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Methods Across Borders: reflections of using design-led qualitative methods in Burkina Faso

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The paper presents an overview of activities of a funded project interrogating energy requirements of displaced populations in the Goudoubo camp in Burkina Faso. The overall project adopts a qualitative approach to enquiry using methods often employed by designers in participatory and human-centred design projects, with training provided for embedded researchers from disciplines other than design through a series of workshops prior fieldwork. The overall project aims to build a qualitative toolkit for enquiry into the daily lives of refuges and their lived energy requirements. The paper asks whether the engaged design methods, understood in the context of "global north" practices, are equally effective in sub-Saharan contexts. The paper introduces the methods used, the workshops delivered and then follows the experiences of the embedded researchers who present their findings, challenges and concerns about the delivery and implementation of "design methods" in the field. In their own voice, the researchers outline successes and failures, providing a critical examination regarding the degree to which design methods are transferrable across cultures and contexts.

qualitative methods; design methodology; energy; displacement; reflection

1 Introduction

In the academic disciplines of social anthropology and design, ethnographic or human-centred methods commit researchers to the study of people in real world settings (Bichard & Gheerawo, 2011; Gunn, Otto, & Smith, 2013) and such methods have gained traction in research on energy demand (Shove, 2004; Shove & Walker, 2014; Shove, Watson, & Spurling, 2015). Anthropologists and designers are using the systematic observation and recording of routine, tacit and sensory ways that people use artificial lighting, heating, electrical products and devices to analyse energy demand as a social, cultural or material practice (Pink, 2012; Wilhite, 2013). However, the application of these qualitative methods are in the Global North with little understanding on how these methods are transferred to other geographical contexts.

It is currently estimated that 1.1 billion people live without electricity and 2.8 billion people rely on solid biomass to meet their heating and cooking needs (International Energy Agency 2030). Included in these figures are those who have been forcibly displaced from their homes (UNHCR, 2017). Energy is viewed as critical in order to achieve the core ethical aims of humanitarian assistance (Lahn & Grafham, 2015) but frequently falls outside the remit of humanitarian response (Lehne, Blyth, Lahn, Bazilian, & Grafham, 2016). As displacement situations become more protracted, there is a growing consensus amongst humanitarian actors that energy needs to be at the forefront of decision making alongside other basic needs such as food, water, shelter and sanitation.

Energy and displacement is an emerging space for design research, with significant potential for informing appropriate future development. To address concerns regarding the lack of reliable household energy data in displacement contexts, the Moving Energy Initiative (MEI) was launched in 2015[1] ensuring the energy needs of refugees and displaced persons are met sustainably in Kenya, Jordan and Burkina Faso. Thus far, a quantitative data model has been produced to estimate the cost of household energy use (spending and consumption), CO2 emissions as well as the cost of potential interventions (Lahn & Grafham, 2015). As the MEI lays the ground for future interventions, it has identified the collection and analysis of qualitative data on energy use as an urgent research priority. Qualitative data has been implemented periodically but has also "revealed large gaps in the overall information available" (ibid: 45). This gap of qualitative research has resulted in an ongoing project investigating Energy and Forced Displacement in Burkina Faso and Kenya led by the authors.

At the same time, the understanding, application and adaptation of such methods will potentially differ according to the discipline a researcher sits within. For example, different approaches taken by engineers and social scientists, often result with different outcomes and a lack of interaction. Though both approaches have their merits and their challenges, it often leads to multiple interventions "many of which have mixed results as the dominant techno-centric approach ignores subtle user needs, creating new social problems in the process." (Ray et al. 2014: 3).

This paper therefore does not solely address our understanding of energy in displaced contexts using qualitative methods. Rather, this paper seeks to reflect on the complex and "wicked problems" (Rittel & Webber, 1973) associated with interrogating energy practices of displaced populations, and the ways in which qualitative methods work within a multitude of contexts and "frames" (Goffman, 1974; Paton & Dorst, 2011). Our emphasis here is to understand whether qualitative research methods, frequently adopted by designers engaged in problem scoping activities in "global north" situations, transfer easily across contextual boundaries, namely cultures and disciplinary practices. Our aim is to understand whether we can safely assume that approaches to human-centred design can be implemented universally.

The paper is structured in the following manner. First, we introduce the research project and how our choice of qualitative methods were selected and supported in relation to interrogating lived energy practices in the field. Second, we present three case studies through the voice of our embedded field researchers, outlining their experiences in implementing the methods selected. Third, we discuss whether qualitative methods such as those used in participatory design research are transferrable across contexts and sites, and provide insights into political, social and cultural challenges which social scientists, including designers, need to consider when applying methodologies in the global north context outside that perspective.

2 Methodology

Proposed methods for this project were based on a number of criteria. First, a SWOT analysis was conducted on existing MEI data available at the time for both Goudoubo refugee camp, Burkina Faso

[1] The MEI is a collaboration between Energy 4 Impact, Chatham House, Practical Action, the Norwegian Refugee Council (NRC), the Office of the United Nations High Commissioner for Refugees (UNHCR) and the UK Department for International Development (DFID).

and Kakuma refugee camp, Kenya. Second, a literature review was carried out to contextualise the qualitative methods that have been used to research Energy. As a result, five key methods were identified: focus groups, interviews, participant observation, probes, and visual/sensory ethnography. These methods are explained in the subsequent section.

In order to determine whether these methods would be suitable to use for data collection, a qualitative methods training workshop, “Fuel Up”, was held in Ouagadougou, Burkina Faso in April 2017, in order to bring the research team(s) together and commit to an open-ended, iterative approach towards the research. The workshop set out to introduce our teams to qualitative approaches drawn from social anthropology and design, introducing ethnographic, human centred, object oriented, visual, participatory and collaborative methods for studying energy technologies and practices. In addition, the Principal and Co-Investigators, with academic backgrounds across social anthropology and design, wanted to establish a working relationship with the research team and wanted to learn from people’s previous experiences; identifying individual strengths and interests.

The aim of the workshop was to be as collaborative as possible, creating a safe space in which the team would put these practices to the test in order to endorse methods that are relevant in understand the lived energy experiences of refugees. By the end of the workshop, a set of common protocols for conducting field-based research in Goudoubo and Kakuma refugee camps was established.

These methods were then piloted in both Burkina Faso and Kenya over a two-week period. A second qualitative methods workshop, "Recharge", was held in Kenya to reflect upon the analysis and interpretation of qualitative data, challenges and limitations from the pilot studies, and to adapt/ refine methods for use in contexts of forced displacement.

2.1 Methods selected

2.1.1 Interviews

Data in this case was collected as a series of conversations/ interactions with a range of people (primarily those who are formally settled in refugee camps). Many of these interactions can be classified as ‘unstructured’ interviews where participants are encouraged to speak freely on a particular issue/topic. The style of interviewing resonates with Spradley (1979) who states: “ethnographic interviews as a series of friendly conversations into which the researcher slowly introduces new elements to assist informants to respond as informants”. These ‘friendly conversations’ are however based on a range of pre-prepared, open-ended questions (Croker, 2009) that “provide[ed] guidance on the topics, but left substantial room for manoeuvre for both the interviewer and the interviewee” (Naus, Spaargaren, Van Vliet, & Van der Horst, 2014, p. 440)

2.1.2 Focus Groups

Focus group discussions are also very common in qualitative research and within an international development context. Focus group data can offer insights that “cannot be gathered through one-on-one interviews” (Sweeney, Kresling, Webb, Soutar, & Mazzarol, 2013) and bring together “a broadly representative demographic spread” (Goulden, Bedwell, Rennick-Egglestone, Rodden, & Spence, 2014). Though focus groups allow us to understand attitudes and values as a collective, they are unable to determine interactions and behaviours and so research teams were discouraged from conducting them in the first instance in preference for other methods highlighted here.

2.1.3 Participant Observation

Participant observation was a way in which data was often contextualised. Observations were often aided by note taking, video, audio and photographs “in order to capture the discursive elements of data collection” (Truninger, 2011, p. 44). Observations were also used as a reflective tool to provide greater depth to the data.

2.1.4 Visual/Sensory Ethnography

Empirically, this project focussed heavily on visual/ sensory methods. These included re-enactments (Pink & Leder Mackley, 2014) where participants were asked to re-enact ("perform") everyday activities while the researcher recorded them. We also employed '*follow the object*' which resonates with Pink's paper (2011) on following domestic artefacts where "following the material culture of domestic life to see how objects move around and make the home. How do they consume energy as they move? How do they make invisible energy visible?" (ibid., p. 122). Research teams were also encouraged to capture as much as possible through photography, video and audio sound not only as a descriptive tool but to also stimulate discussion. As such, the use of photographs as part of the story telling process resonates with Lenette and Boddy's use of *photo-elicitation* which "involves using photographs to prompt participants to discuss meanings during interviews" (Lenette & Boddy, 2013, p. 81)

2.1.5 Cultural Probes

In this research, cultural probes were used as a method of enquiry in line with Celikoglu et al. (Celikoglu, Ogut, & Krippendorff, 2017, p. 85) who explain that they "rely on participants' self-documentation through photographs and narratives. This method is particularly helpful in environments where an observer's presence can distract from the everyday behavior of participants, such as in hospitals or domestic spaces". At the same time the use of disposable cameras to take photographs was suggested as well as the use of maps as discussed by Gaver and colleagues (Gaver, Dunne, & Pacenti, 1999).

3 Methods into Practice: Adaptation

The introduction and the methods overview were presented by the research team based in the UK, who structured the literature review and developed both the 'FuelUp' and 'Recharge' workshops to present methodological approaches to the research teams. The following section on methods into practice is presented by two embedded African researchers based in Burkina Faso. Having been introduced to and trained through a series of workshops regarding the design-oriented methods outlined above, the paper's voice now shifts to the embedded researchers' direct experiences in the field, challenges associated with context and culture, and a critical discussion about the usefulness of some of the methods employed. The discussion takes place through three case studies.

3.1 Case Study One: Re-enactments

3.1.1 How did you employ re-enactments?

We used re-enactments when we believed it was necessary but particularly when we realized that we were unable to capture every detail during the interview alone. This happened when the interviewee or someone else in the same household/area was naturally accomplishing a specific activity and we were occupied with questioning.

Re-enactments were mainly utilised to capture energy related practices but also many everyday activities such as how women roll up the loincloth on the head in order to carry fire wood, how various water coolers were used and utilised to keep water cool and fresh for example, when a hosting community man used a thread and a pin to attach his mobile phone to his pocket so as not to lose it during his activities (transporting food for refugees). These actions allowed us to understand how people perform different tasks and maintain different energy functions. For example, we would ask people to turn their solar lights on and off or ask them to show how they would charge lighting devices or hang them in the household when it gets dark outside (Figure 1).

Figure 1: a camp denizen demonstrating use of a solar lamp in Goudoubo Camp

3.1.2 What did you find useful/interesting?

It helped when we needed an in-depth look at what people were doing. In addition, we could capture the process through video/picture to share it remotely with the research team. This resulted in a more detailed understanding of the processes a posteriori. Also, we thought that collected footage could be more expressive than words, particularly in terms of facilitating a better comprehension for the remote team.

3.1.3 What did you find challenging?

Sometimes re-enactment would lose spontaneity and the natural aspect of the action. During a group discussion at the gas distribution centre, a woman comparing cooking with firewood and gas outlined that it was difficult to cook with firewood as she has to constantly blow onto the fire. She started miming how she blows with her mouth during this process. We wanted to capture this, but she refused. There are also examples of watching these processes but not being able to adequately capture them. For example, while observing the gas distribution centre we noticed a house opposite with a water can under the sun. The can was wrapped in fabric; it was undoubtedly a local water cooling can, as we were used to seeing in the camp. Indeed, as there is no piped water, refugees usually get water from the pump and due to the heat, they develop strategies to cool drinking water. In the meantime, a woman came to add water in the can and then she poured some over the top of the can [on the fabric]. Then, she brought the can under the shade. This was a crucial detail to capture, but the camera was not ready for that, as we couldn't assume in advance what was going to happen. Indeed, while reflecting retrospectively on those situations, we noted that most of the time you need to see the process in its entirety before figuring out its importance. In this case we couldn't

know at the beginning what the woman would do after filling the can and what she was bringing it under the shelter for.

Figure 2: heating coals for tea with bellows. Re-enactment methods can prove challenging in contextually dependent circumstances.

A last example is brought by a hosting community man using a pin and a thread to attach his mobile to his chest pocket, so as not to lose it when moving about. When we asked him to show us, we expected him to re-enact how he used the mobile device, internally attached to his pocket with unpredictable materials. At that moment people around us were laughing since they found it funny, our interest in this man's inability to buy a best suited accessory to secure his phone. Certainly he thought we were just asking him to re-enact so as to laugh at him like people around us was already doing.

3.2 Case Study Two: Follow the Object

We followed objects such as: cooling systems (water cans wrapped in fabric, canaries, goatskin coolers) cooking systems (solar cooker, metallic stoves, gas) lighting systems (lamps, solar panels), etc. (Figure 3). With the linguistic barriers, we could witness some events/actions without any needing to ask questions, as we were just observing those "followed objects" in their specific uses (particularly in the absence of the translator). This happened for example when we visited a home of the hosting community. There were some refugees women moving back from the bush (in the distance) with fire wood. One researcher stayed with the translator to pursue the interview and the other left to encounter women on their way back to the camp.

Figure 3: examples of energy objects interrogated using the "follow the object" method.

3.2.1 How did you follow these objects?

Objects were followed based on the discussions we had with different people in the camp. As the approach was flexible, we would begin by observing objects on the spot and start building a natural conversation. Thus, when we left a household to another we would ask general questions before targeting a specific object. Prior to these discussions, we already had in mind some idea of the objects we wanted to follow up on. We didn't need to write down what details we were going to look for, it was clear.

For example, one of the first objects we followed was the solar cooker (Figure 4). We already knew from previous interviews that the food prepared within the solar cooker was not appreciated because of its particular taste and the smell. We also knew that for

Figure 4: NGO issued solar cooker, an object interrogated using the "follow the object" method to uncover energy practices

some refugees, it was difficult to cook fast with it. Hence, our subsequent discussions could be built around the experience in terms of taste and smell, what they liked more, what they didn't like and why. Apart from the thematic discussion about cooking with the solar cooker (which could only be understood retrospectively, as nearly all the refugees were not cooking with it any more), most of the time we could observe the objects in use directly, and start building a story from there (E.g. exploring the different repurposes of the solar cooker pieces like building an animal enclosure fences from it, or using its cooking stove as an animals feeding pot). Those situations were made up of following objects through observations.

3.2.2 What did you find useful/interesting?

What was useful is that we could start building a broader story around a specific/isolated object to understand its different uses and functions. One example is the repurpose of the solar cooker sheet metal used as building material for the sheet metal house. There were also the animal skin water cooling recipients. We started knowing it as a water cooling recipient, then we discovered progressively through the interviews how it was manufactured and its other uses. Indeed, the vessels made from animal skin was also used to produce butter or keeping milk in regards to its

cooling abilities. Following such an object among refugees and hosting village communities permitted to confirm similarities and differences in terms of practices between both populations. The animal skin recipient appeared indeed as a cross cultural and cross borders object.

3.2.3 What did you find challenging?

It could appear difficult to combine the unstructured approach of the interviews to the following process, which implies systematic, repetitive and structured questions. A more structured approach was needed to follow objects but couldn't match within the unstructured interview. For this reason, we preferred starting the interviews randomly while keeping in mind that we could follow up subjects or objects if necessary. Depending on the area, the object or subject of discussion could change drastically. For example, discussions in the artisan centre could change or stop if people were busy with other tasks or customers. Similarly, the cattle market could be tricky as it was a wider space where several interactions between numerous individuals could take place at the same time.

3.3 Case Study Three: Probes

The opportunity to use probes in this particular project was limited, however, there are two notable examples of using them in this research.

3.3.1 The use of disposable cameras

The use of disposable cameras was trialled during the pilot phase with mixed results. It was quickly discovered that more detailed guidance for participants on what was expected from taking photographs. Some of the pictures developed stimulated interesting conversation and were used in additional discussions to illicit greater detail around everyday energy practices.

However, even after explaining to the translator the specific purpose of the disposable camera he was given, he started photographing randomly around him without considering the need to capture energy practices. The man wanted to show how good a photographer he was. We were obliged to re-explain the approach to him.

Furthermore, the use of such tools in politically sensitive contexts raises ethical/moral questions about the implications of giving and or leaving probes in settings for data collection. First there was the influence of the sensitive context and security constraint: CONAREF[2] and camp security guards didn't appreciate giving a camera to a refugee who would picture the camp every time he wanted and give the pictures back to "foreigners" for uses they couldn't figure out nor control.

Perhaps they would have accepted if we informed first before giving the camera. As soon as they had been informed by the refugee who went to them to "denounce" himself, they felt perhaps that something was going wrong.

3.3.2 Using Maps

We first used physical maps as a research team to familiarise ourselves with places we were told about (DEOU, FERERIO which are outside camp areas of transit between leaving Mali and arriving in the camp and places many refugees still reside). The maps were also used to check the orthography of the areas that were mentioned during the discussions. During discussions with the refugees the maps were used to help localize specific areas like fire wood collection places around the camp, other small cattle markets places, animals grazing/pasturages places (Figure 5). Maps did help to estimate places' positions in reference to the camp, but was difficult to use with illiterate people. There was also difficulty in visualising and understanding maps with small symbols.

[2] National Commission for Refugees

Figure 5: getting bearings with a map, employed as a cultural probe.

4 Reflections from the field: Context and Complexities

The "Fuel Up" and "Recharge" methods workshop delivered prior to data collection, were events where embedded researchers were introduced to new approaches of engagement outside their disciplinary practices, required some agility and flexibility in delivery outside the context in which they were developed and rehearsed. In this section, the researchers reflect on the success of design methods in situ, and associated challenges where adaptation was required to accommodate the nuances of circumstances and place.

4.1 Degrees of success of methods implementation

4.1.1 What worked? What didn't?

Overall, the use of these methods relies on building and maintaining strong interpersonal relationships over a period of time. Though easy enough to understand, some of the methods discussed above can be intrusive and were difficult to implement, especially when participants felt unconnected to the action. However, we ensured we had in-depth discussions with people before and after methods were conducted and would engage in appreciative actions that would reassure people that we were not out to collect data and data only. We regularly purchased food in the camp, so we would not come across as wasting time of restauranteurs, and we would also taste water when we would talk about cooling, refrigeration and efficiency as not to point faults in different cooling systems.

It is difficult to talk about a best method because there was a complementarity between them. For example, we observed and captured images and videos of women returning from fire wood collection and later were able to use those same pictures and videos as part of our unstructured interview process to better understand firewood collection in the camp. A re-enactment would stem from observations and interviews and we were able to freely follow objects as a result of the fluid methodology.

The unstructured interviews gave a sort of "freedom" to navigate across areas, topics, objects and facilitated the implementation of the other methods. Participant observation allowed us to seize the reality and was instrumental in helping us follow objects or find processes to re-enact. For example, we could feel how heavy a bundle of fire wood was, we helped the translator to pick his refilled gas bottle or to get his flash drive filled with films in Dori town. We discovered that he had a TV he

would watch every evening with people from the neighbourhood. This also confirmed that the energy needs go beyond lighting, cooking and power.

Printing the pictures from the disposable camera in advance was not the best solution, and the use of disposable cameras was complicated. If we had to classify per order we would prefer: using pictures and videos to capture illustrative details and prompt discussions, unstructured interviews for fluidity and finally participant observation to have in-depth insights of people's daily experiences while humanizing the relationship between us as researchers and refugees.

4.1.2 Using representations

The use of pictures and videos linked all methods together and worked well in all the three cases above as it allowed us as researchers to connect with many people. This helped to overcome some linguistic barriers as we didn't share the same language and sometimes we could show pictures rather than trying to describe objects or processes in words. We were also able to use pictures and videos as part of the transcription process.

4.1.3 Modifications and adaptations

Often discussions of the field create a misgiving that such a space is homogenous, and allowing a perception that methods are also homogenous and transferrable across sites in the field. This is a naïve perception, and conceals the complexities of camp with roles, conventions, politics and constraints for the outsider.

However, the use of multiple design methods in a refugee camp setting is a complex task that can be difficult to implement when there are time constraints and do not simply transfer from one context to another. In some cases, using these ethnographic design-led methods were not always clear and didn't account for the reaction of using such methods in a politically sensitive context.

5 Discussion

In the previous section, reflecting on the data collection and participatory engagement, challenges were presented regarding the operational delivery of the design-led methods in the field with different contexts. The embedded researchers, in their own voice, have outlined their first-hand experiences from attempting these methods with local research participants outside Global North contexts. In this section, we discuss design methods, as a form of knowledge elicitation, and ask whether knowledge, in this way, is transferrable across boundaries. Questions arise about the nature of the boundaries, the contexts presented, and the logistical challenges associated with researchers attempting new methods, out of context.

5.1 Is knowledge transferable from one context to another?

Knowledge is transferable, but it may imply specific challenges depending on the methods employed, the context of intervention and the possibility of negotiation. In this case for example, we had to intervene in the humanitarian context which is ruled by international laws and principles of protection towards refugees while regulating workers' activities in the camps. Even by following administrative procedures, we encountered several difficulties combining a fluid and open research protocol and within keeping of a humanitarian agenda whereby NGO's tend to protect information drawn from the field, and their needs for assuring stability while we are engaged in the field. They were certainly used by experience to seeing people collecting data through questionnaires in the camp, but how could they understand a research which deviates from usual research approaches in humanitarian areas? We had no research protocol with a set of structured questions as such to present, when negotiating the field access with our partners from various NGOs. How could they ensure that our interviews wouldn't cover some thematics we were not supposed to?

5.2 Fluidity or structure?

The attempt to collect and gather information in the project regarding lived energy experiences of displaced populations requires a degree of fluidity and spontaneity in order to be able to capture

rich and meaningful data. Participants in the field, however, are not immune or unaware of research practices, and a balance between their understanding and the researchers need for novel insights, using novel methods, needs to be struck.

Despite wanting to be as fluid and unstructured as possible – there needs to be a degree of steering and structure in the methods we employ in these settings.

Within an area like the camp, where several things are happening at the same time, unstructured approaches are appropriate as it gives a "room" to both the researcher and the interviewee to navigate across various thematics. Areas like markets or the distribution place are illustrative examples where the observation field is wider than in a household setting.

5.3 Clarifying a need for novelty

In new contexts, the methods of data collection, derived from participatory principles, are novel for many in the field. In some instances, however, too much novelty detracts or raises suspicion about the activities and methods themselves, challenging established conventions from many stakeholders, including camp residents, aid workers and even NGOs themselves.

Humanitarian actors knew vaguely that we were conducting an energy research project but were wondering "where exactly we wanted to go" and if yet more academic research was worthy with all the data already available on energy. This matter was reinforced by the fact that many of the humanitarian workers we encountered in the field are not specifically seasoned researchers who could imagine the peculiarities of our approach (and perhaps its existence) and the differences with the several quantitive surveys yet realized in the camp. Furthermore, these colleagues find it difficult to understand the need to constantly actualise data, particularly in a setting were the situation is constantly and drastically changing. To many, the camp is a "protected island" were the reality is crucially determined by several external factors, such as the amount and quality of the assistance, the phases and specific objectives of the projects, projects' specific actions which depends on the donators' priorities which are themselves determined by the international decisions or financial possibilities and so on.

One dimension of our approach was to have a holistic emphasis towards the research object. During the first steps of the work in the camp we were accompanied in refugees' households by aid workers and as the colleague was not familiar with the unstructured approach, he started complaining about the working methods, suggesting that we should have a focus on the energy topic.

5.4 Cultural implications of engagement

The researchers highlight that although knowledge may be transferrable, sensitivity to context and culture are of paramount importance during application in new fields. This is evident to them in methods like role-play or re-enactments. Asking participants to repeat simple actions and gestures places an emphasis and focus on the participant in question, leading to possible mis-interpretation of why re-enactment is being conducted in the first place, when not understood as a method of collecting and transferring knowledge.

With the refugees themselves, like the woman who refused to re-enact how she blows fire when cooking with fire wood, she didn't necessarily imagine how this performance could be a tangible example we could film and use to illustrate women's constraints with biomass fuel. For her, she felt uncomfortable and unsure of the rationale behind our line of questioning. Despite our explanations, as the interviewee couldn't fully grasp that the re-enactment is a part of our data collection process, as she is not used to see such methods in the camp.

5.5 Limitations in knowledge sharing across boundaries

This project held two-week long workshops in order to engage in collaborative training, research design and discussion. Some of the qualitative methods introduced were novel to participants, and

in retrospect, two weeks may be insufficient for building researcher capacity in employing new, design-led methods in sensitive contexts.

A variety of disciplines (including design) have outlined that the use of qualitative methods is important to humanise data and put it into context. Many authors note that without regard for the social and cultural context, interventions will often become irrelevant or ineffective (Sankar et al, 2006; Kumar et al 2013; Norman 2005) and in some cases qualitative methods are not suitable. However, in many scientific disciplines, the use of qualitative methods are welcomed and used to transform data back into quantitative statistics (such as word/phrase frequency) (Kelly & Bowe 2011).

Equally, in a development context, the use of focus groups and interviews are the predominant methods employed. Qualitative research in this context can often be seen as an "unaffordable luxury" (Kilcullen 2011) and the use of methods such as focus groups can be both time and cost-effective (ibid). At the same time the use of these particular methods feature as part of broader Monitoring and Evaluation frameworks for development programmes and can be used by practitioners to evaluate their own progress (Skovdal & Cornish 2015).

In light of this, the use of qualitative methods discussed in this paper, served as a reflective tool where methods could be tried and tested rather than refined and polished as superior to other methods.

Some final reflections from the embedded researchers encapsulates some of these challenges:

- Working together as an energy engineer and a sociologist was profitable for task-sharing, sharing observation-based impressions, discussing about energy object's technical aspects and reflecting on the overall research process. At times, there were disciplinary clashes where we wanted to pursue different lines of questioning due to the nature of their background. However, it was an opportunity to question each other on these differences and find solutions that would appease us both at times.
- Knowledge sharing across boundaries is opportune to facilitate both improved partnerships and enriched research results for Northern and Southern researchers. However, interdisciplinary methodological approaches come with some challenges.

The engineer shares his experiences:

- I have a technical background with experience in quantitative data collection. The qualitative approach was a new way to collect information. In the beginning, I felt uncomfortable with the qualitative approach questioning the focus on objects/topics which appeared to have no direct connection to energy. In my opinion, this approach brought a tremendous quantity of data but was a real challenge to collate, interpret and quantify. For that reason, it was at times easier to allow my colleague, the sociologist, to lead many of the discussions.
- The use of quantitative methods, in my experience, still offers benefits, given participants can provide false information in the hope of receiving something at the end, such as a solar cooker. For that reason, the unstructured approach used here is superior to softer qualitative approaches, since it allowed us to engage with the same people on numerous occasions over the course of 5-6 months. A relationship is developed and any discrepancies in the data can be clarified.
- Regarding the "follow the object" approach, this should be clarified as being "follow energy consumption habits" because many among the refugees were discovering the solar cook stove or solar home system, for example, which is what I think is what we were really trying to uncover.

In the sociologist's view:

- The qualitative research was definitely innovative in terms of combining several approaches to deliver a broader understanding of the energy lived experience. This was demonstrated

for example by using pictures and video as an integral part of the research process itself rather than just as illustrative material. However, this in itself provides a large quantity of data including visuals, videos, audio and written content which requires considerable more amount of time to translate and transcribe. In addition, some interviewees felt uncomfortable having their pictures taken and would start complaining that they don't want to be pictured because we would use the images for our personal financial benefits: sending the pictures of "miserable refugees" to philanthropic "white people" in Europe and embezzle donations on their behalf.

6 Conclusions

The embedded researchers provided a significant glimpse into the affordance of design-led methods in the field, such as re-enactments, role-play, "follow the object" and probes. In some senses, there is no clear indication that methods and the knowledge they elicit and capture across various boundaries are either successful, or unsuccessful. The attention to the boundaries in place, which define the communities (host/refugee); the roles (researcher/aid-worker); location (North/South) require flexibility, fluidity, adaptability and sensitivity. In deploying these methods, our embedded researchers describe a need for a degree of confidence in application, and time to develop the nuances associated with methods crossing disciplinary boundaries. One particular boundary, the University itself and its ability to afford access to knowledge, concludes our paper, as food for thought in how opening borders and boundaries to new insights, new experiences and sharing across borders can make significant impact not only in research, but for researchers as well.

There are some crucial constraints to access academic/paid journals in Africa. What can be self-evident for a western University researcher can be a challenging fact for local workers. This was partly resolved when particular literature on story telling was shared and exchanged during our first workshop. It could help more if, at that time, all the team could access to the literature which would have help thinking more on the methods (equal access to information).

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