1 highlights how bottom-up and people-centred approaches can occur within the programming cycle. These inclusive approaches can also be extended both to private sector and market players within the energy sector who may wish to, or are already, involved in the supply of sustainable energy services for refugees.

Barriers to inclusive humanitarian and development planning: the case of energy

There are several challenges commonly associated with including refugees in the design, implementation, and monitoring of programmes in camps. Energy programmes face additional barriers, such as there being no formal energy cluster to coordinate response across the humanitarian system although the SAFE Humanitarian Working Group (2017) do provide some coordination and knowledge sharing services for humanitarian practitioners.

Some of the traditional barriers to inclusive planning are discussed below before moving on to consider the types of solutions available:

- Disconnect from on-the-ground realities: Humanitarian organizations, when operating from Western-based headquarters, face several challenges when

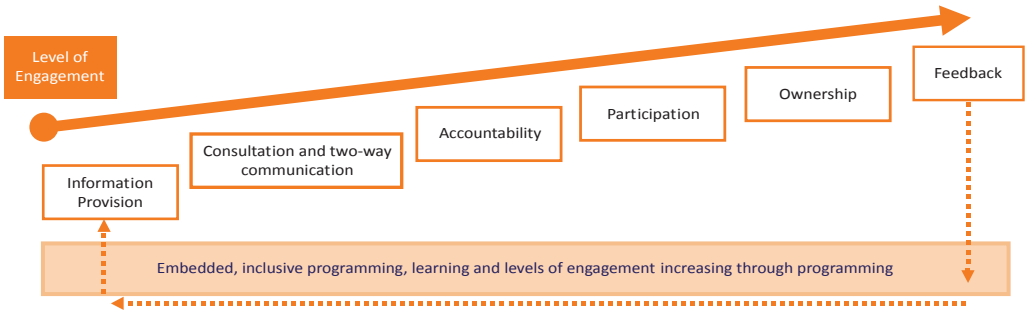

Figure 1 Embedded inclusive planning
Source: Adapted from Brown et al. (2014)

Perceptions and priorities in headquarters can differ from on-the-ground realities in refugee camps

A lack of long-term planning and investment can derail a collaborative participatory approach from becoming a success

implementing projects in the remote and often poorly understood conditions of refugee camps. Perceptions and priorities in headquarters can differ from on-the-ground realities in refugee camps (Johnson et al., 2016: 1). Due to this disconnect it is hard to reconcile projected HQ goals and time frames with those required for proper field implementation of programmes. Specifically for energy programmes, it can be difficult to convince individuals at the higher policy levels that energy services need to be prioritized.

- Cost and budget limitations: Collaborative programme design between organizations and affected populations can be costly, as this approach requires more time, staff, and logistics (Byrne, 2003: 153). One experience of the United Nations High Commissioner for Refugees (UNHCR) Energy Lab in co-designing a fuel-efficient stove with refugees at a camp in Ethiopia demonstrates the challenges that can arise even when beneficiaries are included. The Energy Lab visited the camp five times and conducted more than 40 interviews, focus groups, and informal community discussions (Energy Lab, 2016a). They also set up refugee advisory committees and collected information about cooking practices while using a collaborative process to design a stove with the refugees (Energy Lab, 2016a). Unfortunately, the project was ultimately not scaled up due to operational constraints (Energy Lab, 2016a). The inability to advance with this project is an example of how a lack of long-term planning and investment can derail a collaborative participatory approach from becoming a success. Despite on-going funding challenges, we suggest that these costs should be regarded as up-front investments in programmes, which can enable responders to incorporate existing refugee voices and agency.
- Biased sampling and targeting: Organizations also encounter methodological challenges when assessing refugee camps and the needs of beneficiaries, as they can rapidly change and are comprised of linguistically and culturally diverse groups. MacDonald (2015) finds that due to the segmented nature of refugee populations, surveys are conducted in ways that often do not comply with international standards. Some participatory methods, such as engaging women's groups, select individuals in ways that are not clear or objective, which can result in certain voices being prioritized over others. For example, when Berkeley Air Monitoring Group (2017) tested an innovative stove in Dadaab camp, Kenya, the majority of their focus group consisted of Somali refugees, due to their prevalence in the camp. The stoves could not be easily transferred to Kakuma, another camp in Kenya, due to different cultural practices and cooking habits among the residents. It is important that organizations acknowledge the wide variations within and between camps and other displacement settings such as cities and informal settlements, which in turn require a contextualization of products and services.
- Disrupting local systems: Organizations should consider positive and negative effects of aid delivery models in refugee camps, as aid can profoundly impact power dynamics and local structures. Within refugee camps, a lack of awareness of different needs can lead to the marginalization of certain groups and resentment among them. Gender, ethnic, or community power dynamics can also result in aid being manipulated or co-opted into underlying power tensions and fund systems of oppression (Pottier, 1996). Furthermore, practitioners warn of the dangers of showing preferential treatment to refugees over the local host communities, as this can result in animosity between the host government and the host population towards refugees. Lastly, there is a lack of consideration

A lack of awareness of different needs can lead to the marginalization of certain groups

of how the distribution of products for free can cause local market distortions. The distribution of aid can also prevent local markets from flourishing and thus deny local communities the opportunity to create financial feedback loops. It is important to recognize all the ways in which external programmes can impact existing systems.

- Ineffective participation: Kilby (2006) suggests that the indicator of a successful participatory approach is the amount of change beneficiary voice can enact on a programme, regardless of the tools used. Common practices of involving beneficiary participation often only allow for limited change and downward accountability mechanisms used in humanitarian programmes operating in refugee camps are often seen as minimal (O'Dwyer and Unerman, 2010). One practitioner stated that 'one of the biggest challenges for effective participation is the assumption that if you get the people in the room they will immediately speak up'. However, this assumes that communities will be willing to participate in an externally imposed agenda that they weren't involved in setting up. Organizations also need to be aware of previous external involvement in communities. Certain populations may have engaged with organizations that did not build trust or manage expectations, which can lead to communities losing faith in the work of external actors and ultimately refusing to collaborate with successive projects.
- Late stage inclusion: Beneficiaries are often only included in the late stages of a programme, generally during the monitoring and evaluation phase. However, participatory inclusion in M&E is criticized for alienating intended beneficiaries and ignoring qualitative information, which can provide a fuller picture of programme impact (Estrella and Gaventa, 1998: 15). Feedback on a product or programme is often misinterpreted as participation. However, by only including beneficiaries in this limited and delayed manner, participation often only occurs as part of protocol to satisfy certain transparency or upward accountability requirements, rather than to truly engage the affected population.

Starting with inclusionary practices: available tools and learning from best practice

Humanitarian agencies are working to overcome many of the challenges discussed above in order to bridge the gap between refugees' needs and humanitarian aid. Reframing solutions and improving living conditions in refugee camps requires participatory mechanisms that are 'done by people rather than to them' (Taket et al., 2009: 406). There are many ways to include beneficiaries. This section is intended as an overview of some of the tools and mechanisms available, rather than a comprehensive discussion of the possible ways of developing an inclusivity framework for energy provision in refugee contexts. As the humanitarian energy sector is an emerging area, this discussion is designed to increase awareness in humanitarian responders and practitioners to the tools and examples of best practice available early on in their planning and designing of programmes. Seven examples of inclusionary tools and best practices are outlined below. These are roughly organized in the order in which responders could integrate the tools into the planning cycle, starting with planning tools and needs assessments and moving through to participatory engagement and end-of-project monitoring and evaluation. Specific applications to energy are included where relevant and possible.

Adoption of conceptual planning frameworks could guide organizational operations by integrating energy at the start of programming

1) Conceptual planning frameworks: planning from the outset

Several organizations utilize conceptual planning frameworks, which are broad checklists of strategic goals, to guide a particular response programme. Save the Children (2017), Oxfam (2017), and the Food and Agriculture Organization of the United Nations use comprehensive frameworks to determine the best response strategy. Some of these frameworks are designed for emergency responses. For example, UN OCHA used their 2016 framework to respond to the humanitarian crisis in Syria, whereas Practical Action's Vulnerability to Resilience (V2R) (2017b) framework has been used worldwide to build long-term community resilience, thus reducing the impact of disasters before they occur (Practical Action, 2017b). The V2R framework enhances local adaptive capacities and supports beneficiary agency by taking a step back to ensure that all the available information and capacities are being used to meet actual needs, rather than perceived needs. Although many organizations have created frameworks, the analysis undertaken for this paper found that they were under-utilized. This research suggests that the adoption of conceptual planning frameworks could guide organizational operations by integrating energy at the start of programming and clearly outlining programme aims. Frameworks themselves will not be enough to effectively plan energy interventions but may provide initial ways that organizations can use to ensure optimal community integration and the use of local knowledge when planning energy solutions, reduce disruption of local systems and developmental lags. This can help to ensure that response transitions from emergency assistance to long-term recovery and resilience mechanisms integrate energy needs.

2) Needs assessment: better use of available tools

Humanitarian agencies strive to ensure that aid is based on refugees' unique needs and promote safe local coping mechanisms in the host countries through multi-sectoral needs assessments (UNHCR Emergency Handbook, 2017). Needs assessments take place in the initial stages of a humanitarian project when beneficiaries can voice their needs. Some organizations use participatory needs assessment tools such as mapping technologies, Participatory Rural Appraisals (PRA) (Chambers, 1994) and focus group discussions to understand information flows in areas such as resource allocation, coordination, and camp implementation plans (Xu, 2015). Existing tools, such as Practical Action's EMMA toolkit (EMMA, 2017), can also be adapted to include energy services to understand energy needs as part of wider needs assessments. For example, WAQE3 (2017), a non-profit in Jordan, used PRA to identify the barriers facing Syrian refugees in eastern Amman. Social workers from the local communities were trained to conduct the PRA in order to better understand the cultural values that the refugees are bringing from Syria and 'the effect of a different set of societal expectations' that they experience in Jordan (Al-Qdah and Lacroix, 2016). Understanding the energy priorities of refugees is one aim of the Moving Energy Initiative (MEI 2017), which has created an energy working group in Jordan. The humanitarian sector already has a wide array of participatory tools such as PRA and FGDs which can be further used in refugee contexts and particularly in the provision of energy services to enable diverse voices to be heard (see for example Practical Action, 2013). For energy needs, some tools have already started to be developed, such as MercyCorps (2017) and the energy assessments developed by Practical Action for the MEI. However, many of these tools focus on site-specific analysis and produce largely quantitative results. There may be value in integrating wider needs assessments and qualitative approaches to these types of tools to better adapt existing materials.

3) Feedback: proactive mechanisms for involvement

Each agency has its own mechanisms for recording feedback such as complaints handling, downward accountability, M&E, and evidence gathering (Baños Smith,

Humanitarian agencies, where possible, should aim to ensure that easily accessible follow-up mechanisms are in place

2009; Cohen, 2008). For example, World Vision in Sudan developed a Community Help Desk, feedback boxes, regular community meetings, and phone calls to collect everyday feedback (Bonino et al., 2014). From the start of programmes humanitarian agencies, where possible, should aim to ensure that easily accessible follow-up mechanisms are in place. Companies such as Freeplay that are involved in the humanitarian sector have the flexibility for changing products after receiving feedback. Similarly, disaster risk reduction experts often apply People Centred Reconstruction approaches (Lyons et al., 2013). Energy service companies, such as MKOPA and BBOX, already use innovative business models based on feedback from consumers that could be applied in refugee settings. Proactive feedback mechanisms allow stakeholders to adjust, modify, and improve their response and subsequent practices in refugee camps. Energy sector experts interviewed for this paper suggested that proactive feedback is most effective when organizations involve beneficiaries on a continuous basis to adapt humanitarian action – as consumers or direct participants.

Refugee camps are often not temporary but rather organic towns and cities with economically dynamic environments

4) Market-based approaches: valuing and understanding consumer needs

In many protracted crises, refugee camps are often not temporary but rather organic towns and cities with economically dynamic environments. Often, a variety of bottom-up social enterprises emerge and the community provides itself with various services, from pizza delivery to airport shuttles, as is the case in the Za'atari camp in Jordan (Beehner, 2015). These enterprises often span both the refugee and host communities. Some humanitarian organizations are exploring the potential of market-based activities in the energy sector, to increase sustainability and work together with refugees, as the market can be an effective determinant of wants and needs. Moreover, the market enables refugees and host communities to express choice and thus transforms them from passive recipients to active consumers. Mercy Corps (2017), for example, has illustrated that a market-driven approach can function as a needs assessment mechanism where the community is the client and the role of the organization is to provide services and products that best serve their needs. As one practitioner commented, 'if you propose something that doesn't match the needs of clients they won't buy it'. With regard to energy technologies specifically, MEI has developed a set of private-sector principles, which outline the types of approaches and methods that can be developed for humanitarian settings.

In some cases, humanitarian organizations are leveraging pre-existing market structures to strengthen the links with refugee communities and host retailers and vice versa. To support this approach, market-based assessments can be successful tools for designing an inclusive action plan using private-sector principles. For example, Practical Action has developed a Participatory Market System Development (PMSD) framework that suggests organizations 'cannot predict how the system will behave by looking at the individual people or parts' but needs 'to understand the relationships and the interactions' (Practical Action, 2017a). Overall, while the distribution of energy products for free or implementation of solutions that are costly, such as diesel generators, might be necessary in the very first phase of the emergency response, they are not sustainable in the long run. Therefore, organizations should explore the possibilities for supported markets and look for opportunities to engage with the private sector. This can be done while including beneficiary voices throughout activities, for example by using early market engagement activities, focus groups, and participatory market assessments.

Host community trader in Kakuma, Kenya. Credit: Practical Action/Edoardo Santangelo

5) Action and appropriate technologies: understanding uses of products and services

Communities are often capable of providing solutions for themselves using local knowledge and skills. Instead of enabling them to contribute to their own solutions and shape their own future, commonplace rhetoric has been to solve the problems of 'helpless beneficiaries'. Refugees should not be regarded as passive victims, but rather individuals with valuable capacities and talents. There is an impetus to change terminology to capture the power and agency of individuals in this process, as one interviewee suggested, 'we have to stop calling them camps, they are communities'. Several organizations have promoted beneficiary inclusion by introducing DIY products as part of their response programming. Liter of Light and LEDsafari, for instance, supply refugees with low cost, innovative, user-generated solutions in the form of solar lamp kits (Energy Lab, 2016b; LEDsafari, 2016). By involving beneficiaries in the creation of the products, they have created a sense of ownership and enhanced the prospects for acceptance. Involving the community in the decision-making process might entail higher costs, which should be regarded as an upfront investment leading to better sustainability in the long run.

Use of appropriate energy technologies is a challenging ask in the context of displacement, as there are often as many types of solutions as there are types of displaced communities. One tool that is available for understanding the range of energy needs and technologies available is the site-specific energy surveys, which have been developed by Practical Action as part of their Poor People's Energy Outlook series (Practical Action, 2016) and used in refugee settings through the Moving Energy Initiative. Practitioners have confirmed the need for context-specific solutions, for instance, stoves produced abroad on a mass scale and imported into camps might not fit with the cultural cooking practices. Moreover, solutions brought from the outside should be context-appropriate by incorporating the environmental conditions, agricultural availability, familial structures, market forces, and local infrastructure. This research suggests that the best way to identify context-specific energy solutions is to actively involve the community from the very beginning of the project.

Barefoot College trains older women, typically grandmothers, to become 'solar mamas'

6) Skills transfer and job creation: self-reliance and productivity

Many humanitarian organizations interact with beneficiaries via skills transfer and employment. When refugees are trained as a part of the implementation of a project, they develop valuable skills which can be useful for the redevelopment of their own country (Saha, 2004). Two best practice examples of this in the energy sector are Barefoot College (2016) and the Border Green Energy Team (BGET, 2016) who support beneficiaries with skills to shift their role from recipients to providers. Barefoot College trains older women, typically grandmothers, to become 'solar mamas' – engineers who 'fabricate, install and maintain parabolic solar cookers' in their communities (Barefoot College, 2016). Similarly, the Norwegian Refugee Council (NRC) has committed to establish a youth empowerment project that will teach young refugees electrical skills, specifically to install and maintain solar panels in refugee camps (NRC, 2016). Beneficiaries can use their skills to find jobs, thus reducing dependency on aid and leading to self-reliance. This research finds that renewable energy solutions can be opportunities to merge technical expertise with local practices and as tools to incorporate beneficiaries, in particular through knowledge-sharing and training sessions.

Local partners, who are often best placed to work with refugee and host communities

7) Involving local partners and stakeholders: open engagement

International agencies are increasingly involving local partners at different levels of the project design, implementation, and M&E stages of their work. Partnership and coordination is an evolving theme in the humanitarian cluster system to maximize sustainable inputs of local organizations in refugee camps (Altahir, 2017). As suggested by a practitioner, 'it's all about the local partner'. Technical experts might not be equipped with trust-building skills to engage directly with refugees, so they tend to rely on local partners, who are often best placed to work with refugee and host communities. International agencies partner not only with local non-profits but also with public and private sectors, creating 'opportunities to combine skills, expertise, and resources' tailored to the refugees' needs (Altahir, 2017). For example, Save the Children uses local 'mobilizers' to conduct their trainings as they know that recipients are more open to interacting with locals. For energy this is a challenge, as relatively few dedicated energy organizations exist in humanitarian field settings. One suggestion emerging from this paper would be that humanitarian organizations could partner with development organizations in-country to learn from their work and apply it to refugee contexts.

Embedded, inclusive programming: learning for the humanitarian energy sector

Understanding how impact happens in international development and humanitarian response is no easy task, especially in the area of sustainable humanitarian energy services, as the sector is still emerging and so little data or evidence is available. As the sector develops, it is vital that the needs and aspirations of refugees and host communities are placed at the heart of the response. Working with complicated feedback loops and unintended outcomes is a challenge but inclusive programming using some of the tools and mechanisms discussed in the sections above offers a real alternative for donors, implementers, and humanitarian organizations.

The different mechanisms of beneficiary inclusion discussed in this paper can be considered and developed within the context of embedded programming. Figure 2 suggests how these mechanisms could be considered as part of humanitarian programming. The figure indicates that in the initial stages, a needs assessment and a conceptual planning

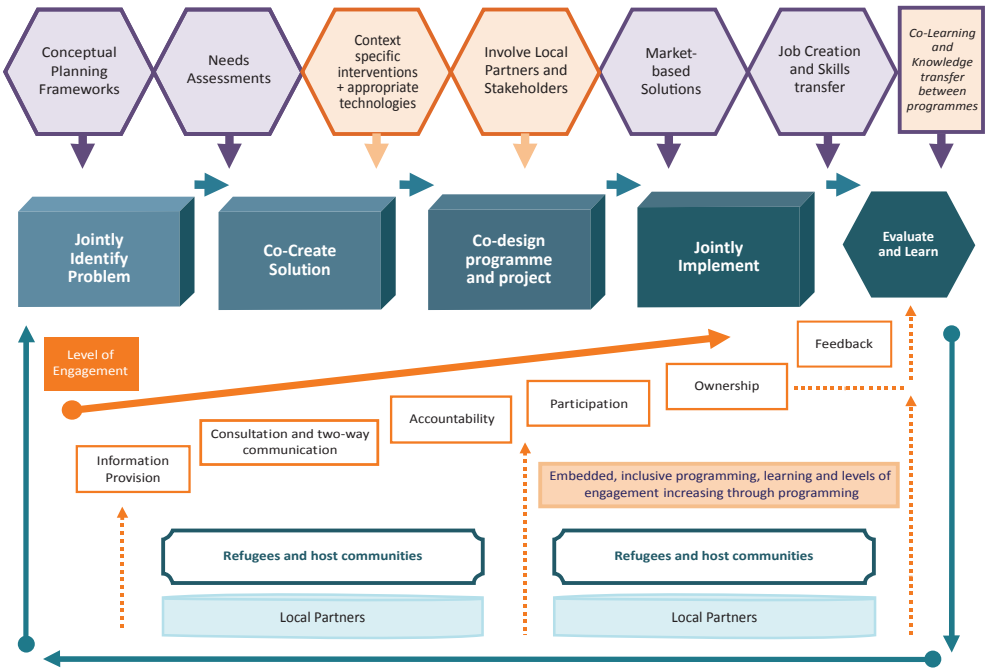

Figure 2 Embedded, inclusive programming: learning for humanitarian planning

framework should be used to guide the response. Embedded, inclusive programming and learning can increase throughout the lifetime of programming. Working with beneficiaries as participants and consumers to create appropriate context-specific solutions can produce radical change.

So how specifically could this work for sustainable humanitarian energy services? A first step would be to develop an integrated planning and assessment tool for humanitarian energy, which combines existing sources of data from agencies such as UNHCR, with participatory energy market development activities, and inclusive survey and data development within displaced and host communities. There is no need to reinvent the wheel here – several sources

Inclusive humanitarian practices: Refugee Music Store in Kakuma Kenya Credit: Practical Action/ Edoardo Santangelo

Several sources of data and best practice toolkits already exist and could be adapted as part of expanding inclusive planning for the energy needs of refugees

of data and best practice toolkits already exist and could be adapted as part of expanding inclusive planning for the energy needs of refugees. Supporting this thinking, several policy initiatives, including those by the Safe Access to Fuel and Energy working group (SAFE, 2017), GIZ (2016), and the Moving Energy Initiative (2017) are producing new toolkits and ways of working within humanitarian energy. For example, toolkits for private sector engagement and clean cooking solutions already exist as a first step for the sector (MEI, 2017). As do detailed surveys using participatory engagement methods for energy in Goudoubo refugee camp in Burkina Faso, and Dadaab and Kakuma camps in Kenya (MEI, 2016).

Recommendations for sustainable humanitarian energy services

In this paper, we have assessed the current humanitarian sector practices in the field of sustainable energy provision, specifically focusing on the implementation of bottom-up responses and beneficiary inclusion. In collaboration with practitioners from the sector, we have found that if energy provision in refugee camps is to be inclusive the following should be considered:

- Humanitarian organizations operating in refugee camps are increasingly aware of the positive outcomes of including beneficiaries. However, working with communities requires a comprehensive understanding of needs as well as the communities' limitations. For instance, if a population has low literacy rates, organizations could consider non-literature-based approaches to interact and collect information – such as photography and video projects, in which people capture changes they would like to see in their surroundings. Participatory approaches often require higher financial and time investments. However, investing beforehand in participatory approaches is key to long-term success and fosters a sense of community ownership.

Working with communities requires a comprehensive understanding of needs as well as the communities' limitations

- Inclusion of the community is critical throughout the whole project and is particularly important in the needs assessment phase. Beneficiaries are aware of their own needs and priorities. Yet, organizations fail to provide what is needed by overlooking beneficiary agency and their decision-making capacities. Organizations have attempted to remedy this by conducting needs assessments. Yet, these assessments are sometimes conducted in a superficial or skewed manner – for example, when organizations intend to supply specific products, this might elicit responses biased in favour of the service being offered, as refugees might provide the feedback that they think the organization wants to hear. Organizations can overcome this by approaching communities through alternative channels. For instance, an organization supplying stoves should conduct a broader needs assessment without just targeting the need for stoves and fuel. Moreover, lack of trust might impede transparent communication between organizations and beneficiaries. Organizations need to plan for time required for inclusion, regarding this as an up-front investment critical for success – ranging from time needed to educate and inform the population, to test models and collect feedback, and to implement modified solutions. It is essential to spend time and informally engage with the community not only to gain trust, but also to understand the community's power dynamics and actual needs. For instance, the UNHCR Innovation Lab addressed these challenges by inviting Somali anthropologists into the Dollo Ado camp to understand the needs and underlying challenges facing the community.

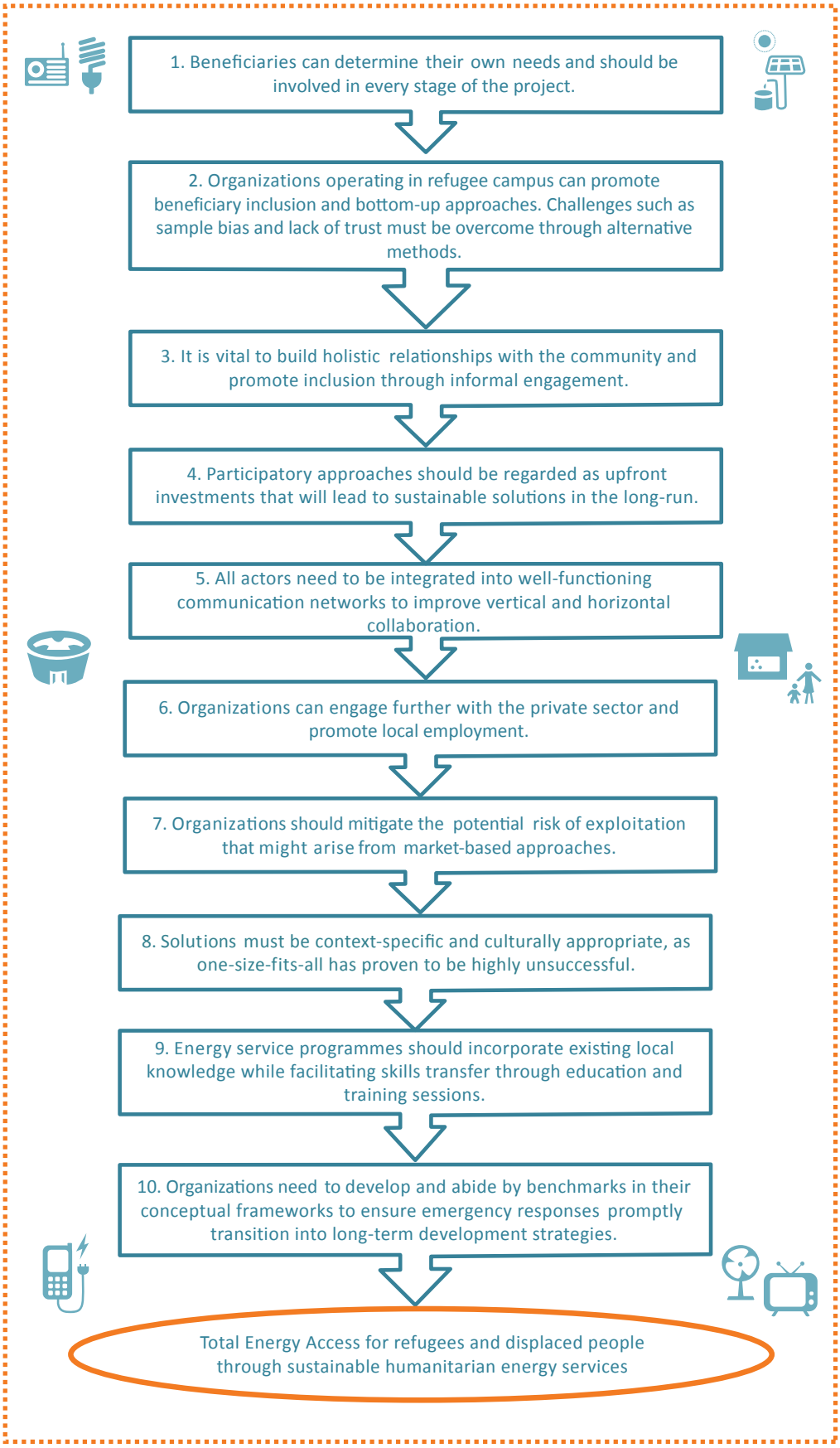

Figure 3 Recommendations for inclusive planning for sustainable humanitarian energy services

Organizations can develop indicators, benchmarks, learning strategies, and guidelines on feedback mechanisms

- In the early phase of an emergency response, the immediate delivery of services is a priority. Nevertheless, organizations can develop indicators, benchmarks, learning strategies, and guidelines on feedback mechanisms as part of their conceptual framework to define at what stage of a crisis a more integrated strategy can be put in place. Engaging and working with local partners and implementing bottom-up approaches needs to be done as soon as possible.
- Humanitarian organizations have begun to recognize that refugee camps are often not temporary solutions but are often more like cities with their own market dynamics. Many practitioners have advocated for a market-based approach and private-public partnership using cash programming instead of give-away models in energy services. The introduction of market-based approaches would not only reduce market distortions caused by the distribution of items for free, but also provide refugees with opportunities to choose – choice can be seen as the optimal form of inclusion. Moreover, supporting existing marketplaces, establishing linkages with the private sector and creating employment opportunities, could improve relations between the host community and refugees, who are often perceived as an economic burden. However, the idea of market-driven solutions in refugee camps has raised concerns about the access and affordability of energy services. Humanitarian organizations strive to ensure that refugees are protected and not exposed to the risk of exploitation. How to balance these two objectives is a core concern of the sector and one to which there is no easy answer. Cash programming is posited as a best practice, but in contexts where predatory networks exist, cash-transfer might be co-opted by these networks. Other factors such as mobility of refugees, access to employment, and existing markets must be considered. Overall, there is not a set of 'best solutions' but rather 'best practices' based on contextual variables: supported markets and participatory planning may offer a strong combination of mechanisms to provide sustainable positive impacts.

Choice can be seen as the optimal form of inclusion

Humanitarian organizations strive to ensure that refugees are protected and not exposed to the risk of exploitation

- Refugees should not be regarded as helpless beneficiaries but as agents of change with talents and valuable skills. Solutions should build on local skills and capacities and achieve a compromise between technical efficiency and being culturally appropriate. There is a strong sense of importance around the need for information and training sessions: training and supporting individuals to make informed choices resulting in long-term sustainable energy solutions, which can continue after the project ends. Practitioners highlight the benefits of local production of energy solutions, which would support the local market, empowering both the host community and the refugees by giving them direct access to production, repair, and maintenance.

Conclusion

We have argued that organizations and practitioners working in humanitarian settings shift away from the prevailing top-down programmes to a bottom-up and markets-based approach that encourages and supports beneficiary voices. The research suggests that sustainable humanitarian energy programmes will lack sustainability – in terms of long-term applicability – if the end-users are not actively involved throughout a project's phases.

This research has found that there are already several mechanisms that are inclusive and support the agency of beneficiaries in the energy field. The multiple challenges that might arise in the implementation of community inclusion have been analysed and addressed, with recommendations on how to overcome them. However, we acknowledge the limitations of this research, and therefore urge practitioners and agencies to operationalize and test these suggestions in practice in refugee camps and displaced contexts. This paper is a starting point for future considerations in the new and emerging field of energy access in humanitarian settings.

References

Agenda for Humanity (2017) Platform for Action, Commitment and Transformations. Online resource at: <https://www.agendaforhumanity.org/>

Anderson, M., et al. (2012) Time to listen: Hearing People on the Receiving End of International Aid. CDA Collaborative Learning Projects, Cambridge.

Angle, S. (2015) *Voices and Views of Beneficiaries on Unconditional Cash Transfers Democratic Republic of Congo, Nepal And Philippines*, The CASH Learning Partnership, online <http://www.cashlearning.org/downloads/calp-beneficiaries-voice.pdf> [Accessed November 2017]

Al-Qdah, T. and Lacroix, M. (2016) 'Syrian refugees in Jordan: Social workers use a Participatory Rapid Appraisal (PRA) methodology for needs assessment, human rights and community development.' *International Social Work*. 60:3 <https://doi.org/10.1177/0020872816673889>

Altahir, A. A. (2017) *Rethinking the Relationship of International NGOs and Local Partners*. [online] <http://www.atha.se/sites/default/files/rethinkingtherelationshipofinternationalngoslo-calpartners.pdf> [Accessed November 2017]

Baños Smith, H. (2009) *The right to a say and the duty to respond: the impact of complaints and response mechanisms on humanitarian action.* HAP Commissioned Studies *Series* [online] <http://www.alnap.org/resource/5856> [Accessed November 2017]

Barefoot College (2016) *Solar: Barefoot College*. [online] <https://www.barefootcollege.org/solution/solar/> [Accessed November 2017]

Beehner, L. (2015) 'Are Syria's Do-It-Yourself Refugee's Outliers or Examples of a New Norm?' *Journal of International Affairs* 68 (2).

Bellanca, R. (2014) *Sustainable Energy Provision Among Displaced Populations: Policy and Practice*. Chatham House [online] <https://www.chathamhouse.org/sites/files/chathamhouse/field/field_document/20141201Energ yDisplacedPopulationsPolicyPracticeBellanca.pdf> [Accessed November 2017]

Berkeley Air Monitoring Group (2017) Evaluation of Wood-Burning Manufacturing Stoves. <http://berkeleyair.com/kenya-evaluation-of-wood-burning-manufactured-stove/>

Betts, A., et al. (2015) *Refugee Innovation: Humanitarian Innovation that Starts with Communities*. Humanitarian Innovation Project. [online report] <https://www.rsc.ox.ac.uk/refugee-innovation-humanitarian-innovation-that-starts-with-communities> [Accessed November 2017]

Brown, D., et al. (2014) Engagement of crisis-affected people in humanitarian action. Background Paper of ALNAP's 29th Annual Meeting. ALNAP/ODI.

Bloom, L. and Betts, A. (2013) *The Two Worlds of Humanitarian Innovation*. Refugee Studies Centre, Working Paper Series No. 94. [online] <https://www.rsc.ox.ac.uk/files/files-1/wp94-two-worlds-humanitarian-innovation-2013.pdf> [Accessed November 2017]

Bonino, F., et al. (2014) Humanitarian feedback mechanisms: research, evidence and guidance. ALNAP Study. [online] <https://www.alnap.org/help-library/humanitarian-feedback-mechanisms-research-evidence-and-guidance> [Accessed November 2017]

Byrne, C. (2003) *Participation by Crisis-Affected Populations in Humanitarian Action A Handbook for Practitioners*. [online] <https://www.alnap.org/help-library/participation-by-crisis-affected-populations-in-humanitarian-action-a-handbook-for> [Accessed November 2017]

Chambers, R. (1994) 'The origins and practice of participatory rural appraisal' *World Development* 22 (7).

Cohen, R. (2008) *Listening to the Voices of the Displaced: Lessons Learned*. The Brookings Institution and the University of Bern Project on Internal Displacement. [online] <https://www.brookings.edu/wp-content/uploads/2016/06/09_internal_displacement_cohen.pdf> [Accessed November 2017]

Confino, J. and Paddison, L. (2014) *Cookstove Designs Are Failing the Poorest Communities*. [online] <https://www.theguardian.com/sustainable-business/cookstoves-design-poor-communities-refugees-unhcr-ikea> [Accessed November 2017]

Energy Lab, (2016a) *Refugee-Designed Cook Stoves UNHCR Innovation*. <http://www.unhcr.org/innovation/?s=energy> [Accessed November 2017]

Energy Lab, (2016b) *Liter of Light UNHCR Innovation*. <http://innovation.unhcr.org/labs_post/liter-of-light/> [Accessed November 2017]

EMMA (2017) *Emergency market mapping and analysis toolkit.* [online] <http://www.emma-toolkit.org/> [Accessed November 2017]

Estrella, M. and Gaventa, J. (1998) *Who Counts Reality? Participatory Monitoring and Evaluation: A Literature Review*. [online] <http://www.ids.ac.uk/files/Wp70.pdf> [Accessed November 2017]
GIZ (2016) *Energy Access for Refugees and Host Communities. Report* [online] <http://www.safefuelandenergy.org/files/GIZ%20Basic%20Energy%20Services%20%20for%20Refugees%20and%20Host%20Communities.pdf> [Accessed November 2017]
Gunning, R. (2014) *Sustainable Energy Provision for Displaced Populations*. Chatham House. [online] <https://www.chathamhouse.org/publication/current-state-sustainable-energy-provision-displaced-populations-analysis> [Accessed November 2017]
Johnson, K., et al. (2016) *Addressing the cultural gap between humanitarian assistance and local responses to risk through a place-based approach*. [online] <https://sustainabledevelopment.un.org/content/documents/994846_Johnson%20et%20al._Addressing%20the%20cultural%20gap%20between%20humanitarian%20assistance%20and%20local%20responses%20to%20risk%20through%20a%20place-based%20approach.pdf> [Accessed November 2017]
Kaiser, T. (2002) *Participatory and beneficiary-based approaches to the evaluation of humanitarian programmes*. New Issues in Refugee Research. UNHCR. [online] <http://www.unhcr.org/research/working/3c7527f91/participatory-beneficiary-based-approaches-evaluation-humanitarian-programmes.html> [Accessed November 2017]
Kilby, P. (2006) Accountability for Empowerment: Dilemmas Facing Non-Governmental Organizations. *World Development*, 34(6). <doi:10.1016/j.worlddev.2005.11.009>
Lahn, G. and Grafham, O. (2015) *Heat, Light and Power for Refugees Saving Lives, Reducing Costs*. [online] <https://www.chathamhouse.org/sites/files/chathamhouse/publications/research/20151117HeatLightPowerRefugeesMEILahnGrafham.pdf> [Accessed November 2017]
LEDsafari (2016) *Light for Refugees* [online] <http://ledsafari.com/wp-content/uploads/Light-for-Refugees.pdf> [Accessed November 2017]
Liter of Light, (2013) *How to Build a Solar Bottle Bulb 3.0* [online] <https://www.youtube.com/watch?v=i5YQ4t5apPM> [Accessed November 2017]
Lyons, M. and Schilderman, T. (2013) Putting People at the Centre of Reconstruction, PCR Position Paper, Practical Action. [online] <https://practicalaction.org/docs/access_to_services/PCR_Position_Paper.pdf> [Accessed November 2017]
MacDonald, A. (2015) Review of selected surveys of refugee populations, 2000–2014. Paper commissioned by the UNHCR. In International Conference on Refugee Statistics. [online] <http://www.efta.int/sites/default/files/documents/statistics/training/Review%20of%20surveys%20of%20refugee%20populations.pdf> [Accessed November 2017]
MEI (2016) *Moving Energy Initiative Resources and Toolkits*. [online] <https://mei.chathamhouse.org/resources/reports>
MEI (2017) Moving Energy Initiative Website. [online] <https://mei.chathamhouse.org/> [Accessed November 2017]
Mercy Corps (2017) Energy Access resources. [online] <https://www.mercycorps.org/research-resources/energy-access?> [Accessed November 2017]
NRC (2016) *Installing solar panels in refugee camps NRC*. [online] <https://www.nrc.no/news/2016/september/installing-solar-panels-in-jordan-refugee-camp/> [Accessed November 2017]
O'Dwyer, B. and Unerman, J. (2010) 'Enhancing the role of accountability in promoting the rights of beneficiaries of development NGOs' *Accounting and Business Research*, 40(5).
Oxfam (2017) The power of people against poverty. [online] <https://www.oxfam.org/en/countries/oxfam-strategic-plan-2013-2019-power-people-against-poverty> [Accessed November 2017]
Pottier, J. (1996) *Why Aid Agencies Need Better Understanding of the Communities They Assist: The Experience of Food Aid in Rwandan Refugee Camps*. *Disasters*, 20(4). <10.1111/j.1467-7717.1996.tb01047.x>
Practical Action (2013) Assessment of Reconstruction Needs and Resources, *PCR Tool 4*, Practical Action, Rugby. [online] <https://answers.practicalaction.org/our-resources/item/pcr-tool-04-assessment-of-reconstruction-needs-and-resources> [Accessed November 2017]
Practical Action (2016) Poor People's Energy Outlook 2016: National energy access planning from the bottom up, Practical Action Publishing, Rugby, [online] <https://policy.practicalaction.org/ppeo2016> [Accessed November 2017]
Practical Action (2017a) *Participatory Market Systems Development*. [online] <http://policy.practicalaction.org/policy-themes/markets/participatory-market-systems-development> [Accessed November 2017]

Practical Action (2017b) *Our approach: 'From Vulnerability to Resilience' (V2R) Bangladesh*. [online] <http://practicalaction.org/from-vulnerability-to-resilience> [Accessed November 2017]
Saha, K. (2004) 'Learning from empowerment of Sri Lankan refugees in India' *Forced Migration Review*, (20).
SAFE (2017) Humanitarian Working Group. [online] <http://www.safefuelandenergy.org/> [Accessed November 2017]
Saltsman, A. (2014) 'Beyond the Law: Power, Discretion, and Bureaucracy in the Management of Asylum Space in Thailand' *Journal of Refugee Studies*, 27(3). <https://doi.org/10.1093/jrs/feu004>
Save the Children (2017) Framework for the Future. [online] <https://www.savethechildren.org.uk/what-we-do/policy-and-practice/resource-centre/framework-for-the-future> [Accessed November 2017]
Sphere Project (2017) Humanitarian Charter and Minimum Standards Response. Practical Action Publishing. Rugby. [Also available online] <http://www.sphereproject.org/handbook/> [Accessed November 2017]
Sustainable Development Knowledge Platform (2017) *Leaving no one behind: Energy for humanitarian response and sustainable development.* [online] <https://sustainabledevelopment.un.org/?page=view&nr=2016&type=13&menu=1634>
Taket, A. et al. (2009) *Theorising social exclusion*. London: Routledge.
United Nations (2016) *Leaving no one behind: Energy for humanitarian response and sustainable development.* [online] <https://sustainabledevelopment.un.org/?page=view&nr=2016&type=13&menu=1634> [Accessed November 2017]
UNHCR Emergency Handbook. (2017) *UNHCR*. [online] <https://emergency.unhcr.org/entry/50209> [Accessed November 2017]
UNHCR (2013) *UNHCR Emergency Handbook*. [online] <https://emergency.unhcr.org/entry/48017/cash-based-interventions-or-assistance-inkind-assistance-transfer-modalities> [Accessed November 2017]
UNHCR (2015) *Figures at a Glance*. [online] <http://www.unhcr.org/uk/figures-at-a-glance.html> [Accessed November 2017]
UN OCHA (2015) *Humanitarian Response Plan January-December 2016*. [online] <https://docs.unocha.org/sites/dms/Syria/2016_hrp_syrian_arab_republic.pdf> [Accessed November 2017]
WAQE3 (2017) WAQE3 for community development. [online] <http://waqe3.org/> [Accessed November 2017]
World Humanitarian Summit (2016) *People at the Centre, SPECIAL SESSION SUMMARY*. <http://www.worldhumanitariansummit.org/sites/default/files/keydocuments/SS01People.pdf> [Accessed November 2017]
Xu, Y., et al. (2015) *Promoting Participatory Community Building in Refugee Camps with Mapping Technology*. Penn State University.

Sarah Rosenberg-Jansen is the Head of Humanitarian Energy for Practical Action and researches humanitarian energy systems and networks at the University of Oxford. Megan Barlow, Stella Peisch, Nydia Ponnan, Prerna Rathi have concluded the MSc on International Development at the London School of Economics and Political Science: much of the research underpinning this paper emerged from a collective analysis undertaken for this programme.

Acknowledgements: The authors would like to thank Peter Thomas at the University of Bristol, Kathleen Callaghy at the Global Alliance for Clean Cooking, Paul Quigley at UNHCR, and Mattia Vianello and Dr Lucy Stevens at Practical Action for helpful peer and internal review comments. The authors are also thankful to Dr Stuart Gordon, Dr Regina Enjuto-Martinez, Dr Georgina Pearson and Dr Tayyab Safdar from LSE for their support. The photographs included in this report were taken by Edoardo Santangelo as part of the ESRC-AHRC University of Edinburgh and Practical Action project on Displaced Energy in Kakuma and Kalobeyei in Kenya.

Front page photo: Renewable energy technology on display in refugee settlements in Kenya

All photos in this briefing paper are by © Practical Action/Edoardo Santangelo

Keywords: Energy Access, Humanitarian Energy, Inclusivity, Emergency Response

Practical Action Publishing Ltd, The Schumacher Centre, Bourton on Dunsmore, Rugby, Warwickshire CV23 9QZ, UK

www.practicalactionpublishing.org

ISBN 9781853399824 Paperback

ISBN 9781780446806 Library PDF

ISBN 9781780449821 EPub

Rosenberg-Jansen, S., Barlow, M., Peisch, S., Ponnan, N., Rathi, P., (2018), *Sustainable Humanitarian Energy Services: Inclusive participation, lessons learnt, and paths forward*, Rugby, UK: Practical Action Publishing, http://dx.doi.org/10.3362/9781780446806

Since 1974, Practical Action Publishing has published and disseminated books and information in support of international development work throughout the world. Practical Action Publishing is a trading name of Practical Action Publishing Ltd (Company Reg. No. 1159018), the wholly owned publishing company of Practical Action. Practical Action Publishing trades only in support of its parent charity objectives and any profits are covenanted back to Practical Action (Charity Reg. No. 247257, Group VAT Registration No. 880 9924 76). Design, editing and production by Practical Action Publishing

Design, editing and production by Practical Action Publishing

Printed in the United Kingdom