

03

RESEARCH PAPER

DEPP INNOVATION LABS

# Community-centred design and humanitarian innovation

OPPORTUNITIES AND CHALLENGES OF  
LEVERAGING HUMAN-CENTRED DESIGN FOR  
MORE EFFECTIVE HUMANITARIAN INNOVATION

BY NAGWA KONDA, KHOLOUD MANSOUR,  
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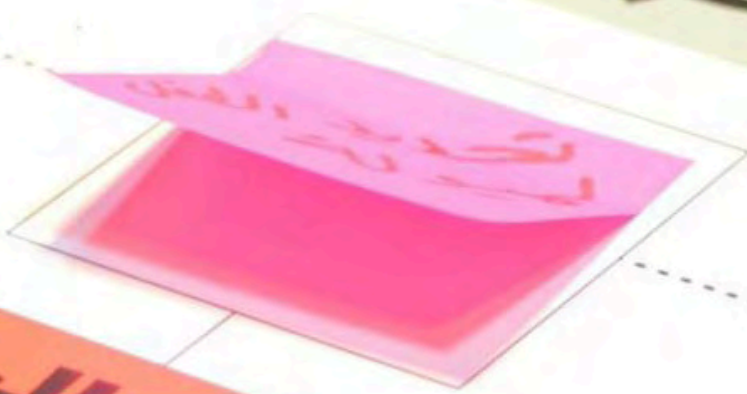




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# Introduction

The humanitarian sector is often criticised for being too top-down and for failing to meet the needs and priorities of crisis-affected people. At the World Humanitarian Summit (WHS) in Istanbul in 2016, humanitarians came together around seven principles, one of which was 'Working differently to end need'. The WHS resulted in a series of commitments that included the Grand Bargain's 'participation revolution', which promised that people receiving aid should be involved in making decisions that affect their lives.

'Innovation' became a rallying cry for new initiatives, organisations and funding promises.<sup>1</sup> Yet, three years on, the sector has been slow to prioritise and support local leadership or to create systems that allow people affected by disaster to have a hand in shaping innovations within their

own communities. A recent research paper suggests that only 33% of humanitarian innovators consult with affected populations during their innovation processes.<sup>2</sup>

In response to this situation, several organisations have begun advocating for the use of user-centred design in humanitarian innovation: bringing meaningful community participation into

developing solutions, services or assistance for that community. Design emerged as a school of practice in the 1960s and has evolved into a set of validated methodologies that help to create better services, products and experiences for people. Design recognises that you cannot meet people's needs without consulting with them. It includes user-centred

“

**'INNOVATION' BECAME A RALLYING CRY FOR NEW INITIATIVES, ORGANISATIONS AND FUNDING PROMISES. YET, THREE YEARS ON, THE SECTOR HAS BEEN SLOW TO PRIORITISE AND SUPPORT LOCAL LEADERSHIP OR TO CREATE SYSTEMS THAT ALLOW PEOPLE AFFECTED BY DISASTER TO HAVE A HAND IN SHAPING INNOVATIONS WITHIN THEIR OWN COMMUNITIES.**

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1. <https://designmind.frogdesign.com/2016/06/human-centered-innovation-world-humanitarian-summit/>
  2. Elrha. (2017) 'Global Prioritisation Exercise for Research and Innovation in the Humanitarian System'. Phase One: Mapping. Elrha: Cardiff



design and human-centred design (HCD):<sup>3</sup> frameworks for building empathy with the people you are designing for, generating ideas, building prototypes, and testing and sharing what you have made with the people you are designing for.

## THE DEPP LABS

The Disasters and Emergencies Preparedness Programme (DEPP) Innovation Labs is a diverse network of national and international humanitarian organisations, set up to identify and grow areas of innovation that come directly from communities affected by crises. The first phase of the programme was launched in 2017 and ended in 2019. The labs drew on the HCD tradition, with the aim of developing more responsive and locally-led humanitarian and preparedness programming. Labs in four countries worked with local entrepreneurs to design and develop innovations. By finding meaningful ways to include affected people in the process, they aimed to create better products and services that would improve disaster preparedness within the community. While all of the innovations in the labs were designed with disaster-affected community members as the primary users, the innovators engaged in the process fell into two groups:

1. When the innovator is a **member of a disaster-affected community**. The innovators were individuals and teams directly impacted by the problem they were trying to solve.
2. When the innovator is a **local community member**. The innovators were a mix of members of locally-based organisations, academic institutions, companies, or individuals external to the problem.

In both cases, virtually all innovators were using HCD for the first time, and not professional designers.

This research paper aims to understand how DEPP Labs implemented a human-centred design methodology and how effectively this has translated into humanitarian contexts. It outlines key principles, explores whether human-centred design increased the level and quality of participation, and discusses key questions that may be relevant more broadly.

The objectives of the paper are to answer the following questions:

- What is known about HCD in humanitarianism?
- Did the HCD methodology facilitate better innovations in these contexts? In what ways?

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3. This paper uses the term human-centred design (HCD) rather than user-centred design (UCD). Although the terms are often used interchangeably, HCD has been selected because it emphasises the holistic needs, priorities and experiences of the person.

- What were the constraints to implementing the HCD methodology?
- Did HCD help the DEPP Labs to achieve good quality participation?

## OVERVIEW OF THE PAPER

This paper is based on semi-structured interviews with three innovation managers, four lab managers, ten innovators and four volunteers involved in the DEPP Labs programme. The report also draws on a review of relevant literature from the fields of both humanitarian and social innovation.





The paper begins with a brief discussion of important terms and concepts and describes the way HCD has been used within humanitarian processes so far. Chapter 2 describes the HCD process and the benefits and considerations that were important at each stage. Chapter 3 turns to the common considerations and lessons that emerged from the labs and will be relevant for other programmes implementing an HCD process. These included the approaches to building trust, decision-making, power dynamics, stress and sustainability. In each case we explore approaches taken by the different examples included in the study, areas of learning, and the dynamics that are important within community-centred innovation processes. The paper ends with conclusions and a discussion of the outstanding questions. ■



# Chapter 1

# Background



## 1.1 HUMAN-CENTRED DESIGN IN HUMANITARIANISM

The humanitarian system has received criticism for being too hierarchical and for developing responses that address the wrong problems in the wrong ways, leaving little support for longer-term solutions or for local action and leadership. Major international humanitarian organisations have prioritised immediate life-saving activities over long-term investment in understanding local realities,<sup>4</sup> appearing to allow little relevance to local culture, history or survival strategies in the way they approach their operations.<sup>5</sup> Meaningful involvement of crisis-affected people is a persistent problem for aid organisations: while an increasing number of people are now consulted about the aid they receive, these consultations rarely have a clear effect on response plans.<sup>6</sup>

The approach and principles of HCD first appear in the humanitarian grey literature (research produced outside of the traditional channels, such as reports, government

documents and white papers) in 2012. HCD is described by Bloom as a way of

*“adapting, testing and taking ideas to new places, in a better and more targeted way.”<sup>7</sup>*

The terms ‘user-centred’ or ‘human-centred’ design are used to describe a loose methodology based on engaging users and customers, and seen as critical for designing products and services that meet genuine needs. In this paper we adopt the definition put forward by ALNAP:

*“a creative problem-solving approach used to design products, services and programmes across a wide range of sectors that puts the needs and experiences of intended end-users at the centre of the design process and engages the users throughout this process.”<sup>8</sup>*

HCD emphasises designing ‘with’ and not just ‘for’ the end user. It is based on the ‘user-centred’ methodology that was developed within the private sector. It quickly found adherents working in social innovation who were interested in trying to identify and address priority

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4. Belloni, R. (2007). The Trouble with Humanitarianism. *Review of International Studies*. 33.
  5. Comes, T., Vybornova, O., & Van de Walle, B. (2015). Bringing structure to the disaster data typhoon: an analysis of decision-makers’ information needs in the response to Haiyan. In *2015 AAAI Spring Symposium Series*.
  6. Brown, D. and Donini, A. (2014) Rhetoric or reality? Putting affected people at the centre of humanitarian action. ALNAP Study. London: ALNAP/ODI.
  7. See Bloom’s 2012 blog post available at: <http://www.humanitarianinnovation.com/blog/human-centred-design>
  8. Bourne, S. (2019) User-Centred Design and Humanitarian Adaptiveness. ALNAP Case Study. London: ODI/ALNAP.



needs, rather than focusing only on problems. Researchers saw that HCD could be a valuable tool for achieving more responsive and ultimately more effective solutions for those who are most vulnerable.<sup>9</sup>

A number of humanitarian and development funders and implementers have tested this approach, including UNICEF, the Gates Foundation and UNHCR. Other examples include:

- The UK Department for International Development's [Amplify](#) Innovation Challenge Fund, a series of eight open challenges focusing on sourcing early stage ideas, especially from community-based organisations, to address complex challenges.
- Amplify, which (in partnership with [ideo.org](#)) has awarded six organisations with \$100,000 each, along with technical support, to implement HCD approaches to improve their services and products.

- [Elrha's Humanitarian Innovation Fund](#), which has funded three HCD grantees to test innovative community engagement approaches that can be used in rapid-onset emergencies to inform decisions about sanitation. Initial pilots have implemented HCD processes based on interactive surveys and participatory design sessions.

There have also been several initiatives by humanitarian agencies using HCD at an organisational and system level. The Humanitarian Data Exchange, for example, is a joint initiative from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and Frog, a design consultancy. Another example is the Humanitarian Policy Group's research study which explores how design thinking could be used to 'redesign' the humanitarian system.<sup>10</sup>

Proponents of HCD report a wide range of important benefits to using this approach within humanitarian settings. These centre on the value of encouraging people who design and

9. Ibid

10. For more information see <https://www.odi.org/imagining-alternative-humanitarian-action>

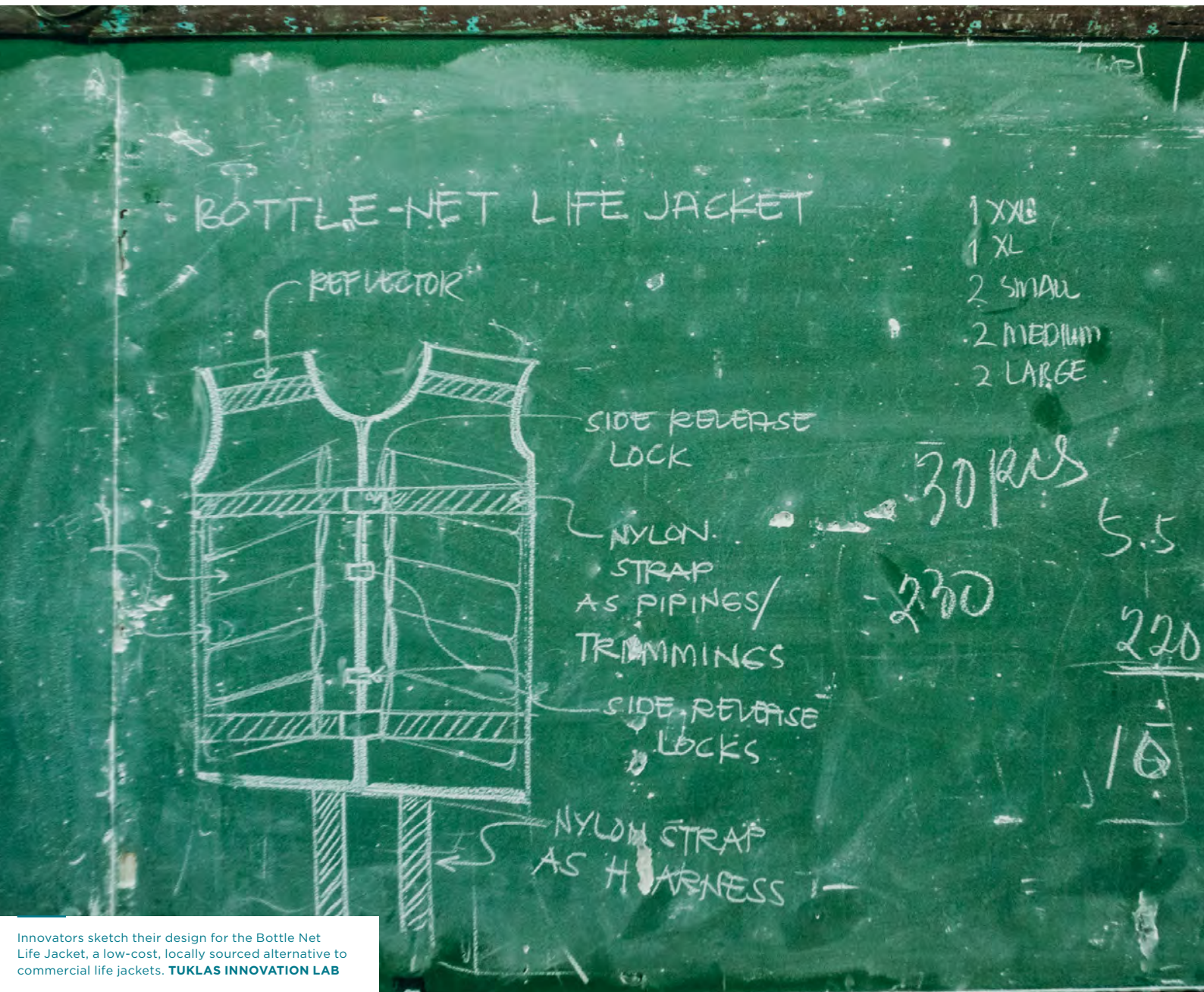




implement humanitarian programs to have a 'beginner's mindset' and to look for inspiration from the affected communities themselves. Recent work on HCD in humanitarian contexts has noted that it can:<sup>11</sup>

- encourage people to come with questions, rather than just solutions
- forge new partnerships by bringing together people from different disciplinary perspectives
- improve design by tailoring facilities or programmes to the needs prioritised by the affected people
- increase the sense of ownership of the facilities and services among affected people by involving them in the design
- build trust between humanitarian agencies and affected people by demonstrating how their feedback translates into action and improved services.

11. Bourne, S. (2019) User-Centred Design and Humanitarian Adaptiveness. ALNAP Case Study. London: ODI/ALNAP.



Innovators sketch their design for the Bottle Net Life Jacket, a low-cost, locally sourced alternative to commercial life jackets. **TUKLAS INNOVATION LAB**



## 1.2 IS IT JUST ANOTHER BUZZWORD?

HCD has been shown to promote a more user-centric approach to designing social services in a range of contexts. However there are a number of critiques related to the way HCD is conceptualised and implemented.

Firstly, there is a criticism that HCD's focus on the empathy, understanding and insights of the designer mean it can ingrain existing ways of working. The Harvard Business Review recently argued:

*"It is, at its core, a strategy to preserve and defend the status quo — and an old strategy*

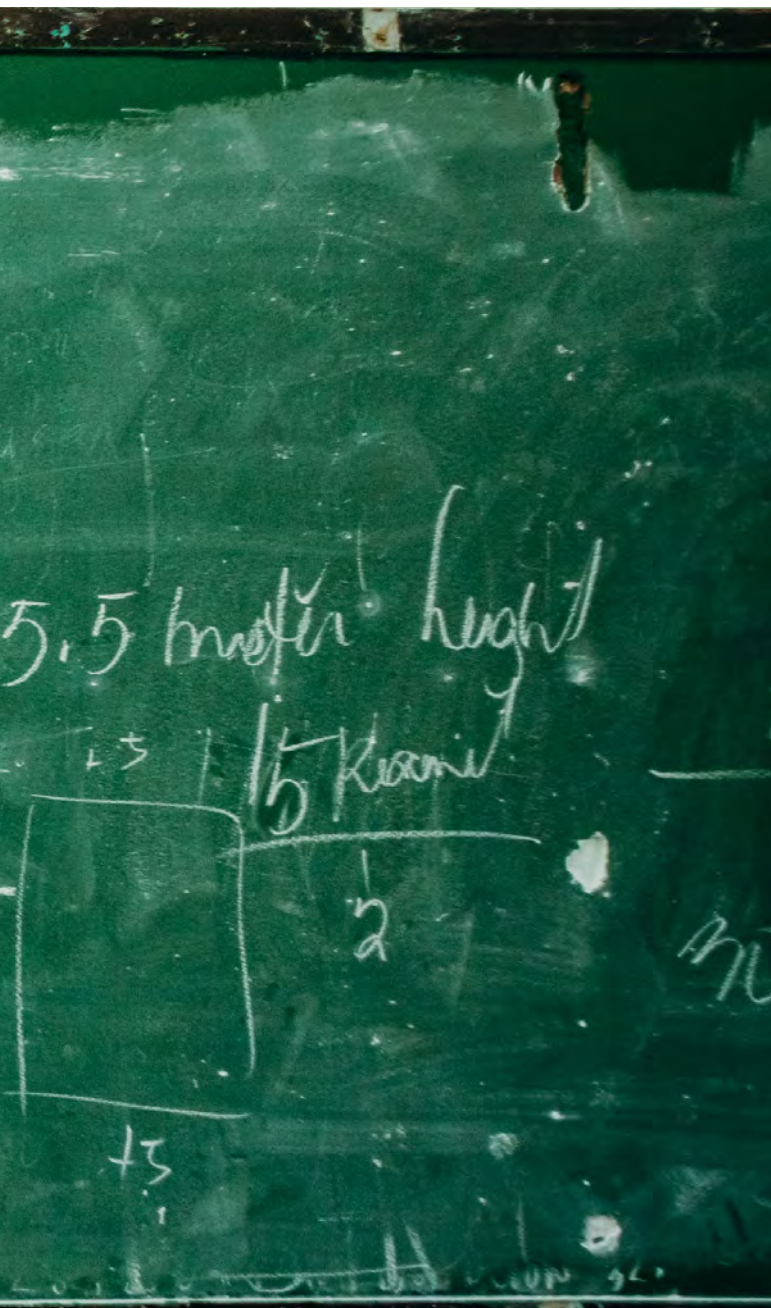
*at that. Design thinking privileges the designer above the people she serves, and in doing so limits participation in the design process. In doing so, it limits the scope for truly innovative ideas, and makes it hard to solve challenges that are characterized by a high degree of uncertainty — like climate change — where doing things the way we always have done them is a sure recipe for disaster."*

Similarly, HCD can result in processes that focus on short-term applications and the needs of the individuals involved rather than the long-term impacts for a wider range of groups within a community. This critique centres on the problem that consulting a small group of users about their immediate needs can result in products and services with unintended consequences and ultimately in harmful or exclusive practices.<sup>12</sup>

Related to this is the concern that there is no systematic inclusion of equality or justice within an HCD process. This can result in design processes that fail to understand the underlying power dynamics, treat participants simply as a source of information, and fail to identify and accommodate different people's needs. Equity-centred community design attempts to redress this by avoiding situations in which designers extract information about user needs and then leave, and by emphasising the role of humility alongside empathy.<sup>13</sup>

Finally, any human-centred designer must consider how to avoid superficial processes that do not give adequate thought to the way people included in the process are asked for input, told how their input has been used and informed of the outcomes of the design process.

This paper provides an opportunity to explore HCD, including its value and constraints when some of the designers are also community members. ■



12. See for example: <https://www.fastcompany.com/90149212/beyond-the-cult-of-human-centered-design>  
13. <http://www.creativereactionlab.com/eccd/>

# Chapter 2

## How did the methodology facilitate design?



This chapter outlines the HCD process and the ways in which it has facilitated better design.

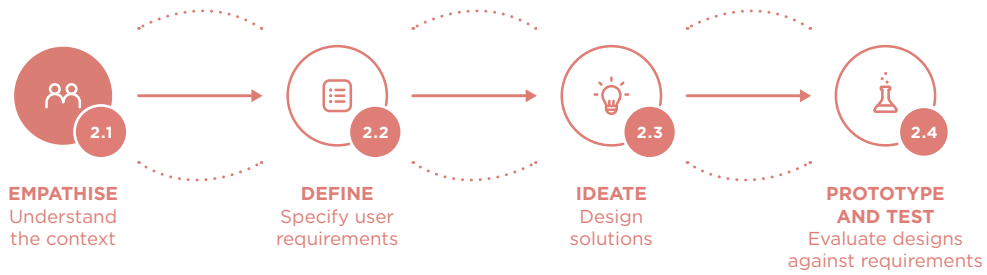
The four DEPP Labs used methodologies based on a basic HCD process, which consists of four separate phases:

- **2.1 Empathise:** Learning about the needs of the user group. This can and should be revisited throughout the process in a constant cycle of developing a deeper understanding of the users and context.
- **2.2 Define:** Defining the requirements for the innovation, based on consultations with community representatives.
- **2.3 Ideate:** Designing solutions to meet user needs, informed by a growing sense of empathy.
- **2.4 Prototype and test:** Building a representation of the idea, and getting feedback on the prototype.

communities in implementing the HCD process. The specific methodologies and techniques used in the four labs varied. Sometimes the phases happened in different orders and with different levels of emphasis. In some cases the phases overlapped, and some labs or innovators returned to a particular phase more than once. An HCD process requires innovators to iterate around the cycle: as testing reveals new elements to the problem, the innovators need to understand, define and generate ideas again. This chapter focuses on the value provided by each stage of the process as well as some of the core considerations for facilitators and innovators.

This chapter explores how the DEPP Labs worked with innovators from affected





### 2.1 EMPATHY: UNDERSTAND THE CONTEXT

The first stage in an HCD process is to 'empathise' in order to understand the context for the innovation. In this stage, designers are

encouraged to spend time getting to know communities, using observation and open conversations to ask people to show them things in their environment in order to prompt deeper questions. As the Stanford d.School process guide describes it:





*“The stories that people tell and the things that people say they do—even if they are different from what they actually do—are strong indicators of their deeply held beliefs about the way the world is. Good designs are built on a solid understanding of these beliefs and values.”<sup>14</sup>*

VALUE OF THE APPROACH

The DEPP Labs provided structured ways for innovators to engage with users. In Jordan, for example, the Mahali lab conducted the initial problem scoping through both deep and broad engagement with the Syrian community. This

was carried out online through key WhatsApp and Facebook groups and offline through community liaisons, door-to-door visits and by providing a community space and running workshops in existing community centres. Approximately 80 Syrians contributed to the discussions around the challenges they face. The lab staff hosted unstructured community breakfasts, loosely organised by volunteers, with particular groups such as older women, younger women, people with disabilities and men. These breakfasts each ran for three to four hours and included informal discussions led by the interest of the individuals. The lab team prioritised the themes that came up

14. d.School (no date). An introduction to design thinking methods. d.School, Stanford. Available at: <https://dschool-old.stanford.edu/sandbox/groups/designresources/wiki/36873/attachments/74b3d/ModeGuideBOOTCAMP2010L.pdf>



Mahali lab volunteer and community activist leads the voting in a community centre for the top challenges facing urban refugees. MAHALI LAB



repeatedly. They combined this information to draw up cartoon depictions of the main problems as they perceived them, and then asked the breakfast attendees to validate their perception of the problem, reject it or add to it. Eventually six final cartoons resulted and were shared online and offline with the Syrian community. Around 700 people voted for the cartoons that depicted the most relevant problems.

The unstructured breakfasts were a candid approach and were considered a key stage in the process to build trust and reliable rapport between the community and the lab team. It was challenging to have something unstructured and the team acknowledged that:

*“For the first hour, people weren’t comfortable. After three hours, people would speak openly about corruption and bribery and it was critical that there was no agenda or fixed questions, but just chatting – sometimes even if that was about which Turkish soap operas they were watching.”*

An important benefit of this process was that the top challenges emerging in these discussions were things that might never otherwise be addressed by a humanitarian agency. For example, in the Mahali lab, the difficulty accessing NGO services and the lack of NGO transparency around eligibility was voted as the second most critical challenge for people (and was taken forward into the design process).

## KEY QUESTIONS

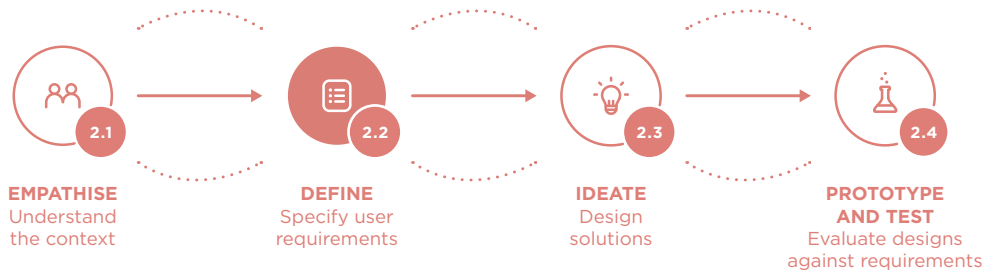
- Who is included in the process?
- Who is excluded, and what does that mean for the designers’ understanding of the context?
- How can the lab manage expectations at this early stage about how useful the solutions will be to those involved?

A key consideration for this phase is who is included and excluded from the process. The labs found that this phase set the tone for the entire approach: the decision over who to

include in early consultations influenced who was involved throughout the remainder of the process. The labs began with a broad definition of the ‘community’ as those experiencing a specific problem or those who regarded the solution as relevant to them. Labs also worked with and through existing networks of implementing organisations that already had an established presence, in order to bring on board community leaders, civil society organisations and local academic institutions. In later stages, they evaluated ideas based on how many people would be affected and how significant the problem was for them. Because the problems were only loosely defined at this stage, innovators inevitably engaged with some people whose solutions ended up not serving.

It takes time to build the types of relationships within a community that allow an innovator to really understand the context. This can be particularly sensitive – and therefore time-intensive – in times of disaster or conflict. The labs found there was a trade-off between consulting widely and building deeper relationships with a smaller group of people. Most of the labs took a mixed approach, combining some close relationships (for example with volunteers) with some wider but more superficial consultations. Their methods included large baseline surveys, smaller discussion groups, unstructured community breakfasts, radio call-in shows and social media activities. Lab managers felt that social media (such as Facebook advertisements) allowed them to reach a broader group of people but that it was nevertheless difficult to avoid working with small, tightly networked groups at the expense of others.

Having an open-ended process allowed the labs and their innovators to think broadly about the types of problems they would try to address. However, inevitably, participants raised many issues in the early phases of the process which were not eventually taken forward to be targeted by innovations. By talking about different problems, it is easy to raise expectations, so humanitarian organisations implementing an HCD process must be clear from the earliest stages about what can be expected from an innovation process and what cannot.



## 2.2 DEFINE: SPECIFY USER REQUIREMENTS

The next phase is to define the problem, based on rigorous collection of qualitative data which can be turned into insights about the needs of the users. Innovators sought to understand and describe the situations their users faced. It requires a sophisticated skillset to understand the root of the problems people are describing and to frame them in a way that allows for problem solving.

## VALUE OF THE APPROACH

Humanitarian professionals tend to see problems in terms of sectors: does the population have a shelter need, a WASH need, a livelihoods need or a health need? This results in disjointed and piecemeal understandings of needs. Lab managers felt the HCD process had brought forward a different perspective on the relationship between these different components. User requirements were defined differently from a humanitarian problem statement,



Mohammad Arifur Rahaman, an innovator in Bangladesh, meets with pharmacy owners in Korail to understand their needs. **UDHVABANI LAB**



resulting in proposals that addressed needs more holistically and accurately.

For example, one innovator working in Jordan started out looking at labour exploitation, but settled on a problem area related to housing mobility. Syrian refugees in Jordan work up to 72 hours a week, often stuck in exploitative conditions. A typical humanitarian response to the problem might be a labour rights awareness campaign, legal training or casework services. However, the innovator's research led him to a different conclusion. People are not exploited because they don't know any better: they are exploited because they are desperate to earn enough money to pay the extremely high rent costs in Jordan. Once they are in that exploitative work, they can neither pursue other opportunities nor move to a cheaper living situation because searching for options would be time-consuming and they could risk losing their job. Even though he started with the problem of labour exploitation, he ended up solving a problem about how to make housing expenses lower for the most vulnerable.

Two innovation teams working in the innovation lab in Bangladesh set out to address the problem of fire hazards in the densely populated informal settlement area, Korail. Working side by side with people living with this threat, they expanded their understanding of the problem to include quality-of-life issues caused by the badly ventilated, excruciatingly hot tin living structures that are commonplace in the area. Defining the problem from the perspective of the affected community allowed them to address more than the problem of fire safety alone by looking at cooling insulation technologies.

Lab managers concluded that innovators implementing an HCD process could gain a different understanding of problems. This was particularly pertinent where the people framing the problem (the innovators) also experienced the problem that they were seeking to solve. In Kenya, implementing organisations typically frame the problem

of drought narrowly, looking for solutions related to water scarcity, food insecurity and livestock security. The DEPP innovators responded to these problem areas with solutions based on entrepreneurship, creating employment, and information sharing around early warnings and climate.

### KEY QUESTIONS

- Who are the users and how will they be engaged?
- What other stakeholders need to be included?
- How will the lab maintain ethical and safe research practices?

Defining user requirements requires the innovator to understand and empathise with the context of the user and ask questions about their specific needs in relation to the problem being addressed.

As in the previous phase, an important consideration was who is involved in the process and how user groups are identified. Many of the HCD processes for social innovation described in the literature emphasise a small number of user groups with particular vulnerabilities.<sup>15</sup> However, these processes tend to describe vulnerable groups broadly (for example as women, or youth) without considering how and whether the selected users represent the needs and views of a particular user group, or how the most vulnerable are engaged and represented.

People innovating in the humanitarian sector must be able to identify and consult many other stakeholders who care about the problem. This is because decisions taken at this stage will affect the viable business models for sustaining the innovation in the future. For example, when problems were framed only from the perspective of the user, it became difficult to find 'proxy buyers' (such as government organisations, donors

15. See, for example, UNICEF's Innovation Lab in Kosovo <https://www.unicef.org/innovation/UPSHIFT/shnet-from-kosovo-workshop-addressing-gender-based-violence>



Innovators in Jordan use design research tools with Syrians with disabilities to understand their greatest barriers in the labour market. **MAHALI LAB**

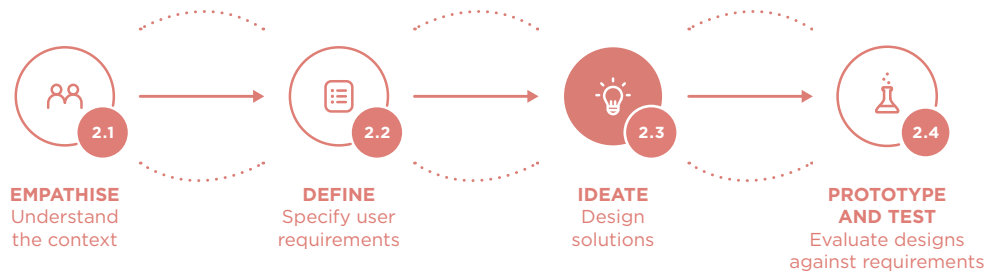
or humanitarian organisations) to fund the innovation. In Jordan, refugee participants focused on the importance of dignity in services, which wasn't a framing that was necessarily prioritised by humanitarian organisations. In these cases the innovator may need to find other stakeholders who do see the problem as a priority, or begin advocating for the importance of the problem.

During this phase, the labs provided training and support to their innovators in order to maintain ethical and safe research practices. Although the community-based innovators had a good understanding of their own context, they did not necessarily have experience in the techniques and approaches required to gather accurate, representative, useful and ethical data. Labs provided training that explored the risks and benefits of the research, processes for consent that help participants to understand how information will be used and processes for referrals in cases where

researchers identified protection concerns. Labs also implemented data collection processes informed by their host organisation's data protection policy and practices. This helped to ensure that data was anonymised when needed and that identifiable information would not put people at risk.

Implementing an HCD process requires organisations to review their safeguarding procedures and adapt protocols for protecting vulnerable people. INGO policies are often developed around roles of 'staff' and 'beneficiaries' and must be redesigned when roles begin to change and blur. Bespoke training was designed and new protocols developed several times over the course of the innovation process. Specific considerations are described further in section 2.4.





### 2.3 IDEATE: DESIGN SOLUTIONS

The next phase is to design innovations that meet user requirements. The approach taken differed between the labs. The Jordan lab recruited local ‘changemakers’ from the affected community to implement an HCD process, before they had a clear idea of the problem they would address or its solution. The labs in Bangladesh, Philippines and Kenya selected specific innovators with a compelling initial proposal who were either members of the affected community or had a close relationship with the problem. They were given the time, support and resources to develop ideas that addressed their user requirements.

#### VALUE OF THE APPROACH

During this phase, innovators continued to develop different types of solutions to the needs they observed. Many ideas that came out of the labs were built on local resources, systems and cultures (see Box 1). For example, some innovators came up with solutions that made use of unusual points of service such as local pharmacies, fast food shops or cell phone stations.

The innovators also benefitted from open minds about what would be possible. In Jordan, for example, one of the most popular solutions was a platform that redistributed medicines nearing their expiry dates to pharmacies serving Syrian refugees. The innovators were told by pharmacists and NGO workers that the solution would not be possible. However, they managed to create

a way of making the redistribution beneficial to pharmaceutical companies, creating a new opportunity for Syrian refugees with chronic health problems to access the medicines they needed.

#### KEY QUESTIONS

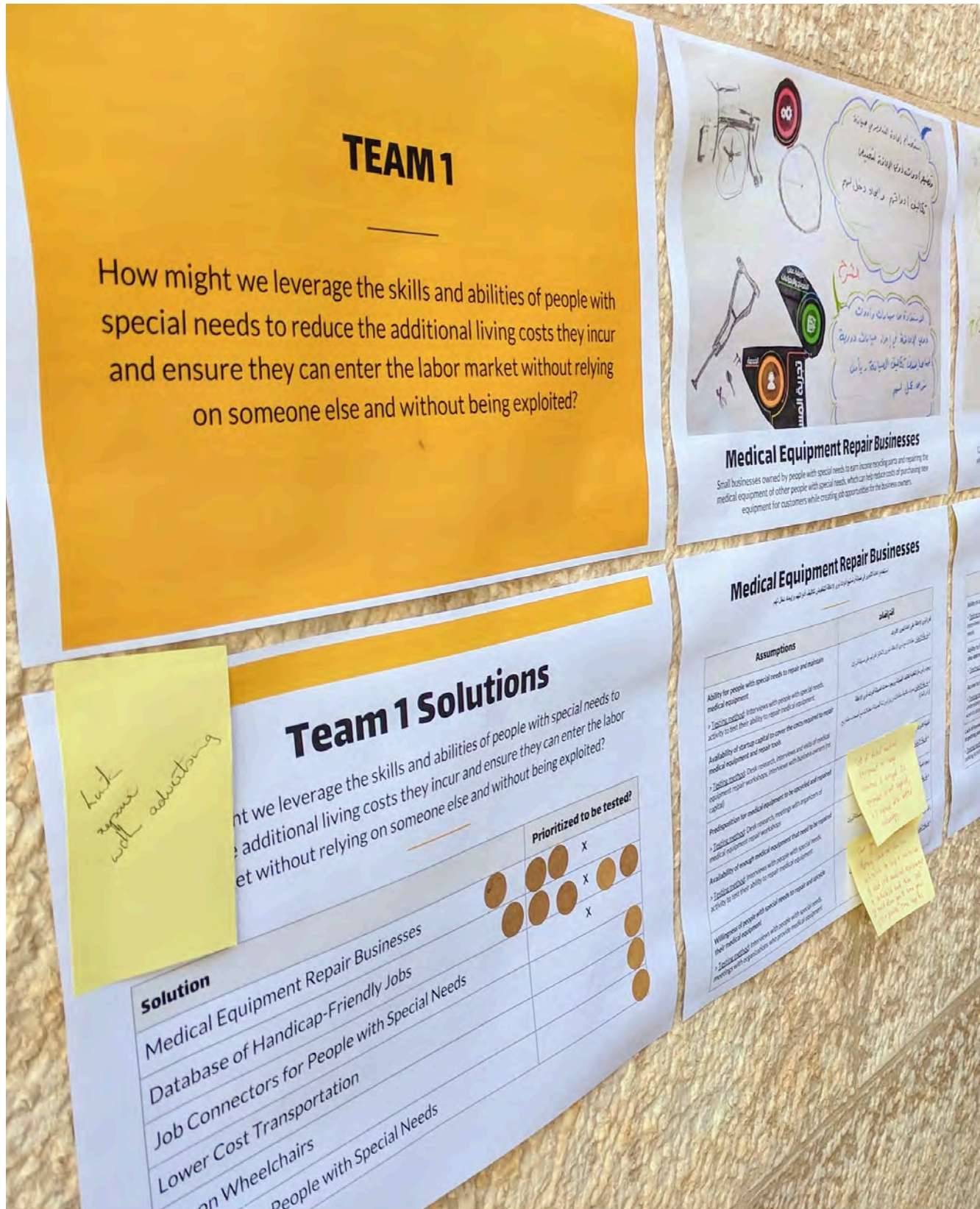
- How much time do the innovators need?
- Will the programme have specific requirements about the types of problem or types of idea it will support?
- How often will innovators engage with representatives from community groups during the ideation phase? Who ultimately decides which innovations receive support?

Different teams progressed their designs at different speeds. Some solutions were relatively simple to develop and progressed quickly through the process. Others needed more time and additional financing. Labs wanted to filter out poorly conceived concepts but also needed to ensure that innovators new to design had time to adjust to the new methodology and approach.

Innovation evolves iteratively by nature. The programme could not anticipate what solutions would emerge at the end of the process, which require it to cede control over the process and end result to the innovators. If there are limits on what kinds of innovations can ultimately be supported by the programme, those limits must be transparent and clearly communicated from the beginning.

The experiences of this phase emphasised the underlying tensions over who is selected for funding and support, how community representatives are engaged in decisions, and who ultimately decides whether to take designs forward or not. The innovators

themselves struggled with a lack of clarity about the purpose of the process. Some lab staff emphasised the labs as a way of building resilience, some as a way of creating new and innovative solutions, some as a mechanism for getting better community engagement in



## TEAM 1

How might we leverage the skills and abilities of people with special needs to reduce the additional living costs they incur and ensure they can enter the labor market without relying on someone else and without being exploited?

### Team 1 Solutions

How might we leverage the skills and abilities of people with special needs to reduce the additional living costs they incur and ensure they can enter the labor market without relying on someone else and without being exploited?

Solution	Prioritized to be tested?
Medical Equipment Repair Businesses	X
Database of Handicap-Friendly Jobs	X
Job Connectors for People with Special Needs	X
Lower Cost Transportation	
Online Wheelchairs	
People with Special Needs	

Handwritten note on a yellow sticky note: 'Lack of resources well advertising'

### Medical Equipment Repair Businesses

Small businesses owned by people with special needs to earn income by repairing and maintaining the medical equipment of other people with special needs, which can help reduce costs of purchasing new equipment for customers while creating job opportunities for the business owners.

### Medical Equipment Repair Businesses

Assumptions	القدرات
Ability for people with special needs to repair and maintain medical equipment	القدرة على الصيانة والإصلاح
Availability of start-up capital to cover the costs required to repair medical equipment and repair tools	توافر رأس المال لبدء العمل
Precondition for medical equipment to be repaired and repaired	شروط صيانة المعدات الطبية
Availability of enough medical equipment that need to be repaired	توافر كميات كافية من المعدات الطبية التي تحتاج إلى إصلاح
Willingness of people with special needs to repair and maintain their medical equipment	استعداد الأشخاص ذوي الإعاقة لإصلاح وصيانة أجهزتهم الطبية

Handwritten notes on yellow sticky notes attached to the bottom right of the Arabic version of the business model canvas.



problem definition and design processes. One innovator worried:

*“We were informed in the beginning that the project should mainly aim for community service. Then, in the last two weeks of the design*

*sprint, we were told that our idea or project has to be profitable and sustainable. It was too late to change our innovation. Two teams out of five did not have products to sell.”*



During the design sprint in Jordan, multiple ideas to solve the challenge of livelihoods were generated, tested, and ranked. **MAHALI LAB**





The women in Mt. Marsabit Dairy cooperative know firsthand the dangers that women face trying to access the local milk market. Their solution allows women to sell small quantities of milk directly to the cooperative for the production of traditional products.  
**MAARIFA KONA/J. MWAURA**





## Box 1: Design and local knowledge

An important benefit of local people designing solutions is the potential for integrating local knowledge into design in a way that recognises the value of that knowledge. There is surprisingly little discussion of local knowledge in the humanitarian sector. In part, this is because humanitarian organisations have been comparatively slow to adopt participatory approaches in relation to the development sector. However, there have been some efforts to support local knowledge systems around disaster risk reduction (DRR), early warning, environmental adaptation strategies, and for research on the historical and political causes of conflict.<sup>a</sup>

The Sendai Framework for Disaster Risk Reduction 2015–2030 explicitly acknowledges the importance of traditional knowledge in DRR:

*“Indigenous peoples, through their experience and traditional knowledge, provide an important contribution to the development and implementation of plans and mechanisms, including for early warning.”*

This is beginning to be recognised in practice. For example, there has been an increased reliance on local people and organisations to deliver the humanitarian response within protracted conflicts such as those in Somalia and Syria. In these areas, researchers and humanitarian organisations are recognising and documenting the roles that local knowledge can play in increasing the relevance and effectiveness of local humanitarian action.

Research suggests that local knowledge is most effective when it can be used to inform interventions that local people can influence and take ownership of.<sup>b</sup> Wall and Hedlund, for example, suggest that it needs:

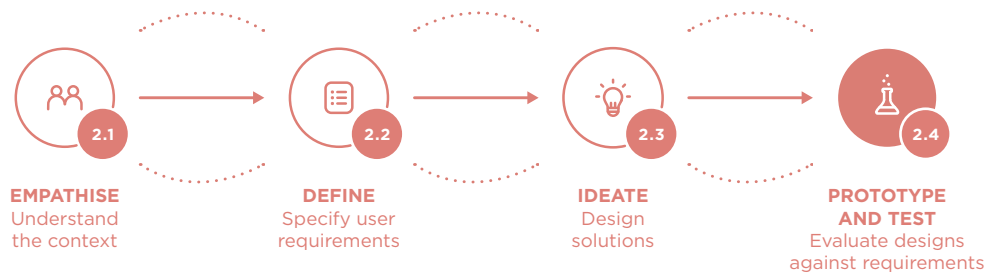
- a central role for local actors in designing and implementing support
- resource transfers that allow for flexibility and decentralised decision-making (even at the household level)
- investment in relationship building with local actors, along with technical support (a mentoring rather than training approach is indicated as preferable)
- inclusion of local government where appropriate.

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a. Tanner, L and Kirby-Reynolds, A (2017) Local knowledge in humanitarian response. Humanitarian Leadership Academy

b. Robinson, L.W. and Berkes, F (2011). Multi-Level Participation for Building Adaptive Capacity: Formal Agency–Community Interactions in Northern Kenya. *Global Environmental Change* 21, no. 4: 1185–94. <https://doi.org/10.1016/j.gloenvcha.2011.07.012>.

Mercer, J. et al. (2010) Framework for Integrating Indigenous and Scientific Knowledge for Disaster Risk Reduction.” *Disasters* 34, no. 1: 214–39. <https://doi.org/10.1111/j.1467-7717.2009.01126.x>.



## 2.4 PROTOTYPE AND TEST: EVALUATE DESIGNS AGAINST REQUIREMENTS

The lab teams trained and supported innovators in prototyping and testing their ideas. The training explained why user research is necessary and how it should be conducted. Several of the labs developed tools to support or measure how innovators incorporated the user perspective. Innovators used a variety of methods. In the Philippines lab, innovators created prototypes of their Bottle-Net Life Jackets and dignity shelters and asked users to test them. In Kenya, innovators produced dairy products and cattle feed and tested them with neighbours or in the market. In Jordan, the lab convened feedback committees to provide regular input into a design and prototyping process over a ten-week period.

### VALUE OF THE APPROACH

The HCD methodology proved helpful in gathering and incorporating feedback from the community or potential end users. Lab managers reported that innovators who responded to feedback were more likely to understand the needs of the community and were more likely to progress to the next phase of the process.

The ten innovators interviewed during this research had different perspectives on how ‘useful’ community participation in the prototyping and testing phase had been. For some innovators, the participants lacked the technical expertise felt necessary for providing constructive feedback. Others found that community members were reluctant to criticise the innovation so held back in providing feedback.

However, others were very positive about the process, describing changes they had made to their design and how this had improved the final product. For example, the Ifugao Peasant Movement in Philippines sought to eradicate a certain disease that plagues sweet potato root. During testing, the community informed the team of the other varieties of sweet potato that get infected, as well as non-camote root crops such as gabi and ube, and suggested





they test those as well to see if some variants are more resistant than others. These suggestions could only have come from long-time planters and consumers of the sweet potato.

Also in the Philippines lab, innovators designing partitions for evacuation shelters in schools went through several rounds of field research in the local community to get feedback from potential customers and others on their prototype, how it should be developed, and whether there were any problems with the ideas and products. They described:

*“During initial conversations we involved the community and asked them what is their concept of home and how they would like the home to look. Next we called the community barangay (local government) and they identified the different groups (children, people with disabilities, elderly, women, vulnerable groups) and they chose different representatives based*

*on their data. We tested the idea with different age groups of children (3 to 18), and with senior citizens and with women.... The design now includes openings that can cater for a wheelchair, local mats to sleep on and material that is termite resistant.”*

For those designing products or services intended to be purchased by the users themselves, collecting regular feedback meant that innovators were conscious of practical considerations of cost and of whether their innovation could be implemented in real world conditions. This was especially important when the innovator was not personally from the affected community.

The same did not necessarily apply for innovators designing products or services that would be purchased by NGOs or government. In these cases, they needed to treat the ‘proxy buyer’ as a user and incorporate





Children in Jordan rate the solutions of the innovation teams on a scale of 1-5, during a prototype feedback session. **PARACHUTE16**

their constraints (for example, the cost of the product or the way it would be distributed) into the HCD process from the outset.<sup>16</sup> Innovators who have come from outside the humanitarian sector face constraints accessing humanitarian proxy buyers, and organisations facilitating their work must play an additional role to facilitate connections.

#### KEY QUESTIONS

- Can procurement processes meet the rapidly evolving material needs of the innovators during prototyping and iteration?
- How is feedback gathered, when, and from whom?
- What type of feedback is useful?
- What is the best way to approach safeguarding in a changing and more loosely

structured environment with people new to the humanitarian sector?

Rapid development of innovations meant that lab staff were required to develop new standard operating procedures to quickly access funds for the materials innovators needed to prototype. In some cases, processes for hiring consultants or procuring supplies were slower than the fast iterative cycles that characterise design processes.

The approach to testing varied from lab to lab, and from innovation to innovation. Collecting user feedback was time consuming and the iterative approach meant a heavy workload for lab staff, mentors, community representatives and leaders. Gathering feedback from communities in disaster-affected locations also involved some level of risk.

The 'community' was not fixed and in some cases it changed based on the development of

16. Gray et al (2019). Business models for innovators working in crisis response and resilience building. DEPP Innovation Labs



the ideas. The people being consulted could change as the idea developed and became more or less relevant to them. The teams in Jordan also reported that having a single committee for providing user feedback became ineffective, because individuals became too familiar with the solution and could no longer provide useful insights. Prototype testing needs fresh eyes, which means you can't bring a single group along for the 'whole ride'. Several innovators resorted to drawing on their own networks to provide new insights and to validate products.

People from the affected community had a very nuanced and profound understanding of their problems, but that didn't mean they had a strong understanding of the mechanics of a solution. In Jordan, innovators attempted to address the lack of information and transparency on health services, a problem that was rated highly by community respondents. However, their solution, a field office which would provide a bespoke information service, did not address some of the root causes of the problem such as poor information sharing by health providers and unpredictable funding cycles (which mean programmes start and stop). The labs suggested that innovators working within the humanitarian system need to take a multi-stakeholder approach to collecting user feedback so they can see the problem from many different angles.

Safeguarding was another area that posed challenges. Innovators came from communities affected by crises or from the surrounding areas, some experiencing trauma. There was a risk of facilitating interactions between vulnerable communities and untrained innovators, which could have negative impacts for both parties. To apply good safeguarding practices innovators required tailored, specialist training to get them up to speed and in line with organisational policies and procedures.

Related to this, there were challenges around security and access for innovators

going out into the affected communities. Some communities had no access to roads, markets or mobile and internet networks. Some suffered flooding. For others, staff and innovators risked encountering armed groups in remote villages.<sup>17</sup>

In Kenya, for example, many of the innovators designed products which they planned to sell directly to individuals in their surrounding area and they travelled to other nearby locations to collect market research. This meant that lab staff and innovators had to walk miles on poor roads in conflict-affected areas to reach remote villages with their feedback questionnaires. Insecurity is a daily risk faced by the community and innovators in Garissa county in Kenya. Adeso lost one staff member to an explosive device in June 2017. An Adeso staff member said:

*"...no matter your experience in a similar setting, the local staff do understand more about the socio-cultural and political dynamics. However, we always forget about them in the comfort of our field or HQ offices..."*

Several innovators tested prototypes that were not ready for the market, and this raised concerns about whether 'experimenting' in high risk environments is actually appropriate. A 2014 paper from ALNAP discussed the importance of respecting the rights and interests of people involved in a humanitarian innovation process, setting a minimum standard for how this is achieved and demonstrating that it is taking place. The paper explores the factors that enable successful innovations and describes how easy it is for the risks associated with an innovation process to be passed on to the affected community. A staggered approach to piloting within a non-emergency context was one way of dealing with this.<sup>18</sup> This approach is where every community will ultimately have access to the new product or service being developed, but at different times to enable the implementer to learn about its effectiveness.

17. Garissa and Mandera are among the counties in Kenya that have been prone to security threats from Al Shabab since Kenya's military intervention in Somalia in 2011.

18. Obrecht, A. and T. Warner, A. (2016) 'More than just luck: Innovation in humanitarian action'. HIF/ALNAP Study. London: ALNAP/ODI.







## Box 2: Mahali lab example

The Mahali lab in Jordan worked closely with volunteer community members, who acted as access points to networks within the broader community and provided contextual insights around how best to connect with them. This engagement resulted in immediate changes to their planned processes.

Mahali lab staff found it was important for people to see the process as directly beneficial for them. Involvement reduced when volunteers did not see concrete outcomes or were not assigned enough of a meaningful role. Further, the Mahali team felt they risked reinforcing preconceptions that NGOs do not deliver on their promises, despite having promoted their process as different. They rightly claim that

*“The most dangerous engagement is the loose engagement.”*

They found it was better to engage small numbers of community members in an active and predictable role than larger numbers through ad hoc voting processes.

One woman who had been volunteering for the lab for four months described positive feelings about her experience:

*“My motivation is that I come from the same community. When someone identifies our problems, then we can reach a solution and improve education. It is a way to make our voices heard.”*

Since she was resident in the area and knew many families and friends, she was able to help in the field research to arrange interviews with families and children and ensure they met the age and other criteria. The volunteer spoke about her experience with a sense of belonging and ownership being involved in the whole process and explained that she used to come to the lab almost daily even when not asked to do so. ■

# Chapter 3

# Important considerations when applying Human-centred design

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The interviewees consulted during this research identified six areas that require consideration for programmes implementing an HCD methodology.

## 3.1 DEFINING THE PARAMETERS

Labs played an important role in setting the stage for the innovation process. This included providing financing, delivering technical services and resources and facilitating links between innovators and community users. It was important for labs to be conscious of the power dynamics influencing the process: the relationships between the innovators and the community users, between the labs and the community users, and between the innovators and the labs. This is particularly critical in

crisis areas because of the number of different factors affecting people's relationships, as well as the historical power structures of the humanitarian system and the increased vulnerability of the community.

The approach to lab set-up and the early stages of the labs' engagement with communities were important for setting the stage. Labs carefully considered the places and spaces where they would meet people, the languages they would use and how they would make the process contextually relevant (see Box 3).





### Box 3: Language

Language was a recurring challenge for meaningful interaction with affected communities in humanitarian programmes. The literature has reiterated that if local languages are not prioritised, this hinders the progress of localisation and innovation activities and prevents the meaningful participation of affected communities and local actors.

The organisations included in this study all designed innovation processes and curricula that were delivered in the local language. The vast majority of staff and mentors spoke local languages, and key documents were all translated. In Jordan, for example, one innovator explained:

*“The working language was Arabic inside Mahali Innovation Lab and they were very keen to translate everything into Arabic. It was so important so all of us are on the same page of understanding. They did not even include English language in the selection criteria.”*

Translating technical terms and concepts around human-centred design, innovation and entrepreneurship into local languages was a challenge for each of the labs. During interviews, innovators from Jordan used a variety of English terms such as hackathon, bootcamp, and design sprint while explaining the process. Nevertheless, as one innovator reflected:

*“They allowed us to write in Arabic all the time and told us that our focus should be on the content, information and the product we want to deliver and that our focus must not be on English. Although business and innovation’s language is English, still they wanted us to focus on what we do and write in Arabic.”*

The labs worked hard to contextualise the HCD process into cultural contexts. For example in Bengali, the language spoken by many of the innovators in Bangladesh, the concept of ‘taking a risk’ translates as ‘put yourself in a critical situation’. This needed to be adapted into language which conveyed ‘trying something new’ rather than ‘being unsafe’.

Similarly, in Kenya, staff noted that it was initially difficult for community members to understand the purpose of the lab and to respond to the call for ideas. Over time, the lab staff provided training in response to questions, needs and the innovators’ level of education and experience. The staff reported that

*“we also have to be aware of and considerate to the education level of the community, particularly women, throughout all stages.”*

# IMPORTANT CONSIDERATIONS WHEN APPLYING HUMAN-CENTRED DESIGN

SETTING THE STAGE

SELECTING THE DESIGNERS

3.1



DEFINING THE  
PARAMETERS



DESCRIBING AND  
ADVOCATING FOR PROBLEMS  
THAT NEED TO BE SOLVED

3.2



SELECTING THE  
INNOVATORS



LOCAL  
INNOVATOR



INNOVATOR  
FROM COMMUNITY



VOTING FOR  
SOLUTIONS



- Labs
- Communities
- Designers (Innovators)

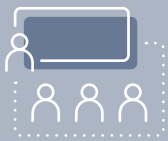
TRAINING

SUPPORT

SELECTION

IMPLEMENTATION

3.3



TRAINING AND SUPPORT WITH THE METHODOLOGY

3.4



SUPPORTING COMMUNITY ENGAGEMENT

3.5

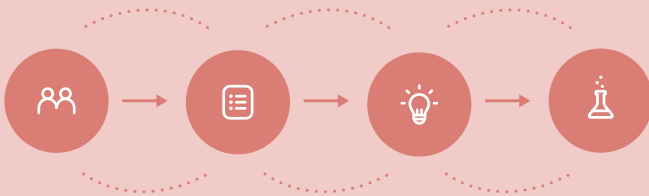


DECIDING WHO GOES FORWARD

3.6



IMPLEMENTING THE INNOVATION



HUMAN-CENTRED DESIGN PROCESS



VOTE FOR SOLUTIONS



TESTING AND FEEDBACK

From the outset the DEPP Labs were locally named, with staff translating the term 'innovation' (for example, the notion of 'newness' in Bengali and 'discovery' in Tagalog) and conveying a shared and welcoming space for 'lab' (for example, 'my place' in Arabic or 'a place for gathering or sharing' in Swahili).

The four DEPP Labs attempted to set broad problem areas for their lab innovators through extended open discussion and open decision-making processes, often following a committee type structure. This required carefully choosing locations and prioritising languages used in the labs. Labs in Kenya, Philippines and Jordan all emphasised the importance of taking time to talk to people, locating the labs in community spaces, and working with trusted community volunteers. Most of the labs used a mixture of surveys, focus group discussions, workshops and informal meetings for collecting user insights. These

were designed to capture the pain points with existing solutions and to identify potential causes behind each pain point. Cartoons and drawings were often used to help ensure that problems were described through illustration rather than using language that might be misunderstood (although several interviewees also noted that illustrations can be equally confusing if they aren't contextualised).

From the outset, the locations of meetings with the community were important for establishing a tone and atmosphere that was open and accessible. Udhvabani in Bangladesh, for example, hosted community testing meetings in local cafes. Similarly, Mahali lab in Jordan wanted to model a non-traditional type of relationship with the community compared to other NGOs. They chose people's homes and parks for the initial engagement, to keep it informal and easy to access.



Shoes are removed before going into homes to speak with people about their experiences in Jordan. The home was chosen by the lab to ensure people felt comfortable, and weren't asked to go out of their way to participate. **SARAH FATHALLAH**





Maarifa Kona Lab held discussions with community members in drought-stricken Northern Kenya to build relationships, trust, and understand their opportunities and constraints. **MAARIFA KONA/J. MWAURA**

The labs had to carefully manage expectations about who would be developing solutions. In Kenya, for example, the host organisation Adeso had been working in the region of Garissa for many years and struggled to explain to people that the lab was not a traditional aid project but that the solutions needed to come from within the communities themselves. The labs in Kenya were located in regions suffering from life-threatening problems that needed immediate action, including a lack of food and water. It was difficult for lab staff to tell people they had no immediate solutions to these problems.

Alongside the lab work, Adeso had continued to deliver regular humanitarian assistance, including meeting immediate basic needs through cash transfer programmes. Although it took time for people to understand or trust the lab process, staff felt that Adeso's existing relationship with the communities had helped to build the trust needed for people to engage in their processes. However, managing

expectations around what the innovation programme would deliver remained a challenge.

Both the DEPP Maarifa Kona lab in Kenya and the independent mLab in Malawi reflected on the additional challenges of working in rural locations, where there is less experience of formal innovation processes, fewer resources and less infrastructure (such as mobile phone ownership or internet access). In both cases, local people expressed doubts about how beneficial the projects would be and it took longer for the community to accept the organisations. This will be discussed further in a forthcoming paper on lab-based support for grassroots innovation.

### 3.2 SELECTING THE INNOVATORS

There are three different types of HCD processes. These have been described by the MIT D-Lab as:<sup>19</sup>

19. Martha Thompson and Amy Smith presentation to the Humanitarian Innovation Exchange June 2019

- designing **for** the users: any process that involves designers from outside the intended user group
- designing **with** the users: a process of co-creation in which a designer and community group partner together in order to develop an idea
- designing **by** the users: the designers themselves are members of the intended user group.

The labs received far more applicants from potential innovators than they had anticipated, highlighting an appetite to participate in local problem solving. The DEPP Labs supported innovation processes for 95 teams. They implemented a mixture of 'designing for' and 'designing by' projects: 63% of the initial 95 innovation teams were from the affected community, while 55% of the teams that graduated from the project were from the affected community.

Lab staff found that not all problems and not all solutions were well suited to community design. For example, poor water quality emerged as a key challenge in Bangladesh. Designing water quality solutions involves a level of technical expertise that is likely to require innovators with an engineering or related background, which in some contexts may be a more common profession outside the affected community. In addition, some issues may be less risky for external innovators to tackle. In Jordan, corruption was raised as an important issue but engaging Syrian refugees in a public process of designing solutions to corruption would have put them at risk.

Of course, regardless of who the designer is, all solutions require input and feedback from the affected community to work under real world conditions.

Stress emerged an important but overlooked byproduct of a competitive innovation program model. In a complex and sensitive humanitarian environment, those most affected by a humanitarian crisis are likely to be vulnerable and socially marginalised. At the outset, none of the labs defined a clear approach to supporting innovators with stress. However, the innovation process involved uncertainty about

participants' future options and livelihoods, pressures on their time and pressure, if selected to go forward, to develop a product for the community. The innovation process needed to accommodate or absorb some of these broader pressures and uncertainties. Lab managers concluded that in this type of process, stress management must be considered as part of their duty of care.

The interviews highlighted five key considerations around implementing an HCD process when the designer is from the affected community:

1. **Extending the invitation to participate.** All teams noted the initial time frame for the call for ideas was too short and did not allow for a period of introduction to acclimatise people to the concept of innovation and communicate about the parameters of the programme through relevant and accessible channels and in relevant languages.
2. **Greater investment in ideation.** Labs or programmes working with community designers must be willing to invest time and funding into the ideation phase. The DEPP Labs used a variety of ways to do this. The lab in Bangladesh, for example, conducted 'inspiration walks' to help community designers to develop ideas.
3. **The opportunity cost for community participants.** Most people cannot afford to participate in a process to develop a social impact solution over months or years without generating income. The labs typically needed to enable participation by providing some sort of stipend or compensation while people worked on their solutions.
4. **The burden of failure.** Innovators from the community described how the HCD process had built expectation for a product the community needed and wanted but which may never exist. This meant it was difficult to manage the expectations of the user group. This is particularly important when the innovators themselves are community members, because the risk of disappointment and/or loss of trust can be transferred to the innovator, rather than the lab absorbing it as an NGO. This can have wider repercussions on



the individual's social networks and personal relationships if innovations never materialise or don't become available to the market.

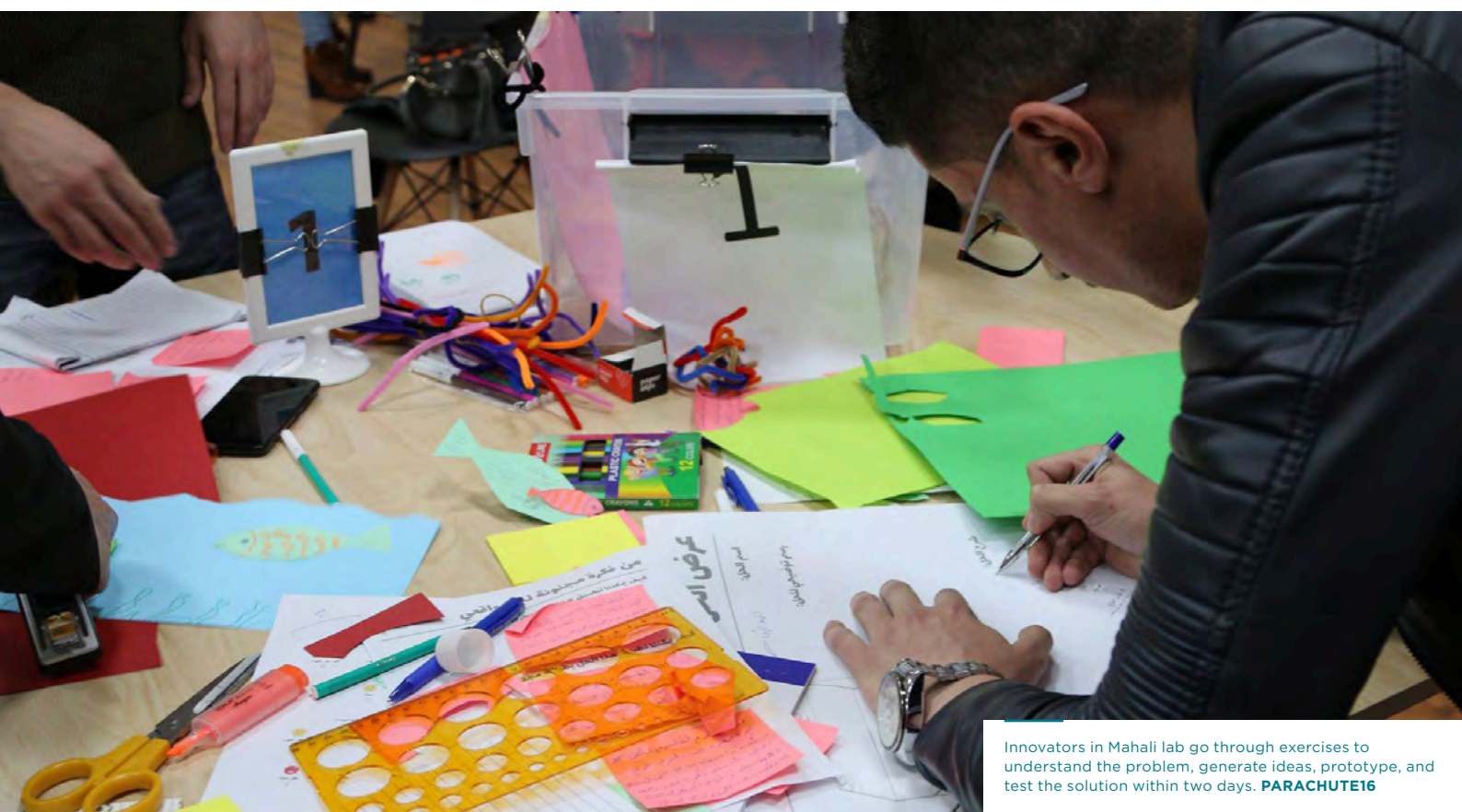
**Ownership of intellectual property – and thus any future financial benefits – from the innovations.**<sup>20</sup> On one hand, labs risk creating an 'extractive' process that takes ideas and sensitive information from community members without giving back. On the other, labs want to develop sustainable innovations which offer social value (and which, for example, may only be financially viable within a large INGO that can absorb seasonal demand).<sup>21</sup> At the same time, the innovator may benefit from the

voluntary input of a large number of people, in which case community ownership may be most appropriate. The decision about how to treat innovators' ideas reflects a broader trade-off between meeting the needs of the innovators and the needs of the wider community.

### 3.3 TRAINING AND SUPPORT WITH THE METHODOLOGY

Programmes implementing an HCD approach will need to provide significant levels of technical support to innovators new to design

20. The loss of valuable intellectual property is a particular concern for many indigenous innovators, and has resulted in some communities being afraid to share their knowledge with outsiders. Asia Indigenous Peoples Pact (AIPP) is an example of a community-based organisation working to document traditional plant and craft knowledge as a means of protecting it from external private interests. The World Intellectual Property Organisation (WIPO) hosts a variety of forums and workshops that bring together traditional knowledge stakeholders for discussion and information. It has also begun a process of negotiating an international legal instrument to address intellectual property issues for traditional knowledge.
21. The Collectively labs in the UK took a different approach, using an 'open innovation' platform so that neither the labs nor the participants have sole ownership of the ideas. Participants were facilitated in establishing an early-phase project and then are free to take it forward, creating a marketable product. However, no-one has sole use of the idea so if the lab itself thinks the idea will benefit the wider community then they can develop it further.



methodology. The DEPP Labs developed detailed innovation curricula for low literacy audiences, aiming to lower the barrier to design by translating key methodologies into local languages while also contextualising the concepts.

An important consideration for the DEPP Labs programme managers was the extent to which the HCD methodology could be adapted to different contexts. The four labs were supported by a programme team which developed resources and supported implementation of the HCD methodology. The programme team aimed to promote adherence to the HCD methodology while also allowing labs to make their own decisions about how they structured and organised the innovation support. This meant significant differences in how the four labs implemented HCD. Moreover, it was common for lab teams or organisations to implement some parts of the methodology but not others, and for teams to adapt particular methods to suit them. The lab staff described three competing considerations: methodological rigour, local ownership over the process and contextual relevance.

It was common for each lab's approach to understanding the context and problem definition to be heavily informed by their host organisation's existing practices around community engagement. The DEPP Labs programme was implemented by a network of INGOs and national NGOs, with a different organisation implementing the programme in each country (see Annex 1). The approach they took varied from one lab to another based on the context, innovations and resources allocated to each lab, and their relationships with their constituents.

Some lab staff felt confused by the unfamiliar concepts and methods. Most NGO staff do not have a technical design background and require training and hands-on support in implementing an HCD process. Without this, they risk reverting to known and familiar ways of working. Both lab staff and innovators found it difficult to explain innovation processes and this resulted in differences in people's understanding of terms like 'innovation' or 'problem statement'. In our interviews, people sometimes used terminology they were unable to

define and struggled to explain core elements of the methodology.

Labs benefitted from having local team members with a strong grasp of the methodology who could guide the process. The Mahali lab in Jordan, for example, had team members familiar with HCD processes who were able to guide the unstructured breakfasts and capture the conversations in a way that made it possible to represent problem statements which the wider community members could then vote on. They also designed the approach to problem framing and the curricula for the bootcamps and design sprints, as well as providing direct facilitation and technical support to teams as they went through the process. Without this type of support, other labs implemented the HCD process more loosely.

Finally, while training had an important role, it wasn't enough on its own. Innovators had to try prototyping and testing in order to experience the way it generated learning about their solution. At the same time, the labs learned that they needed to develop new procedures to quickly access funds for the materials innovators needed for their prototypes.

### 3.4 SUPPORTING COMMUNITY ENGAGEMENT

Each of the labs created structures to support ongoing engagement with users, with a range of approaches including community committees, demo days and engagement with community leaders. Lab staff described four considerations:

- The extent to which users want to be included
- Remuneration of users
- Breadth or depth of user involvement
- Achieving gender balance.

There is an open question here about the extent to which users from the wider communities want to be involved in innovation processes on an ongoing basis, and particularly in the





Ania Design Lab tests its innovation for virtual reality disaster preparedness with school children. **TUKLAS LAB**

day-to-day activities. Indeed, the experience of the DEPP Labs suggests it is possible to overestimate how much the community wants to be brought along in all aspects of the process. Several of the volunteers interviewed for this study described how they became heavily engaged in the process and enjoyed the sense of community it provided. In general, however, the lab managers found that volunteer community representatives only stayed involved if the innovations were valuable to them and they had a clear role such as feedback to innovators during workshops, mentoring or master classes.

There were also different ideas about whether and how much the people giving user feedback should be reimbursed for their work. Maarifa Kona lab in Kenya, for example, did not want to be seen as an external organisation delivering assistance so asked people to volunteer their time freely to participate in community committees and selection panels, and as mentors. The lab managers felt this had the advantage of promoting a sense of ownership for the labs and the projects. In contrast, Udhvabani lab in Bangladesh and TUKLAS in Philippines both made use of their position as aid providers. Udhvabani lab provided

free medical check-ups and free community training in the lab space through its lead organisation Dhaka Community Hospital Trust. They felt this added value to volunteers and validated the process for the community of hospital users. Mahali lab in Jordan formalised the role of the community committee and the volunteer outreach networks, all of whom received stipends in exchange for their support to the project. However, individuals involved in prototype testing during field research were not compensated.

The interviewees reflected thoughtfully on their decisions around remuneration, and on how their approaches had adapted during the course of their programmes. On the one hand, lab staff spoke about their wish to avoid exploiting those involved, by expecting them to give up their time for nothing. However, they also hoped that those involved would participate because the lab was valued and the solutions were seen as important. Labs observed that volunteers were only interested in maintaining involvement with innovations solving problems that were important to them personally.

Interest in the innovations was maintained through demo days where the wider community could come and see the solutions that had been developed. These proved important for sustaining engagement. In Maarifa Kona lab in Kenya, for example, labs spread the word on radio shows, inviting local people to attend the demo events and to see prototypes and pitches. The response to this engagement was positive: in Garissa, over 70 people attended a demo event, including local government representatives. As a result, many asked for the lab to issue another public call for ideas. The lab shared information and pamphlets about the lab and how the community innovators were developing prototypes, cooperatives and early stage businesses to increase wider resilience.

It proved impractical to maintain involvement of a large group of people from different

subgroups in the community throughout the design and testing phases. However, several lab managers emphasised that it was important to include community leaders in the innovation projects. In Kenya, involving community leaders helped innovators to demonstrate how they were responding to feedback and counter the perception that they were an 'extractive' NGO in their approach to community engagement. Research has previously illustrated that involving community leaders in community innovation projects can help create social capital and act as a symbol of change. As a result, communities are more likely to participate freely and with high commitment to making projects sustainable.<sup>22</sup>

Female innovators and feedback groups may produce solutions that respond to the unique needs of disaster-affected women, which might otherwise be overlooked. However labs struggled to maintain a gender balance in their activities. Lab managers reported that the women they recruited had more competing priorities and household responsibilities, and that some felt uncomfortable working in mixed gender environments. In Kenya, the lab increased female participation in all processes by conducting female-only meetings so that innovators could interact with them separately. Recruiting female community mobilisers was also an important tactic for getting women involved. In Jordan, childcare was offered during bootcamps and hackathons to enable participation.

### 3.5 DECIDING WHO GOES FORWARD

The decision about how to treat the innovators' ideas reflected a broader trade-off between meeting the needs of the innovators and the needs of the wider community. In a humanitarian setting, the innovation designers' priority is to find a solution to a problem faced by a community. While commercial innovation processes aim to maximise

22. Mari Martiskainen, 2016. '[The role of community leadership in the development of grassroots innovations](#)', [SPRU Working Paper Series](#) 2016-10, SPRU - Science Policy Research Unit, University of Sussex Business School.



financial return, social innovation processes aim to address problems in a way that creates social value. However, finding a solution is not enough on its own. The innovator must also find a suitable business model to support the innovation. This might involve a ‘bottom of the pyramid’ scheme (where the product or service is sold at a very low margin), selling to a government or NGO or obtaining grant funding. Whichever is chosen, it is normally very difficult to build a sustainable business to support an innovation.<sup>23</sup> While some innovators may find a route to sustainability without lab support, some external investment is likely to be needed in the early stages. This means that the labs are engaging community representatives in processes with uncertain outcomes.

There are unique ethical considerations to

working with affected communities to apply an HCD process. The interviews for this study with innovators in Jordan took place just one or two days before the evaluation of their prototype and final presentation, and they were stressed about presenting their ideas successfully enough to be eligible for the incubation phase. It was not clear what they would do if they were not chosen. This raised two related, pivotal questions:

- What are the expectations of the innovation teams on whether or not they make it to the incubation phase, and how should these be managed?
- What are the expectations of the end users (in terms of developing the innovation) and how should these be managed?

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23. For more information on business models for community innovation see Gray et al (2019). Business models for innovators working in crisis response and resilience building. DEPP Innovation Labs





### 3.6 IMPLEMENTING THE INNOVATION

Few of the HCD models described in the literature explain how to implement an HCD product or service once it has been designed and tested. For humanitarian innovators, this is arguably the most important part of the process, allowing the community to

accrue value from the innovation process. Fundamentally, the design process is about creating a solution that is desirable for the person who needs it. In the for-profit world, a desirable innovation will translate into high demand and commercial success. In the humanitarian sector, however, it is often the case that the people who need the innovation cannot pay for it. This suggests that





organisations implementing a highly collaborative HCD process must have an even greater commitment to finding ways for the resulting services or products to be implemented – as well as providing the resources to do it. ■



# Conclusions

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The DEPP Labs chose an HCD approach to develop innovations to enhance the resilience and preparedness of communities. The objective was not to achieve 'coverage' of the whole affected population but to meaningfully engage with smaller groups of people working on innovations with the potential to serve the needs of a bigger group. If the innovations failed to have that impact on the group, at least those involved would have experienced a process and culture of innovation which could be absorbed into future activities.

The labs' experiences highlighted that people want to create change, to do something for their communities and to do something they care about. Indeed, over 1,000 potential innovators applied to solve local problems through the DEPP Labs in a matter of months. The challenge for the DEPP

Labs was to channel this positive action in a way that respected people's time, managed their expectations, provided clarity of roles, and ensured their agency and ownership over their ideas and innovations.

An intrinsic tension within the project was the balance between investing in the capacity of people from the local community to innovate, and creating validated prototypes that could be implemented at scale. Sometimes these two priorities

aligned. However, the time and financial limitations of the labs meant it was often necessary to choose. As one of the lab managers noted:

*"This is not a tension that has been resolved – it is a bit of both, and many of the decisions we make are related to balancing between the two things."*

Organisations facilitating an HCD process need to consider the dynamics of four different relationships: between the community members and the lab staff, between the community members and the innovators, between the innovators and the lab staff, and within the innovation teams themselves. The levels of authority, decision-making power and financing will vary from location to location. However, in all cases, labs must carefully consider how their processes and approaches will be affected by these relational dynamics. The dynamics will be particularly sensitive in areas affected by conflict or by the chronic marginalisation of particular groups.

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**IF THE INNOVATIONS FAILED TO HAVE THAT IMPACT ON THE GROUP, AT LEAST THOSE INVOLVED WOULD HAVE EXPERIENCED A PROCESS AND CULTURE OF INNOVATION WHICH COULD BE ABSORBED INTO FUTURE ACTIVITIES.**



### OUTSTANDING RESEARCH QUESTIONS

Future research should focus on the experience from the community participants' perspective, including:

- What were the most transformative parts of the process?
- What is a realistic model for entrepreneurship or social impact for low-income innovators, who are juggling multiple sources of stress and pressure in their lives, and don't have the luxury of uncertainty and risk-taking, or the financial security for it amid conflict or disaster environments?
- How can innovation processes balance solving a community problem, while being locally-designed and locally led, with commercial considerations around scaling the solution? ■









Wezesha initiative launches its innovation in the community, which provides financial services for households to access water storage units - a key driver of water insecurity during drought. **MAARIFA KONA/J. MWAURA**



# Annex 1

## DEPP Labs



<p><b>MAHALI, JORDAN DEPP LAB</b></p> <p><b>Problem definition:</b> The lab focused on three broad thematic areas – livelihoods, healthcare and education.</p> <p><b>Key elements:</b> Mahali lab was run by the International Rescue Committee (IRC). Mahali lab looked for ‘changemakers’, emphasising that finding the right person was more important than finding the right idea. It ran three ten-week design sprints focused on different social problems, each with a contingent of new innovators. Finalists received funding and six months of incubation.</p>	<p><b>MAARIFA KONA, KENYA DEPP LAB</b></p> <p><b>Problem definition:</b> The lab focused on livelihoods, food security, water management and livestock protection.</p> <p><b>Key elements:</b> Two labs were located in Garissa and Marsabit, in a National Polytechnic and a Catholic Mission respectively. The consortium was led by Adeso (a Kenyan NGO), in partnership with Mastercard (expertise in financial inclusion and digital finance mechanisms) and iHub (innovation curriculum expertise).</p>
<p><b>TUKLAS, PHILIPPINES DEPP LAB</b></p> <p><b>Problem definition:</b> The innovations addressed a broad spectrum of problems including landslides, flooding, drought, earthquake, typhoon, storm surges and armed conflict</p> <p><b>Key elements:</b> Tuklas held an open-ended call for ideas across 17 regions via 50 open sessions, social media, mass media and dissemination through national networks. A consortium of four NGOs managed labs in four different parts of the country, travelling to its innovators or providing remote support.</p>	<p><b>UDHVABANI, BANGLADESH DEPP LAB</b></p> <p><b>Problem definition:</b> Udhvabani focused on the interface between healthcare and built infrastructure, but also responded to specific disasters in each location such as extreme heat and fire.</p> <p><b>Key elements:</b> The lab was led by Dhaka Community Hospital Trust, a self-sustaining organisation with strong links into the disaster-affected community. The Udhvabani Lab Bangladesh had a permanent lab space in Korail (Dhaka’s largest informal urban settlement) and operated through a mobile lab team in three other high-risk disaster prone environments.</p>







[startnetwork.org](https://startnetwork.org)



[DEPPLabs@startnetwork.org](mailto:DEPPLabs@startnetwork.org)

The Disasters and Emergencies Preparedness Programme (DEPP) Innovation Labs is a two-year programme that aims to foster, and eventually scale up, innovations that address key problems faced by disaster-prone communities. It takes a community-centred approach, meaning that people and organisations affected by disasters are involved in the design, development and implementation of solutions, helping to ensure their relevance and appropriateness.

Are you interested in finding out more about the programme, labs and our innovators, including opportunities to support innovators to scale or deploy their ideas?

Visit [startnetwork.org](https://startnetwork.org) or email [DEPPLabs@startnetwork.org](mailto:DEPPLabs@startnetwork.org).







