More than just luck: Innovation in humanitarian action

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HIF humanitarian innovation fund

ALNAP

HIF-ALNAP research on successful humanitarian innovation

This report presents the synthesised findings from 15 case studies, undertaken by ALNAP in partnership with ELRHA's Humanitarian Innovation Fund (HIF). It is produced as part of a broader research partnership between ALNAP and ELRHA that has sought to define and understand what successful innovation looks like in the humanitarian sector.

The outputs of this research are aimed at humanitarian organisations interested in using innovative practices to improve their performance, as well as organisations outside the humanitarian sector, such as academic institutions or private companies, seeking to engage in innovation in humanitarian action.

The **Humanitarian Innovation Fund (HIF)** supports organisations and individuals to identify, nurture, and share innovative and scalable solutions to the challenges facing effective humanitarian assistance.

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ALNAP is a unique system-wide network dedicated to improving humanitarian performance through increased learning and accountability.

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List of acronyms

ALNAP	Active Learning Network for Accountability and Performance
CENTRIM	Centre for Research in Innovation Management
CMAM	Community-based Management of Acute Malnutrition
CRDR	Community-Driven Reconstruction and Development
CRS	Catholic Relief Services
DDG	Danish Demining Group
DFID	Department for International Development
DRC	Danish Refugee Council
DRR	Disaster Risk Reduction
ECB	Emergency Capacity Building
HIF	Humanitarian Innovation Fund
HOT	Humanitarian OpenStreetMap Team
HXL	Humanitarian eXchange Language
ICT	Information Communication and Technology
IFRC	International Federation of Red Cross and Red Crescent Societies
IMO	Information Management Offiecr
INGO	International NGO
IVR	Interactive Voice Response
M&E	Monitoring and Evaluation
MHM	Menstrual Hygiene Management
mVAM	mobile Vulnerability Analysis and Mapping
NGO	Non-Governmental Organisation
OAM	Open Aerial Mapping
OCHA	UN Office for the Coordination of Humanitarian Affairs
SCUK	Save the Children UK
SOHS	State of the Humanitarian System
TWB	Translators without Borders
UK	United Kingdom
UN	United Nations
UNICEF	UN Children's Fund
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme

Executive summary

The humanitarian system has a proven ability to produce innovations, but it does so sporadically and often struggles to take good ideas to scale quickly. The system does not consistently invest in innovation, and humanitarian actors have not always been successful at actively managing innovation processes. Due to this, the number of landmark innovations that have been integrated into the system has been frustratingly low and understanding of best practices for humanitarian innovation remains limited.

Giving more thought to the activities of innovation and how to support them is particularly important given the range of crises for which humanitarian assistance is needed today. Emergencies are more protracted and complex, with more barriers to access to humanitarian assistance and an increasing range of needs (ALNAP, 2015). As the nature of emergencies changes, current paradigms of humanitarian action will be challenged and humanitarians will need to adapt.

For innovation to deliver on its promise, humanitarian managers need to know how to innovate effectively and efficiently for humanitarian purposes. Innovation is a journey humanitarians have travelled numerous times, but it is also one they can learn to travel better and with greater frequency. This report provides a roadmap for successful innovation in humanitarian contexts, based on a year-long study of 15 projects funded by the Humanitarian Innovation Fund (HIF). It provides the first analysis of its kind of specific project-level innovation processes in the humanitarian system.

What does successful innovation look like and how is it achieved?

A successful humanitarian innovation process is an iterative process of identifying, adjusting and diffusing ideas for improving humanitarian action that leads to:

1. Consolidated learning and evidence: New knowledge generated, or the evidence base enhanced around the area the innovation is intended to address, or around the performance of the innovation itself.
2. An improved solution for humanitarian action: The innovation offers a measurable, comparative improvement in effectiveness, quality or efficiency over current approaches to the problem addressed by the innovation and/or
3. Wide adoption of an improved solution: The innovation is taken to scale and used by others to improve humanitarian performance.

Three additional criteria for successful innovation that this research identified for further exploration and definition are inclusion of affected people, efficiency and unique impact.

Successful innovation processes tend to feature five different types of activities, or 'stages'. Innovating teams can return to the same stage in an innovation process multiple times, and these stages, or activities, often overlap. However, in general these stages broadly track the chronology of an innovation process, and each serves a unique function by helping the innovating team answer a question that is necessary to achieve success:

1. What is the problem or opportunity for improving humanitarian action? (Recognition activities)
2. What is the potential improvement for humanitarian action? (Ideation activities)
3. How can it work? (Development activities)
4. Does it work? (Implementation activities)
5. How can wider ownership for this improvement be achieved? (Diffusion activities)

To engage in these stages effectively, innovating teams can undertake many approaches and activities. When innovation processes are successful, we found the following factors tend to be present and are understood by innovating teams and external stakeholders as contributing to success:

- Collaborating with others
- Generating and integrating evidence
- Engaging with end users and gatekeepers
- Organising an innovation process
- Resourcing an innovation
- Managing risk
- Creating a culture for innovation

This report describes how each success factor is achieved in the different stages of an innovation process and the different techniques and approaches used to accomplish this by humanitarian innovation teams.

Looking ahead: Key issues in humanitarian innovation

In addition to the findings on what successful innovation looks like, this research also offers key messages for the future of humanitarian innovation. In the face of missing baseline data and a lack of quality evidence on the performance of current interventions, humanitarian innovators are making substantial contributions to the evidence base within their particular sectors. In nearly all the case studies examined for this research, there was no pre-existing data on the performance of current humanitarian practices that could be used to demonstrate the improvements an innovation offered. HIF grantees who were the case studies subjects had to generate this data themselves.

While there is a widespread acknowledgement that partnership and collaboration need to be improved to support greater innovation, organisations outside the humanitarian system continue to face significant barriers to achieve this. Working more closely with affected people to generate innovative solutions to their problems is an opportunity that should be tapped more often. This research found that while precautions need to be taken to manage expectations and risk, there are promising examples of applying user-centred design principles in order to work with affected people at different stages of an innovation process.

The financing of humanitarian innovation needs to continue exploring system-level facilities that can cultivate better innovation at the organisational level, all while providing support at the project-level to teams that have the processes in place for good collaboration, monitoring and learning. Further high quality research is needed to improve understanding of best practices and good team structures that lead to successful innovation, and customised support and toolkits are needed to provide guidance to humanitarian innovation managers. This is because humanitarian innovation is ultimately more than just luck: while successful innovation can be shaped by serendipitous events, there are clear choices organisations and teams can make in order to engage successfully in innovation processes that deliver improvements in humanitarian action.

INTRODUCTION

1. Introduction

1.1 Humanitarian innovation: great promise and great challenges

In 1867, a businessman travelling through Western Europe proposed a new innovation for handling the medical care of wounded soldiers: 'Would it not be possible, in time of peace and quiet, to form relief societies for the purpose of having care given to the wounded in wartime by zealous, devoted and thoroughly qualified volunteers?' (Dunant, 1959: 115) Since Henry Dunant's founding of the International Federation of Red Cross and Red Crescent Societies, modern humanitarianism has developed a number of life-saving and life-improving innovations: from badges that clearly identify humanitarian volunteers in battle to satellite imagery for crisis management; from cash-based programming to the invention of Plumpy'Nut peanut paste to treat malnourished children.

However, there is a key difference between innovation as an output and innovation as an activity. The humanitarian system has a proven ability to produce innovations, but it does so sporadically and often struggles to take good ideas to scale quickly. The system does not consistently invest in innovation, and humanitarian actors have not always been successful at actively managing innovation processes. Due to this, the number of landmark innovations that have been integrated into the system has been frustratingly low.

Giving more thought to the activities of innovation and how to support them is therefore important, especially given the range of crises for which humanitarian assistance is needed today. Emergencies are more protracted and complex, with more barriers to access to humanitarian assistance and an increasing range of needs (ALNAP, 2015). As the nature of emergencies changes, current paradigms of humanitarian action will be challenged. Humanitarians will need to 'adapt if they are to maintain their relevance, reputation and impact' (Ramalingam et al., 2015: 7).

And yet innovations do not appear out of thin air. They come from processes and activities that identify, test and implement ideas for improvement. In the broader innovation management literature, there has been significant research into how the innovation process works and how business managers and organisations can undertake innovation more effectively. Similar research is absent in the humanitarian system. To date, there has been little explanatory research into the factors that contribute to successful innovation processes. As a result, understanding of best practices for humanitarian innovation remains limited.

For innovation to deliver on its promise, humanitarian managers need to know how to innovate effectively and efficiently for humanitarian purposes. Innovation is a journey humanitarians have travelled numerous times, but it is also one they can learn to travel better and with greater frequency. This report provides a model for successful innovation in humanitarian contexts, based

on a study of 15 projects funded by ELRHA's Humanitarian Innovation Fund (HIF). It provides the first analysis of specific project-level innovation processes in the humanitarian system.

The goal of this report is to improve the system's understanding of how to undertake and support innovative programming in humanitarian action. It is primarily for those seeking to innovate within and across humanitarian organisations and contexts – in particular innovation managers. It also provides key messages relevant to donors, senior leaders of humanitarian organisations and researchers interested in the future of humanitarian innovation.

1.2 Humanitarian innovation seven years on: 2009–2016

Innovation has been on a fast and steady rise in the humanitarian system over the past seven years, as policy-makers and practitioners have sought new tools and approaches to address increasingly complex challenges. While innovation has always been an intrinsic aspect of humanitarian action, the systematic recognition and study of innovation is recent, linked to wider shifts in humanitarian actors' application of innovation management theories from outside the system. As recently as a decade ago, innovation received very little attention in the humanitarian system. Organisations such as Oxfam and Médecins Sans Frontières (MSF) had well-established internal mechanisms for innovations in water, sanitation and hygiene (WASH) and medicine, but these were not widely discussed outside these specific sectors.

From 2005 onwards, agencies such as the UN Children's Fund (UNICEF) established technology-focused innovation teams, largely influenced by the rise of innovation in the development sector that had begun in the early 2000s. With the possible exception of the King's College Humanitarian Futures Programme, humanitarian researchers were not looking at innovation and humanitarian donors were also largely neglecting the issue.

Attention shifted significantly in 2009, when the Active Learning Network for Accountability and Performance (ALNAP) undertook one of the first major pieces of work on humanitarian innovation. This included several case studies, a series of meetings and the 2009 report *Innovations in international humanitarian action*. During that time, the UK Department for International Development (DFID) also allocated an initial £3 million in exploratory funding for humanitarian innovation. Part of this was directed to establishing the HIF in 2010 – the only non-governmental donor of innovation in the humanitarian sector (see Box 1).

Since 2009, there has been an exponential rise in funding and activity around innovation in the sector. The UK government's 2011 *Humanitarian Emergency Response Review* identified innovation as a key area for investment. This led to the establishment of the Humanitarian Evidence and Innovation Programme, a seven-year £48 million programme aimed at improving research and development (R&D) activities in the humanitarian system.

In 2013, the UN Office for the Coordination of Humanitarian Affairs (OCHA) released a report surveying the level of innovation practice in humanitarian action. Published only four years after innovation initially gained wide attention in the humanitarian system, this report identified dozens of research programmes, funding programmes and networks for humanitarian innovation, many of them newly formed (Betts and Bloom, 2013).

BOX 1. WHAT IS THE HUMANITARIAN INNOVATION FUND?

Founded in 2010 with initial funding from the UK Department for International Development (DFID) and managed by ELRHA, the HIF exists to support innovation for humanitarian purposes. It helps organisations and individuals identify, nurture and share innovative and scalable solutions to the challenges facing effective humanitarian assistance. The HIF is the first dedicated fund for humanitarian innovation and remains the only innovation donor that works across all humanitarian sectors and with the full range of actors engaged in humanitarian response.

The HIF supports innovation practice in the humanitarian system in three main ways. First, it provides funding for innovations at different stages in their development, including through open calls for proposals. Small grants (to date £20,000) are for the early stages of problem recognition and invention and larger grants (currently up to £150,000) for the development and implementation of ideas in practice. Bridge-funding grants support ideas that have demonstrated success at pilot stage as they seek to link into longer-term funding. More recently, the HIF has developed specific challenge funds in areas of strategic concern, currently WASH and gender-based violence.

Second, the HIF seeks to improve the research and evidence base for innovation and its contribution to humanitarian performance. It does this by sharing lessons learned from the projects it supports and capturing learning from the processes it develops and manages. This work has included conducting extensive gap analyses for key sectors to identify areas to address with innovation. This effort has been embedded in the structure of the HIF, with those receiving funds required to prioritise research and learning.

Finally, the HIF works to improve conditions for innovation in the humanitarian system by building and supporting partnerships and relationships between organisations and creating opportunities for the sharing of ideas. This has seen the HIF play an important role in the development of innovation in the humanitarian system and advocating for it to become a key concern of operational agencies as they seek to change and improve.

For more, please see http://www.elrha.org/hif/home/

More initiatives could now be added to this list, many of them emerging from 2014-2016 as the World Humanitarian Summit cast a spotlight on innovation as one of the four key themes of its consultation process. Focused activity and programming around innovation is on the rise as organisations increasingly seek to consolidate or improve their innovation capacities. Funding has also substantially increased, including through traditional models with bilateral donors, such as the US Agency for International Development (USAID)–DFID joint-funded Global Innovation Fund, as well as internal mechanisms, in the form of organisational innovation funds and labs.

Throughout this period, the HIF has operated as an early leader in promoting the concepts and practices of innovation across the system. In its first six years, the HIF dispensed over £6 million in funding to 68 projects. From 2013, it expanded its work to include active innovation management in key thematic areas (currently WASH and gender-based violence). This involves problem definition and analysis, challenge development and solution-brokering. Through this, the HIF is becoming more active in managing the innovation process, from problem recognition to scaling and adoption.

Despite this extraordinary rise in activity, funding and attention, there has been little advancement in the research and evaluation of humanitarian innovation. In recent years, much of this work has shifted away from looking at innovation at the level of individual processes or organisations towards an exploration of the system-wide capacities and characteristics needed to support innovation in humanitarian action and the degree to which the system currently possesses these (Bessant et al., 2014; Deloitte, 2015a, 2015b).

Deloitte's Humanitarian Innovation Programme and the Brighton-based Centre for Research in Innovation Management (CENTRIM) have used a 'systems perspective' (Bessant et al., 2015) to make the case for investments in collective research and development activities and for addressing the poor incentives for innovation at a system level. This attention to innovation 'ecosystems' (Bessant et al., 2015), has focused largely on enhancing humanitarian innovation through recommendations aimed at the system as a whole rather than on individual organisations or innovation managers.

1.3 The core problem: how to innovate successfully in a humanitarian context

There remains little understanding of how to manage innovation successfully, especially within the particular constraints of the humanitarian system and the specific operational challenges in humanitarian contexts. This problem is exhibited in the following three gaps:

1. Very few humanitarians have a clear understanding of what distinguishes innovation from other forms of programming, and fewer still have successfully developed the institutional spaces and resources required to effectively manage innovation.

2. There are no common definitions of what success looks like in innovation and little guidance on how to evaluate innovation.

3. Despite the emergence and growth of specific units focused on innovation, there is still limited practical guidance on how to achieve successful innovation in the sector. Existing research on humanitarian innovation is largely descriptive, with little or no analysis of how innovation happens at a pragmatic level and what factors contribute to its success.

As the system seeks to develop a more mature innovation management practice, an important limitation is the lack of empirically grounded research into the specific features of project-level innovation. To address this, ALNAP and the HIF partnered to undertake a series of 15 case studies on specific humanitarian innovation projects. Each looked at an organisation that has received funding from the HIF to develop, implement, or diffuse their innovation. As part of its commitment to improving learning and evidence on innovation in the humanitarian system, the HIF requires all its grantees to agree in principle to participation in a case study on their project as a prerequisite for receiving funding. As Section 1.5 describes, grantees were selected by ALNAP, in consultation with the HIF and guided by a set of selection criteria.

This report presents the synthesised findings and analysis of these 15 case studies. The central questions this report seeks to answer are:

1. **What does a successful humanitarian innovation process look like?**
2. **What are the factors that enable success in innovation management in the humanitarian system?**

1.4 Definitions and analytical frameworks

As an introduction to the findings in Sections 3 and 4, this section presents the key definitions and analytical frameworks used in this research. These frameworks help us answer the following:

- **What is humanitarian innovation?**
- **How is it done?**
- **What does successful innovation look like?**
- **How is it achieved?**

1.4.1 What is humanitarian innovation?

Defining humanitarian innovation is not just a conceptual exercise. Humanitarian managers need to understand how innovation is different from standard programming or organisational learning processes in order to understand the specific management demands posed by innovation projects. Distinguishing between projects that are more innovative and those that are more like 'programming as we know it' helps managers understand what tools and approaches may be most useful.

BOX 2. THE 'WHAT' OF INNOVATION: THE 4-Ps

The dominant model for understanding the 'what' of innovation is based on the classic '4-Ps' model outlined by Dave Francis and John Bessant (2005). This model distinguishes between four broad types of innovation:

- **Product innovation** – changes in the things (products/services) an organisation offers
- **Process innovation** – changes in the ways products and services are created or delivered
- **Position innovation** – changes in the context in which the products/services are framed and communicated
- **Paradigm innovation** – changes in the underlying mental models that shape what the organisation does

Position and paradigm innovations are more likely to promise radical or transformative change, whereas product innovations tend to offer more incremental change. However, this is not always the case: product innovations, such as ready-to-use therapeutic foods (RUTFs), can be transformative by having ripple effects on processes and relationships in humanitarian assistance.

Some innovation processes can involve multiple types of innovation. For instance, *The CMAM Report* case study offers an example of a product innovation – a new software to monitor acute malnutrition interventions – embedded within a broader paradigm innovation – a new way to think about the categories and indicators used to monitor the performance of acute malnutrition interventions.

This research yielded three defining features that can be used to distinguish humanitarian innovation practice from standard humanitarian programming.

Humanitarian innovation is:

- **Doing something different at a sector/system level**
- **Seeking improvement for the sector/system**
- **Iterative**

Doing something different

Innovations can come from a new idea or from the repurposing of existing technologies and approaches. Some are focused more on invention – the generation of a new idea from scratch. For other innovation processes the focus is on adaptation, identifying the changes that are required to adapt an existing product or process to a new context.

Whether they focus on invention or adaptation, humanitarian innovation processes seek to develop products, processes, positions or paradigms (see Box 2) that are different from those currently in use in the humanitarian system or in use within a particular humanitarian sector.

Seeking improvement for the sector

Innovation processes also differ from ordinary humanitarian programming in terms of the scope of the improvement they seek. Standard humanitarian programming aims to benefit a given population or geographical area based on the objectives of a particular project. In an innovation process there is a further goal of improving performance in a broader humanitarian sector through the discovery of a better way of working.

Innovation processes can seek improvements for the humanitarian system as a response to a defined problem. These problem-driven innovation processes tend to operate from the perspective of demand, identifying recognisable needs and responding to them by innovating new solutions.

In other, rarer, cases, innovations are responses to opportunities for potential improvement. In these opportunity-driven innovation processes, there is no defined or articulated problem in humanitarian performance. Opportunity-driven innovations are typically sparked by the identification of a particular technology outside the humanitarian context; innovating teams then seek to explore how this technology could help improve an area of humanitarian action.

"It's about the human part of it, about getting each individual to think for themselves: what would be better? What would be a good idea? I think that is a greater, bigger goal than a few landmark innovations."

Andy Bastable, Oxfam GB
Key informant, *Improving Water Quality in Emergencies*

Iteration

In standard programming, there is typically a robust understanding of the causal pathway for the improvement a programme is going to bring about. This can be supported by previous evaluations or prior experience. Previous applications of the intervention or tool in the same context can be used to construct theories of change that outline the causal pathways through which a humanitarian activity is expected to bring about the desired outputs and outcomes.
In contrast, in an innovation process, the potential results of the activity and its causal pathway for change are unknown. Innovation projects can construct a general theory of change but the assumptions and causal contributions are more conjectural, making the theory much more like a hypothesis. The innovation manager does not know if a new water treatment system will work or if an approach to disaster risk reduction will be successful because no one has tried these interventions in a humanitarian context. Innovation, in short, is a process of virtuous ignorance that relies on an explicit emphasis on learning and readjustment because so little is known about whether, how and why an idea for improvement might work.

The spectrum of humanitarian programming and humanitarian innovation

Drawing together the above elements, this research defines humanitarian innovation as:

An iterative process that identifies, adjusts and diffuses ideas for improving humanitarian action.

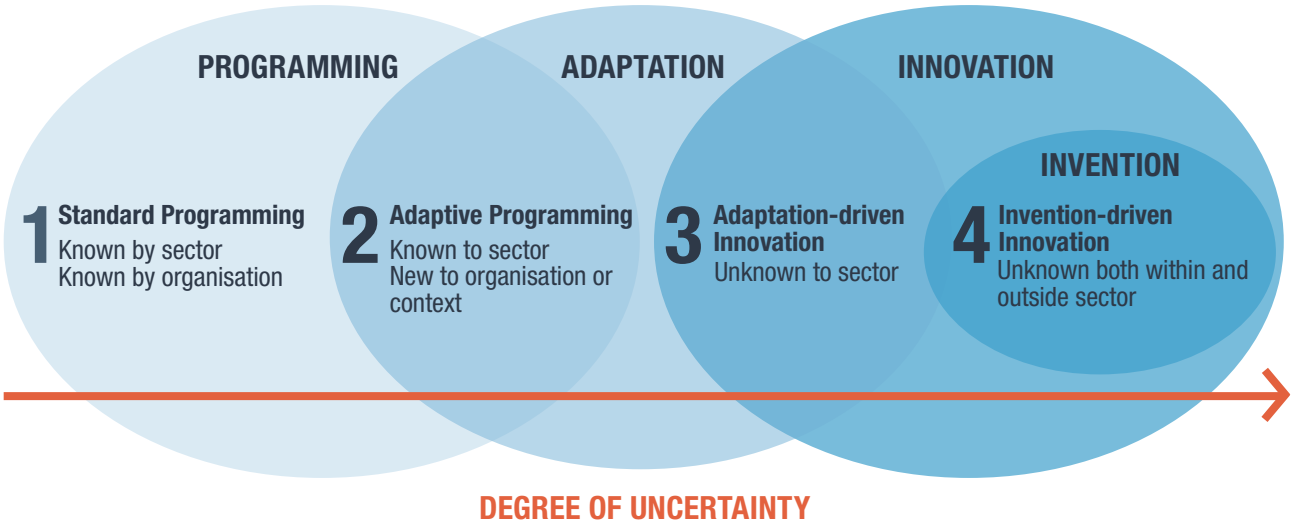
In a humanitarian context, it can be difficult to differentiate between innovation practices and what might be considered standard good programming. This is partly because change is highly subjective: organisations that take on approaches that are new to them may feel they are engaging in innovation, whereas those who have already adopted these approaches no longer consider them innovative.

The key difference between standard programming and innovation lies in doing something differently with the aim of improvement at a system or sector level, where adaptation and invention require a uniquely iterative process. Organisations that adapt tools that are new for them but well known in the sector (e.g. cash programming) can build on existing practices to understand

how these approaches work, their costs and benefits, and the lessons learnt by other organisations in implementing them. In contrast, organisations that adapt a tool or approach for the humanitarian context for the first time do not have these resources. Innovation is a process of identifying different products, processes, positions and paradigms, developing them, testing them to learn about their efficacy, making adjustments, observing for new effects, and then repeating. This leads to a process that is inescapably iterative, as an innovating team seeks to understand whether the initial idea works, why and how.

Although innovation can be broadly distinguished from standard humanitarian programming, the two sit on a continuum, as presented in Figure 1. The continuum is defined by the degree to which a humanitarian activity, process or product is known to have certain results. On the left side sits **standard programming (1)**, where a humanitarian activity is well known and a project manager is fairly certain it will achieve expected results. As the activity begins to deviate from current practice, projects move into the realm of adaptation, first to **adaptive programming (2)**, in which an activity is new to the organisation, but used by others in the sector , then over the boundary into **adaptation-driven innovation (3)**, in which an approach is new to the system or sector as a whole. **Invention-driven innovation (4)** sits at the furthest end of the spectrum, with the greatest degree of uncertainty in its programme theory and expected results. Figure 1 provides a general scale for understanding the differences between standard programming and innovation. In reality, it can be difficult in some cases to tell at the outset how different a new intervention might be, or how uncertain the potential results. What may seem like a slight adaptation to existing practices may reveal itself to be a more radical change, as an innovating team learns more about the behaviour and process changes needed to deliver the improvement offered by the adaptation.

FIGURE 1 The continuum from programming to innovation



1.4.2 How does innovation happen? The innovation process

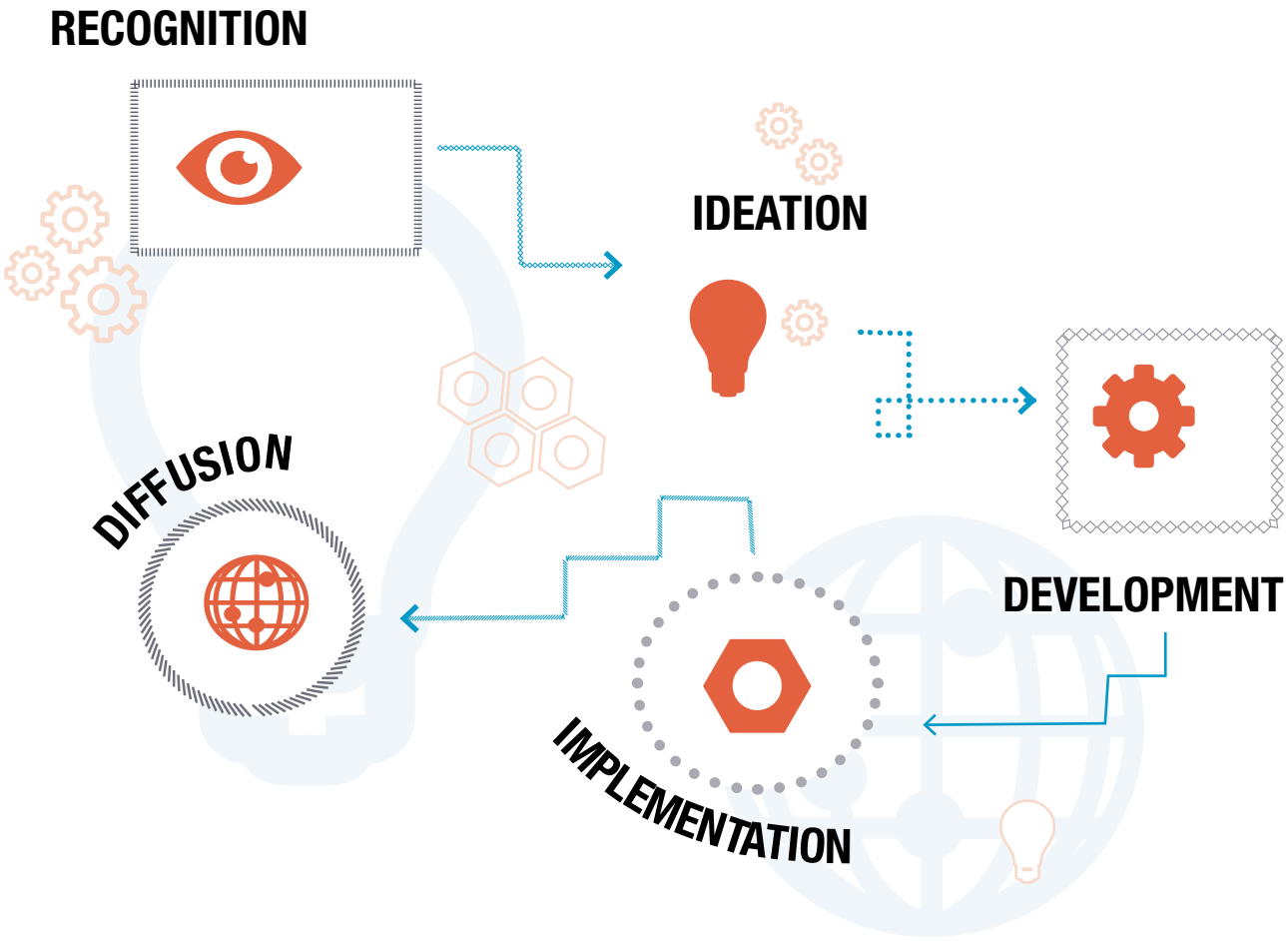
For innovation managers to be able to do innovation better, they need a roadmap. This research used the HIF's five-stage model of the innovation process to structure its analysis of the 15 case studies (see Figure 2). Two main changes were made to the model based on the findings of the case study research:

First, 'invention' was changed to 'ideation', in order to capture the significant number of innovations that are driven by adaptations of existing products and processes rather than the invention of new ones.

Second, while the stages provide a useful archetype for understanding the distinct activities in an innovation process, in reality these 'stages' often operate more as activities that overlap in time and repeat throughout the length of a single innovation process. Innovation is not linear and these stages are often regularly returned to rather than progressed through step by step.

1. **Recognition** of a specific problem or challenge
2. **Ideation** of a creative solution or novel idea that addresses a problem or seizes an opportunity
3. **Development** of the innovation by creating practical, actionable plans and guidelines
4. **Implementation** of the innovation to produce real examples of change, testing it to see how it compares with existing solutions
5. **Diffusion** of successful innovations – taking them to scale and promoting their wider use

FIGURE 2
The innovation process



1.4.3 What does successful innovation look like? Three criteria of success

There has been surprisingly little attention to answering the question, 'What does good humanitarian innovation look like?' Currently, there is no clear understanding of what actually counts as success in innovation practice.

This research addresses this gap by identifying three success criteria for humanitarian innovation. We developed these criteria by considering four potential outcomes of an innovation process (Table 1).

Beginning with the ideal case, the best possible outcome of an innovation process is the wide adoption of an improved product, process, position or paradigm, which then leads to better performance in humanitarian action. **Adoption** is the most desirable success criterion and the most difficult to achieve.

The humanitarian literature often implies that adoption is the only criterion of success and that successful innovation equates to products or processes being taken to scale. However, this fails to acknowledge the contributions of innovation processes that struggle with what has been called the 'missing middle' of innovation (McClure and Gray, 2014). The 'missing middle' refers to the gap between an innovation that improves prior humanitarian practice, and achieving wider uptake in the sector. Innovations can fall into this gap due to poor diffusion strategies, but also due to broader factors in the humanitarian system outside the control of innovating teams.

The humanitarian system features perverse incentives and many other institutional blockages to change. These arise as a result of broken feedback loops between users and producers and indirect links between those who fund an innovation and the innovation's intended end users. Given this, if an innovation process produces a good innovation it can still qualify as 'successful', insofar as it has yielded a viable improvement over current practices. Developing an **Improved Solution** for humanitarian action is therefore an additional success criterion for humanitarian innovation.

It may happen that an innovation does not offer a viable improvement over current practices. The original idea may turn out to be unworkable. In these cases, innovating teams can contribute to system performance by diffusing consolidated learning and evidence from their innovation process, which can assist others to build on their attempts or work on a similar problem in the future. These cases can still be considered 'successful,' insofar as they contribute to the body of knowledge necessary for the humanitarian system to progress. **Consolidated Learning and Evidence** is a third success criterion for an innovation process.

Table 1: Four types of innovation outcome – three successes and one 'bad' fail

Type of innovation outcome	Mitigating factor	Success criterion*
Innovation is widely adopted, leading to significant improvements in humanitarian action.	None	**Adoption:** The innovation is taken to scale and used by others to improve humanitarian performance.
Innovation is 'successful' in the pilot stage but not successfully diffused.	Innovating teams cannot completely control the factors shaping incentives in the broader ecosystem, which may prevent adoption even if it is shown to deliver tangible improvements over current practice.	**Improved Solution:** The innovation offers a measurable, comparative improvement in effectiveness, quality or efficiency over current approaches to the problem addressed by the innovation.
Innovation 'fails' at the pilot stage but serves as an important part of the process that will lead to an eventual improvement in the sector.	Innovating teams cannot predict whether the original idea will be successful in delivering tangible improvements over current practice.	**Consolidated Learning and Evidence:** New knowledge generated or the evidence base enhanced around the area the innovation is intended to address or performance of the innovation itself.
Innovation 'fails' and does not contribute to greater learning or evidence because of a lack of appropriate learning systems.	None	**'Bad' fail innovation.**

Note: *The indicators developed to measure these criteria are outlined in Annex II, Methods.

Innovation processes that fail to meet any of these three criteria are candidates for 'bad fails'. The risk involved in innovation means innovating teams must take their learning processes seriously. Innovations that fail without enhancing the learning and knowledge around their given area of practice in the humanitarian system are likely a waste of precious resources. Distinguishing between the four types of outcome in Table 1 is critical to setting reasonable expectations regarding what innovation processes should be accountable for. Not all failures are blameworthy, but nor are they all justifiable.

> **"'Yay, we're done' is not a success. 'Yay we're done' is someone who wanted some shiny, yellow button on their screen. That's not an innovation, especially when you're dealing with humanitarian work. There are so many dusty pieces of shiny software out there. Innovation often needs iteration and reframing based on context and requirements."**
>
> Heather Leson, Humanitarian Openstreetmap Team
> Key informant, *Mapping a Response*

1.4.4 How do we achieve success? The success factors

Using a set of analytical methods applied to 15 case studies of innovation processes in humanitarian action, ALNAP has identified a set of factors (hereafter referred to as 'success factors') that can help an innovation achieve one or more of the success criteria listed above. Section 4 presents findings on how these success factors work within each stage of an innovation process, providing rules of thumb for innovation managers. The seven success factors identified in this research are:

1. **Collaborating with others:** how an innovating team collaborates with other actors to innovate
2. **Organising an innovation process:** how an innovation manager or innovating team plans the innovation process and manages it in a timely manner
3. **Generating and integrating evidence:** the generation of information that can be used to support the various parts of an innovation process
4. **Engaging with end users and gatekeepers:** how innovating teams relate to the end users and gatekeepers relevant to their innovation, both to elicit input for the innovation and to influence to encourage uptake
5. **Resourcing an innovation:** how an innovation process is financially supported
6. **Managing risk and accountability:** how an innovating team thinks about the risks posed to the innovation's success as well as those posed by the innovation to other stakeholders
7. **Creating a culture for innovation:** the background norms and practices within an organisation that support the skills and activities needed for successful innovation

1.5. Methodology

Innovation is a complex process. It is challenging to develop a strong empirical understanding of complex processes, particularly an understanding of the causal relationships through which they are brought about. To handle this complexity, the approach chosen for this research was a multiple case study-based design using a proposition-testing technique.

Individual case studies allow researchers to combine observations of the co-presence of potential cause and effect with evidence on 'how' or 'why' these potential causes might bring about observed effects (Bonino, 2014: 24; Yin, 2009: 18). When multiple case study design is used, a range of techniques can be used for cross-case analysis to support the identification of explanatory patterns, thereby strengthening generalisability (Gibbert et al., 2008; Yin 2009).

A proposition-testing approach was used to guide the research. Propositions provide a statement of an expected pattern for the data—in this case, each proposition identified 'potential success factors' believed to contribute to successful innovation. The purpose of using propositions was to enable the research team to probe the relationship between specific success factors and the outcomes of an innovation process in order to better understand the trends in that relationship across multiple cases. In order to strengthen the findings, a set of 'rival' propositions was also developed. Rival propositions predict a different pattern for the case study data from the main propositions. The purpose of using a rival proposition is to minimise the impact of researcher bias by building into the research an exploration of alternative theories to explain the phenomenon being studied. In this case, the team created an alternative plausible explanation for how successful innovation occurs. If the case studies did not match this explanation, this finding would give further credibility to the main proposition.

This section describes case study selection, the analysis process and main limitations to the research. More detail can be found in Annex II.

1.5.1 Case study selection

Cases were selected entirely from the pool of HIF grantees, which, at the outset of the research, included a total of 35. The HIF provides different sizes of grants across different stages of the innovation process. In order to enable researchers to look at the entirety of the innovation process, the research favoured large grants that had been completed or were about to be completed, as these were more likely to enable an understanding of the entire life span of an innovation process. This narrowed the sample to 24 grantees.

The first four grantees of the HIF large grant were the subjects of the pilot round of case studies. Out of the remaining 20 large grantees, the final selection of 11 was based on three factors.

First, the study aimed to achieve a 75/25 split between grantees that had received or were likely to apply for a diffusion grant and those that were not seeking support from the HIF for diffusion. This was in order to provide the study with a potential contrast between innovation processes in which the success criterion of adoption had been met and those in which it had not.[1]

Within this split, the research team aimed for an even balance between information communication and technology (ICT)-focused innovations and innovations that did not centre on the development of a technology. This was to separate out any potential challenges specific to developing new technologies. However, given the preference for ICT-focused innovations, in the end two thirds of the case study subjects were ICT and a third were non-ICT.

The study also aimed for a balance across the type of organisation leading the innovation (the 'lead organisation'). Most HIF grants are allocated to implementing humanitarian non-governmental organisation (NGO)/Red Cross/Red Crescent organisations. The research team sought to maximise the representation of UN agencies and 'outsider' organisations, including academic institutions and third sector organisations outside the humanitarian sector.

To see the full breakdown of case studies and their distinguishing features, see Summary Table 2 in Section 2.

1.5.2 Analysis

Analysis of each case study was carried out initially by the respective case study researcher, using a set of standard templates for analysis created by the research lead. The research lead also carried out consistency checks for each case study and held face-to-face meetings with all researchers to discuss findings and resolve any discrepancies in the application of the research framework.

The first aim of analysis was to determine if there was support for the propositions. Once the case study data had been collected, they were analysed to determine whether they best matched the pattern described by the primary proposition or that suggested by its rival. Evidence was also sought from the interviews and documentation to understand how a potential causal relation might operate.

The second aim of analysis in each case study was to apply the HIF's five-stage model to understand the degree of fit between activities. That is, did all activities align with the five stages? Where was there uncertainty in understanding where one stage ended and another began?

As a third and related aim of the case study analysis, researchers used within-case analysis methods to identify new potential success factors not identified by the propositions. For example, 'level of commitment of the innovation project

1 This is not meant to imply that grantees that do not apply for diffusion grants are not successful at sustaining broader adoption of their innovation; application for a diffusion grant is used in this case as a proxy to identify those that engaged in diffusion activities so that the research team could explore this function in detail. In the end, because of the long time frame for effective diffusion, this study was unable to draw conclusive findings on adoption for half of the cases. Section 3 describes this challenge in more detail.

lead' was not identified in the propositions but appeared across many case studies as an important success factor. These were used to build a fuller picture of the other factors shaping the success of the innovation process.
In synthesising the findings, the team used cross-case comparison to compare case studies with similar features, or similar success ratings, and identify relevant differences. The team also examined all the case study propositions and rival propositions together, to build up an overarching picture of which patterns appeared most regularly.

1.5.3 Limitations

The methodology applied in this research has three key implications for the usefulness and limitations of the findings:

1. Successful innovation is not the outcome of a single direct cause. Rather, it is understood by this research as being brought about through a 'causal pie' (Cartwright and Hardie, 2012) made up of multiple success factors. This research identifies some of the ingredients in this pie, but not all. This means the success factors, as well as the practical considerations offered for innovation managers in the findings, are neither necessary nor sufficient for a successful innovation process. When innovation processes have been successful, these success factors, and the more detailed practices described alongside them, appear to have contributed to the success; when innovation processes have not been as successful or have faced challenges, these factors and practices have not been present. The success factors and rules of thumb identified in this research are therefore far from exhaustive. They provide an initial step in moving from a general understanding of what supports strong innovation processes to a more nuanced set of findings that can provide the basis for future guidance and practitioner tools.

2. While every possible measure was taken to increase the representativeness of the sample and generalisability of the findings in this research, the case studies focus entirely on organisations funded by the HIF. Also, given time constraints, most of the case studies look at product- or process-type innovations (there is one example of a paradigm innovation). They are therefore relevant to broader innovation in humanitarian action only to the extent that HIF-funded projects – and the grantees that participated in this research in particular – reflect the broader range of innovation practice in the humanitarian system.

3. Timing posed a significant challenge in assessing the success of innovation processes. Innovations are unpredictable and it can often take years to achieve wide adoption. The success of the case study innovations, particularly with respect to adoption, could be assessed only in relation to a short time frame; in many cases, success could not be determined because the innovations were in the early stages of diffusion. There were also several

examples of significant changes taking place in terms of adoption after the case study research had concluded. This limitation was dealt with by returning to early HIF grantees during the write-up of this final report to obtain an updated understanding of the uptake of learning and the innovation itself. Overall, this limitation also became a research finding itself, demonstrating that, in their final stages, innovation processes can have unpredictable impacts, and they can generate surprising results over a long time frame.

2. Introducing the case studies

In 2013, ALNAP carried out four case studies on the first round of HIF grantees. In 2015/16 and in partnership with the HIF, ALNAP carried out a second round of 11 case studies on HIF grantees.[2] These were guided by a revised methodology, which had been strengthened to produce consistent data across the 11 different studies, so as to better understand what factors contributed to successful innovation.

Table 2 on the next page captures short summaries of the case studies and a snapshot of their innovation processes. For more detail on an individual project, readers are advised to refer to the full case studies available on the HIF and ALNAP websites: www.elrha.org/hif/home/ and www.alnap.org/what-we-do/innovation.

2 One of these case studies was converted to a 'mini-study' based on a shortage of evidence to assess the propositions used in the research methodology.

	CASE STUDY 1 **Gaza Risk Reduction and Mitigation** Catholic Relief Services (CRS)	CASE STUDY 2 **SMS Feedback in Somalia** Danish Refugee Council (DRC)
About the innovation	An approach to disaster risk reduction (DRR) for complex humanitarian emergencies that occur in urban, conflict-prone areas with non-state actors.	A mobile phone-based feedback mechanism that helps enhance two-way communication and accountability in contexts of remote management.
What was innovative about it?	CRS sought to develop a DRR project model that used participatory approaches to identify and address conflict risks as well as natural hazards. Implemented through the Palestinian Red Crescent Society, the *Gaza Risk Reduction and Mitigation* project aimed to help communities develop their own mitigation strategies in a context where NGO actors cannot work through local authorities.	Capitalising on high levels of mobile phone usage in Somalia, DRC developed a system that allowed project beneficiaries to submit feedback by sending an SMS text, which was then logged, referred on and responded to. The message and DRC's response was then plotted on an online map, filtered by theme and location, using the Ushahidi platform. DRC used its understanding of the operating context in Somalia to develop the Feedback and Accountability System as part of its broader efforts to become a more accountable and transparent humanitarian organisation.
Lead organisation type	INGO/Red Cross/Crescent	INGO/Red Cross/Crescent
Phase of research	Pilot case study	Pilot case study
Innovation type	Process	Product
Problem or Opportunity driven?	Problem-driven	Opportunity-driven
Invention or Adaptation	Adaptation	Adaptation
Tech/Non-tech	Non-tech	Tech
Sector	DRR	Accountability

CASE STUDY 3 **The Humanitarian Lessons-learned Genome Project** University of Groningen	CASE STUDY 4 **Listening to the Voice of Haitians** Haitian Red Cross and IFRC	CASE STUDY 5 **Words of Relief** Translators without Borders (TWB)
An open source application allowing humanitarian workers to quickly access the results and findings of relevant evaluation reports.	An interactive communication platform using SMS and Interactive Voice Response (IVR) technology.	Local language translation services to NGOs, UN agencies and other actors during humanitarian response.
The Humanitarian Lessons-learned Genome Project aimed to facilitate the full use of evaluative resources in the humanitarian sector. Evaluative statements from almost 100 reports were tagged using an elaborative encoding dictionary. A search engine was designed to respond to user-specified queries relating to humanitarian interventions by collating relevant text from across the library of documents. This initiative was a collaboration between the University of Groningen and the Emergency Capacity Building (ECB) Project, a coalition of humanitarian actors.	Haiti's 2010 earthquake was a major opportunity for international aid agencies to address the challenge of improving two-way communication with disaster-affected communities. The IFRC, through the national society, the Haitian Red Cross, sought to use mobile technology to disseminate crucial information and gather beneficiary feedback about its operations, to enable greater accountability of international agencies to local communities and to allow these communities a greater decision-making role in disaster response efforts. The IFRC's Beneficiary Communications programme used institutional experience and the expertise of private sector partners to design the IVR system.	The *Words of Relief* Crisis Response Network is a global translation and localisation initiative. Leveraging both human and technological resources, the project built capacity to facilitate and improve communication among victims, field workers and relief agencies during and after crises. The innovation process has been successful in creating enhanced learning and evidence around the importance of language translation in disaster response, and has succeeded in producing a measurably improved mode of communicating with affected people.
Non-implementing [Academic]	INGO/Red Cross/Crescent	Non-implementing [Service provider 3rd sector]
Pilot case study	Pilot case study	Proposition-testing case study
Product	Product	Process
Problem-driven	Opportunity-driven	Problem-driven
Invention	Adaptation	Invention
Tech	Tech	Tech
Information management	Accountability	Accountability

	CASE STUDY 6 **Motivation's appropriate and affordable wheelchairs** Motivation	CASE STUDY 7 **Community-based financing for DRR** Wetlands International & CARE Netherlands
About the innovation	Wheelchair and training package for use in emergency response contexts.	A financial incentive mechanism that unites community- and ecosystem-based DRR measures.
What was innovative about it?	Working with Handicap International and Johanniter International, Motivation developed a wheelchair specifically adapted to emergency settings that could achieve better functionality and use in these contexts than donated orthopaedic wheelchairs. The partners' experience in emergency response and with disabled individuals contributed to a strong understanding of the problem. The final product offers an improvement over current humanitarian practice by providing users with a more appropriate, comfortable, lightweight, durable and adjustable wheelchair that meets international standards. Throughout the project, Motivation sought the input of end users and partners, proactively identifying opportunities for learning, for capturing learning on a regular basis and for feeding this information back into the design process.	This innovation process was largely one of adaptation rather than invention of a new product or process. Wetlands International developed the Bio-Rights approach in the early 1990s as a financial mechanism that could resolve the tensions between ecosystem conservation and the development aims of low-income communities living within or close to ecosystems. Through the Partners for Resilience project, Wetlands International identified an opportunity to adapt this approach to a DRR context. In addition to providing financial incentives for engaging in ecosystem restoration to reduce disaster risk and protect livelihoods, the project sought to build capacity for DRR, with communities establishing organisations for coordination and their own action plans.
Lead organisation type	Non-implementing [Design 3rd sector]	INGO/Red Cross/Crescent
Phase of research	Proposition-testing case study	Proposition-testing case study
Innovation type	Product	Process
Problem or Opportunity driven?	Problem-driven	Opportunity-driven
Invention or Adaptation	Invention	Adaptation
Tech/Non-tech	Non-tech	Non-tech
Sector	NFI	DRR

CASE STUDY 8 **Improving Water Quality in Emergencies** Université Laval	CASE STUDY 9 **The CMAM Report** Save the Children UK (SCUK)	CASE STUDY 10 **WFP's mVAM (Mobile Vulnerability Analysis and Mapping)** World Food Programme (WFP)
A water treatment system that increases the supply of water in an emergency, at a significantly reduced cost.	A technology-based product innovation designed to facilitate more reliable reporting of data.	A programme that integrates mobile technology, including SMS, Interactive Voice Response (IVR) and live calls, into established food security monitoring systems.
This project addresses the inadequacies of current water treatment technologies, which are not aligned with humanitarian objectives and can result in expensive and sometimes ineffective relief. This innovation process in the WASH sector featured a unique partnership between an academic organisation (Université Laval), a humanitarian NGO (Oxfam GB) and a private sector company (AquaPlus Ltd, now Easol Ltd). The technology was not new to the water treatment industry but had yet to be successfully applied in an emergency response context. Developing the prototype required significant technical adaptations and took place using two separate labs, one based at Université Laval's campus in Canada and the other based at AquaPlus' offices in India. Oxfam GB contributed throughout the process and led the design and implementation of the pilot in South Sudan.	By improving the quality and consistency of reporting on Supplementary Feeding Programmes and other community-based management of acute malnutrition (CMAM) interventions, this innovation aimed to enable a more objective analysis of the effectiveness of CMAM programming. *The CMAM Report* offers detailed standardised guidance and user manuals for five different user types to ensure the collection and analysis of comparable and 'unbiased' data on acute malnutrition interventions. The software developed by SCUK was a product innovation embedded within a broader paradigm innovation aimed at changing how humanitarian actors measure the performance of acute malnutrition programming.	The *mobile Vulnerability Analysis and Mapping (mVAM)* project enables voice technology to collect data on household food security. The technology was piloted in Democratic Republic of Congo and Somalia, and implemented in the West Africa ebola crisis. Each month, a panel of regular respondents was contacted with live calls and IVR and answered questions on their household food consumption and coping strategies, generating high-frequency data that show trends in food security. With considerable experimentation, adaptation and collaboration, the mVAM team was able to demonstrate that it could gather credible data using mobile technologies, and that it could do so with improvements in cost, time and enumerators' security.
Non-implementing [Academic]	INGO/Red Cross/Crescent	UN
Proposition-testing case study	Proposition-testing case study	Proposition-testing case study
Product	Product & Paradigm	Product
Opportunity-driven	Problem-driven	Problem-driven
Adaptation	Invention	Adaptation
Non-tech	Tech	Tech
WASH	Food security/Nutrition	Food security/Nutrition

	CASE STUDY 11 **Improving Menstrual Hygiene Management in Emergencies** IFRC	CASE STUDY 12 **Mapping a Response** Humanitarian OpenStreetMap Team
About the innovation	Menstrual hygiene management (MHM) kits that are culturally appropriate and effective in emergencies and complemented by improvement and scale-up of training and participatory hygiene promotion tools	Creates and provides maps to support humanitarian organisations in their response to conflict or natural disasters
What was innovative about it?	IFRC used evidence-based trials to assess the appropriateness, acceptability and value of two types of MHM kits (one containing disposable pads and the other reusable pads). Kit contents were developed through ongoing consultation with the women and girls who would be their users. The kits and accompanying educational materials have thus evolved over the trials in response to emerging findings from focus group discussions and surveys with end users in each location. The evidence gathered helped reinforce the need for a multifaceted approach to MHM by humanitarian actors, encompassing not only sanitary pads but also a range of additional products, amendments to infrastructure and information to better meet women and girls' menstrual hygiene needs.	HOT gathered a network of interested crisis mappers around the development of Open Aerial Map (OAM), an open source set of tools that would provide functions for hosting, uploading, sharing, searching, filtering, displaying, downloading and using imagery data. Previously, the process of developing maps from imagery was painstakingly slow and it required a great deal of time from highly technically skilled individuals to patch different formatted images together. HOT facilitated the design of OAM through sprints with technical developers and through discussions and additional face-to-face meetings with image providers.
Lead organisation type	INGO/Red Cross/Crescent	Non-implementing [Network]
Phase of research	Proposition-testing case study	Proposition-testing case study
Innovation type	Product & Process	Product
Problem or Opportunity driven?	Problem-driven	Problem-driven
Invention or Adaptation	Adaptation	Invention
Tech/Non-tech	Non-tech	Tech
Sector	WASH	Information management

CASE STUDY 13 **Humanitarian eXchange Language** UN Office for the Coordination of Humanitarian Affairs (OCHA)	CASE STUDY 14 **Linking Communities to Mine Action** Danish Demining Group (DDG)	CASE STUDY 15 **Speed Evidence** World Vision International (WVI)
A data standard designed to help in the sharing and consolidation of data to improve coordination across agencies responding in a humanitarian crisis	A two-way communication web portal and parallel SMS service to improve information provision and exchange about mines and other explosive remnants of war between affected communities and humanitarian actors	A platform that will enable a continuous near real-time feedback loop between affected communities and responders after a disaster, with the aim of increasing the situational awareness of both
In this innovation process, OCHA aimed to harmonise data to enable more comprehensive analysis of a crisis and improve coordination. With the first idea, Linked Open Data, the *Humanitarian eXchange Language* (HXL) team attempted to move the humanitarian community past its reliance on Excel spreadsheets to a system where the links between data were more automated. However, during early implementation, the HXL team encountered challenges obtaining wider uptake and took a step back to reassess the core problem. This led to the development of a second idea: Hashtags. Hashtags require a smaller-scale change, focusing on creating commonality across spreadsheets without asking users to make significant changes to how they currently enter data.	This project sought to improve education and information access on the risks posed by mines for affected populations living in conflict or post-conflict settings. DDG also made it easier for mines and unexploded ordnances (UXO) to be reported to clearance organisations. The idea originated at DDG headquarters, then the digital platform was piloted in Vietnam and Ukraine. Choosing to run most of the innovation process in an operational setting posed significant benefits, in particular strong engagement with end users from the outset and a well-considered diffusion strategy that focused on building in long-term sustainability for the innovation through government partnership. However, the process also faced several challenges, demonstrating both the difficulties in developing and doing initial piloting of an innovation in an operational setting.	WVI developed *Speed Evidence* as a tool that gives humanitarian workers fast access to relevant, real-time disaster-related information required to make effective decisions. WVI created learning labs, spaces for staff training on the *Speed Evidence* application that allowed the innovating team to collect feedback on the design and components of the tool. Combined with subsequent internal focus groups discussions with key humanitarian staff, this helped WVI to define more clearly its needs for the tool. *Speed Evidence* was piloted in the Typhoon Haiyan response, however to date the tool had not been diffused more widely within or outside of WVI.
UN	INGO/Red Cross/Crescent	INGO/Red Cross/Crescent
Proposition-testing case study	Proposition-testing case study	Proposition-testing case study
Process	Process	Product
Problem-driven	Problem-driven	Problem-driven
Invention	Adaptation	Adaptation
Tech	Tech	Tech
Information management	Demining; Accountability to Affected People	Information management; Accountability

FINDINGS

3. Assessing the success of the innovation processes in the case studies

The success of the innovation process in each case study was rated using three success criteria:

1. **To what degree did the innovation process produce Consolidated Learning and Evidence?**
2. **Did the innovation process produce a prototype that was an Improved Solution over current practice?**
3. **Did the innovation process successfully diffuse the innovation to achieve wide Adoption?**

These assessments were carried out at the end of the case study research and are presented in each of the individual studies. They were used to identify the key contributing factors to successful innovation and to build a model of the successful humanitarian innovation process, which are presented as the main findings in Section 4. This section briefly describes the overall findings of these assessments, as well as the challenges faced in assessing success that may be relevant for future research and evaluation of humanitarian innovation.

3.1. Findings on the success of the case studies

The innovation processes featured in the case studies were highly successful at generating and disseminating learning and evidence in the area addressed by their innovation. In nearly every case, external experts unconnected to the innovation project and interviewed for this research indicated that the innovating team had made tangible contributions to the evidence and collective knowledge in the area of practice addressed by their innovation. Also, in almost all cases, innovating teams were at least moderately successful in developing an Improved Solution, meaning they developed an innovation that offered measurable improvements over current practices on at least some key design criteria. In addition, there was evidence of early adoption of the innovation in many of the cases. Wide rollout and adoption were difficult to assess because of timing issues (see section 3.3.1) but were observed in *The CMAM Report*, *Words of Relief* and *WFP's mVAM* case studies. No significant differences were observed in the success achieved in an innovating process based on whether the innovation was recognition- or opportunity-driven, or whether it was ICT-/non-ICT-focused (see Box 3).

BOX 3. COMPARING ICT-FOCUSED AND NON ICT-FOCUSED INNOVATIONS

Two-thirds (10) of the case studies were ICT-focused innovations, with the remaining 5 being non-ICT products, processes or paradigms. Little difference was observed between the successes of the two types. Given the strong culture of innovation management in the ICT sector, the ICT-driven projects could draw on a wider set of tools and practices, including those of agile design, to help manage their processes. However, in cases where the lead organisation was a humanitarian agency, an ICT-driven innovation process leaned in great measure on the ability to communicate effectively across these two work cultures: the tools were not sufficient to lead to a successful process. In general, across both ICT and non-ICT innovations, success was still shaped by the type of organisation/partnership leading the innovation, the nature of the problem or opportunity the innovation sought to address and the degree to which innovators were adapting pre-existing tools or inventing new ones.

3.2 Additional success criteria for humanitarian innovation

While the core success criteria are the main way this study understood innovation to be effective and successful, three additional criteria arose in the research process that may be relevant to future assessments of innovation's success:

Involvement and respect of affected people

Not every innovation in humanitarian action will involve affected people. Some innovations are targeted at improving internal processes or coordination among humanitarian actors. However, for those that do involve affected people, either directly or indirectly, demonstrating how their rights and interests are respected in an innovation process ought to be a minimum standard. Too often, the message that humanitarian agencies should be less risk-averse can overshadow the fact that risks are easily passed onto affected communities. Humanitarian organisations must take specific measures to ensure any increased risk remains isolated to the innovating organisation rather than passed to an affected community. As found in the case studies, using a staggered approach to piloting, in which pilots are undertaken first in non-emergency contexts with clear protections and benefits in place for participating communities, is one way to deal with this.

Efficiency

Innovation processes may often seem weak on standard cost-efficiency measures, particularly when they involve the development of radically new technologies or tools. The potential wide-scale impacts of innovations, coupled with the unpredictable amount of time it takes to achieve these, makes it challenging to weigh the cost-efficiency of innovation processes. However, the humanitarian system cannot afford to support innovation processes that go on indefinitely

without producing a workable prototype. An appropriate standard of efficiency should be developed and used as a success criterion for innovation processes. Based on analysis of the case studies, there are clear best practices – typically concerning decision-making and managing relationships – that innovating teams can adopt to improve their timeliness and thus efficiency. Senior leaders also play a key role in ensuring efficiency, by providing the appropriate support and open channels to move innovations forward in a timely manner.

Unique impact

The unique impact of any innovation is often a function of its novelty, which in turn is shaped by how much the sector changes as the innovation process takes place. When the humanitarian system largely ignores a particular issue, such as cash-based assistance or menstrual hygiene, innovations that address these areas can have a high degree of risk, but also a unique impact on the system around them. As other humanitarian actors become more sensitised and active on these issues, innovations may no longer be able to offer a unique impact. Yet innovations that lose their unique impact as other similar initiatives and activities spring up can still contribute to the 'groundswell' of activity that can serve as a tipping point into wider adoption of effective tools and approaches. Similar to the realm of advocacy, innovation processes can have different types of impact. Future work on assessing the success and impact of innovation will therefore benefit from distinguishing between the different types of contributions an innovation process can make to changes in a complex system and from providing ways to observe these contributions.

3.3 Challenges in assessing innovation success

Two key challenges arose in the research team's assessment of success which may be relevant for future work on the evaluation of innovation: the impact of timing on assessing successful adoption and the impact of multiple stakeholders on assessing improvement.

3.3.1 The impact of timing on assessing successful adoption

The research team observed significant shifts in Adoption over a long period of time – innovations that struggled or may have been considered unsuccessful at one point in time were showing significant gains 9–12 months later. While it is widely acknowledged that innovations can take years to achieve the highest level of impact, evaluators of innovation will need to develop creative approaches to understanding the 'health' of an innovation process' diffusion when it is in its first year.[3] Rather than assess innovations on the basis of the scale they achieve, it may be beneficial to identify a set of best practices around diffusion planning or strategy and look for the presence of these.

3 For an example of how to measure successful adoption in technology-driven innovations in particular, see (GDPC 2016), a study commissioned by the Red Cross Red Crescent Global Disaster Preparedness Center to understand the varying rates of adoption of their First Aid App.

3.3.2 Improvement for whom? The impact of multiple stakeholders

The key argument in support of humanitarian innovation is that it should lead to observable improvements in the effectiveness, efficiency or quality of humanitarian assistance. This raised the question: an improvement for whom? Problems and solutions in the humanitarian sector are multifaceted; what is a 'solution' for a donor or agency may not be a solution for field staff or affected people.

Researchers therefore sought to assess the Improved Solution criterion in each case study from one or more of the following perspectives:

- 'Objective' performance measurement using indicators of effectiveness/cost/quality: does it outperform current practices on indicators of cost, output, outcome or quality? (Typically, evaluations were used to assess this.)
- Feedback from experts: from the perspective of those who know the sector or area of practice well, does this innovation address a clear and important problem in humanitarian action, or does it offer a clear opportunity for improving performance?
- Feedback from primary beneficiaries and end users: who are the stated primary beneficiaries and end users of this innovation? Does the innovation better meet their needs and priorities than current practices?
- Feedback from affected people: does the innovation better meet the needs and priorities of affected people than current practices?

In some cases, these perspectives contradicted each other. Innovations, like any programming decisions, can involve trade-offs between different needs and values. Based on the experiences from this research, future assessments of innovation should aim to clarify exactly how improvement is being defined, in reference to the above four perspectives on improvement, or possibly in reference to an expanded list based on further research.

This research identified seven factors for successful humanitarian innovation:

1. **Collaborating with others**
2. **Organising an innovation process**
3. **Generating and integrating evidence**
4. **Engaging with end users and gatekeepers**
5. **Resourcing an innovation**
6. **Managing risk**
7. **Creating a culture for innovation**

4. The successful innovation process

Section 4.1 provides a detailed introduction to these factors and the practices of organisations and innovating teams that were observed as leading to their effective achievement. Section 4.2 narrows in on the innovation process itself, showing how the success factors play out over the different functions of an innovation process.

4.1 Introducing the success factors for successful innovation management

4.1.1 Collaborating with others

Innovation involves multiple actors, all of whom can change as an innovation process unfolds. Innovating teams benefit from taking a strategic approach to collaboration and assigning specific time and resources to managing these relationships. The effective management of collaborations depends largely on the individual who holds the key relationship management role. Typically, this is the innovation project manager, but this does not always need to be the case. The skills and passion of these individuals were consistently found to be key to the success of an innovation process. Such individuals often have to act as a 'translator' across different sub-sectors or sectors that are relevant to the innovation, or across end users and developers. As observed in the case studies and highlighted by other work (Gray and Hettiarachchi, 2014; Mays 2016), the clearest example of this need for translation is in ICT-driven innovations that feature collaborations between humanitarians and IT companies.

'During the first software development workshop, it became clear that the "scrum-master" who was meant to be facilitating could not translate between the two groups in the room; the users, who were frontline humanitarian workers, and the software developers. This meant I had to take over the facilitation in order to translate between the two groups. It was another learning for me; you can't just throw any old IT person at this, even if they're exceptionally skilled in software development and agile methodologies.'

Ian Gray, independent consultant
(formerly World Vision International)
Speed Evidence case study

Personnel changes in the relationship management role have negative knock-on effects on the innovation process and tend to create disruptions to progress. Organisations can do much more to cultivate these innovation managers and ensure consistent staffing throughout the lifespan of the innovation. For organisations outside the system seeking to innovate for humanitarian purposes, collaboration with humanitarian agencies is critical to success, as this ensures an innovation is meeting a real need and is responsive to the realities of humanitarian contexts. However, emerging crises can sometimes divert the

attention of humanitarian agencies and take priority over ongoing partnerships for innovation. As such, any non-humanitarian working in partnership with a humanitarian agency should seek to diversify their contacts in the humanitarian system and also invest in building a strong evidence base for their innovation's performance. This is critical to making the case for the innovation to a broader range of agencies should the original collaboration turn out to be unreliable.

Practices of organisations and innovating teams that were effective in 'Collaborating with others':

Long-term investments were made in a work environment that recruited, rewarded and maintained individuals with the skills sets necessary for effective relationship management, in particular cross-team and external outreach and collaboration, negotiation and passion for problem-solving.

- Senior leadership supported a proactive approach to collaboration, particularly with organisations outside the humanitarian system, to help generate good ideas and wider diffusion.
- Strong partnerships with organisations within and beyond the humanitarian sector were built and maintained.
- There was a person overseeing the core relationships and engagement activities of the innovation process and this person was given the necessary time and support for outreach.
- Plans and incentives were put in place for the relationship management role to be held by the same individual(s) throughout the project.
- A strong 'translation' capacity was present in the innovation team for communicating across end users, humanitarian contexts and technical areas relevant to the innovation (e.g. ICT, engineering).
- There were staff recruited from outside the humanitarian sector with strong expertise in a relevant technical area, such as IT, product and service design or finance, to facilitate the cross-pollination of ideas and practices.

4.1.2 Organising an innovation process

Managing an innovation process is about creating the space needed for iterative learning and an open responsiveness to the broader environment while maintaining a clear structure and plan for moving forward. The human resources in an innovating team also need to be well organised so it is possible to make the best use of them. This success factor covers the following decision areas: dividing labour among an innovating team; using plans and protocols; building flexibility into an innovation process while still maintaining progression; and using feedback loops to generate information.

Practices of organisations and innovating teams that were effective in 'Organising an innovation process':

- There was a broad but clear plan for the innovation process that struck a balance between structure and flexibility.
- Milestones were identified and used to monitor progress.
- There was a clear set of design criteria that the innovation was seeking to meet. While these criteria could be adjusted or reprioritised in light of new information, the innovation lead clearly identified them throughout the process.
- Effective feedback loops were utilised, with feedback captured, appropriately interpreted and incorporated into the innovation so an improved solution could be developed. This often involved assigning responsibilities for incorporating feedback to a specific individual.
- There was a diverse set of feedback loops that were designed to engage with different stakeholders and fulfil different information needs of the innovation at different stages.
- The division of tasks and responsibilities was shifted to best match the stage of the innovation.

4.1.3 Generating and integrating evidence

Information is critical to many aspects of an innovation process, from understanding the core problem, to measuring performance of the innovation, to identifying end user needs, preferences and incentives. Ideally, this information should serve as evidence to confirm or disconfirm the innovating team's assumptions about the core area addressed by the innovation, the innovation's effectiveness, and its relevance to end users. Successful innovation processes are characterised particularly by their ability to integrate diverse sources of information in order to generate an understanding of how well the innovation is performing and what needs to be done next to progress.

Practices of organisations and innovating teams that were effective in 'Generating and integrating evidence':

- There were strong internal processes for learning from evaluations and crises and for generating ideas for improvement out of that learning.
- Performance measurement systems and clear protocols and standards were in place and used to support clear comparisons between piloted innovations and what was being achieved with the status quo approach, in order to demonstrate the value added through innovation.
- Strong value was placed on evidence generation and learning, even when a prototype or initial idea turned out to be unworkable.
- There were strong 'translation' skills in place that enabled the integration of strong technical expertise in an area relevant to the innovation and an understanding of the humanitarian response context.

4.1.4 Engaging with end users and gatekeepers

Three groupings of actors were observed to be relevant to the adoption of an innovation across each case study: Primary beneficiaries, End users and Gatekeepers.

To introduce these three groups of stakeholders, consider the following three conditions that need to be in place in order for innovations to be adopted across the private and public sectors:

1. There are people who see the innovation as beneficial to them.
2. These people are free to adopt the innovation if they want it.
3. No one other than the innovation-provider and the innovation-adopter has to change their behaviour in order for the innovation to deliver its value.

These last two conditions are not often met in the humanitarian system, differentiating it considerably from market-based innovation systems. This is because the system is a supply-driven industry in which those who are meant to benefit from its products and services are not the same actors who decide what is delivered or how. Similar patterns are replicated throughout the system internally, where those who decide which tools or services are adopted are not always the individuals who primarily use them on a daily basis (field staff, country staff, technical officers). There are also information gaps and perverse incentives that inhibit organisations' ability to respond rationally to new products or approaches that offer an improvement over current practice.

Innovation managers cannot control for these factors, but they can manage them more effectively by reflecting on the above three criteria and how these apply to their particular innovation context. Innovation managers should seek to identify the following groups in each innovation context and the degree to which they overlap or do not overlap:

1. Primary beneficiaries: those who benefit directly from an innovation. This is not the same as affected people; in many cases, humanitarian staff are the primary beneficiaries of an innovation. Primary beneficiaries can be identified by answering the following question: 'If the innovation works, who would see the most obvious and immediate benefit?'
2. End users: those who interface directly with the innovation (and whose behaviour must change in order for the innovation to deliver its value). End users are those who must 'use' the innovation in order for it to work. They are not always the primary beneficiaries of an innovation. For example, the *Humanitarian eXchange Language* – which

Practices of organisations and innovating teams that were effective in 'Engaging with end users and gatekeepers':

- Early on in the process, appropriate ways to capture end users' and gatekeepers' needs and incentives for adoption were identified.
- Different strategies were used to engage different end users.
- Advisory groups and partnerships were managed strategically and in different ways at different points in the process.
- Participatory approaches were used with affected people in designing innovative solutions to their self-identified problems.

aimed to resolve the lack of a common operational picture of humanitarian crises – involved at least two main types of actor: information management officers (IMOs) and data entry specialists. While IMOs are the primary beneficiaries for addressing this problem (they are the primary users of a common operational picture), the innovation required behaviour changes from data entry specialists who would be the end users of the new technology. As end users, and not beneficiaries, therefore they were not initially incentivised to support the innovation. End users can be identified by answering the question: 'Who needs to interact directly with the innovation in order for it to work?'

3. Gatekeepers: those who can significantly influence uptake because of their control over the behaviours of primary beneficiaries and end users. The humanitarian system is not a free market: gatekeepers are the actors whose choices construct the environment of services, products and paradigms. For example, international NGOs (INGOs) are often gatekeepers for innovations in which the end users are affected people. Donors and governments can be gatekeepers for innovations in which the end users are INGO staff. Gatekeepers can be identified by answering: 'Who determines the range of choice for the innovation's end users and primary beneficiaries?'

4.1.5 Resourcing an innovation

Innovating requires flexibility to deal with the unknown combined with a commitment to see an innovation through to its natural conclusion. This relies on flexible and continuous funding through most of the innovation process and a transition to sustainable forms of resourcing when diffusing an innovation.

Many innovation processes in the humanitarian system rely on grant-based funding. This tends to break up continuity, which can impede Consolidated Learning and Evidence and development of an Improved Solution. Typical funding mechanisms with fixed timelines can inhibit time for reflection and thus negatively impact learning. For example, in *The CMAM Report* case study, staggered funding inhibited learning, as grant proposals often had to be written before lessons were fully incorporated from the previous iteration. Lack of continuous funding also contributed to turnover in staff, which can further lead to the loss of learning between the phases of an innovation process.

'The funding mechanisms we are often subject to can prove challenging. How do we fund innovation, when innovation isn't quite as predictable as a normal project? As NGOs we often need to know where the funding is coming from for the next stage of a project before the current funding and project activities end, in order to achieve continuity. But this means there is not much in the way of time and flexibility for really standing back and reflecting on what we have learned.'

Susan Fuller (formerly SCUK)
Key informant, *The CMAM Report*

Flexible donors enable teams to step back more easily from the day-to-day of managing the innovation to take a bigger picture perspective, and to incorporate learning. To that end, many innovating teams cited the unique nature of the HIF as a donor as a key supporting factor in the success of their innovation. In general, the HIF appeared to provide a set of clear deadlines yet allowed for adjustments if a case could be made for how this would benefit the innovation process.

Importantly, flexible funding enables teams to create or take advantage of learning opportunities, such as unplanned pilots. In *Humanitarian eXchange Language*, *WFP's mVAM*, *SMS Feedback in Somalia* and *Words of Relief*, this allowed the teams to improve their understanding of the problem and the context.

Continuous funding also contributed to the successful diffusion of an innovation by allowing momentum to be gained and maintained across development activities and into diffusion. Having a more 'streamlined' innovation process enables staff to give the innovation a constant level of attention and help it progress more effectively and efficiently. This in turn appears to support the incorporation of learning and the engagement of end users – two important factors for achieving an improved solution and adoption.

Practices of organisations and innovating teams that were effective in 'Resourcing an innovation':

- Organisational resources, including core funding, were provided so innovations could be initiated. This came in the form of enabling staff to pursue external funding or providing minimal core funding to support the early invention/adaptation activities.
- Innovating teams used core funding strategically to enhance flexibility and bridge the gap between potential funding gaps from external sources.
- Resources were allocated to a dedicated member of staff to work full-time on the innovation.
- Contingency planning and/or scenario analysis was used to identify a number of potential outcomes for the innovation and allow for better-informed planning of funding requirements.
- Options were explored in terms of financing scaling of an innovation, including commercialisation, ownership transfer to government, core-/grant-funded advocacy and support activities and reallocation of the programme budget to accommodate the new approach offered by the innovation.
- The functions of generating and capturing learning were separated and protected from the function of fundraising and fund management, as merging these two roles was viewed as detrimental to learning.

Flexible funding allows for more piloting

TWB's *Words of Relief* project is a networked service providing local language translation for NGO communications with affected people. In November 2014, TWB was granted additional funding from the HIF to implement in West Africa during the Ebola response. This was complemented with a grant from the Indigo Trust. Piloting the innovation in an emergency setting allowed the organisation to test the functionality of the new service and quickly learn the strengths and weaknesses of the translation network. Concretely, the Ebola response taught TWB that an in-country presence was necessary to allow face-to-face contact with partners, advocacy on the importance of language and assessment of uptake of translated materials. Such piloting played an important role in the refinement of the *Words of Relief* prototype.

Photo: A woman looks at a Words of Relief information poster on Ebola in West Africa. Credit: Translators without Borders

4.1.6 Managing risk

The 2009 ALNAP report on innovation argues that, 'Finding safe spaces for experimentation, and mechanisms to promote 'honourable risk' as a central value in humanitarian assistance is perhaps the first step to a more innovative and yet principled humanitarian response' (Ramalingam et al., 2009: 2-3). By definition, innovation involves a degree of risk-taking: it is a process where outcomes are highly uncertain, and many factors outside the control of the innovating team can affect success. Innovation processes in humanitarian action need an appropriate relationship to risk, one that maximises the potential benefits of risk-taking while minimising the potential costs to the project and protecting against any losses or harm to pilot participants.

In this research, ALNAP explored the contribution of risk assessment and management practices to successful innovation. Risk is a difficult topic to study in humanitarian innovation because there is little clarity on what it means – both in terms of risk to what (the project completing on time? The innovation being successful?) and risk to whom (the field worker? The organisation? Affected people?). This research looked at two understandings of risk:

1. Risk to the success of an innovation – that, is, risks that would prevent Consolidated Learning and Evidence, Improved Solution or Adoption from occurring and,

2. Risk to affected people, where relevant.

For the first type of risk, the findings are somewhat surprising. It was expected that successful innovation would be supported by a risk assessment at the outset and a strategy to monitor and adjust development in light of changes in these risks. Both of these were observed as supporting a more efficient innovation process. Innovating teams that did not undertake strong risk assessments often faced delays and setbacks that could have been mitigated through a better approach to risk early on.

However, overwhelmingly, having formal risk assessments and monitoring practices in place was less important than maintaining a responsive and open attitude towards identifying new risks and responding

Practices of organisations and innovating teams that were effective in 'Managing risk':

- An open and anticipatory approach to risk was maintained: teams looked continuously for potential barriers and used regular meetings or planning sessions to find ways to address these.
- The team kept a flexible working style that could allocate additional human resources to address new challenges as they arose.
- The team built connections with other units within the organisation or with close partners who could draw on a wide range of expertise to jump in and help with backup plans or unforeseen needs and challenges in the innovation process.
- Scenario planning and other forecasting and mitigation methods, such as 'Protecting the Plan', were used at the outset of an innovation, in order to identify broad areas of potential risk.

Practices not widely observed but that could be explored for more effective risk management:

- At the outset, review in detail the risks posed to affected people and implement strategies to mitigate these. This should include explicit attention to how expectations are communicated and managed with pilot participants.
- Seek to improve the quality of risk assessments carried out at the outset and focus more on risks posed to success rather on risks posed to the project meeting its target deadline.
- Consider ways of adapting standard risk assessment tools to enable a more flexible, yet still responsible, approach to understanding and managing risk.

Flexibility as a way of managing risk

To illustrate the importance of flexibility to effective risk management in innovation, it is helpful to examine the 'exception that proves the rule' – the only case study that featured a strong structured plan and process for ongoing risk monitoring. This was the *Motivation's appropriate and affordable wheelchairs* case study, in which Motivation employed its 'Protecting the Plan' method while developing a wheelchair for use in the immediate aftermath of a disaster. Protecting the Plan consists of recognising the key objectives of the innovation at the outset, identifying the threats to achieving these and then taking action to prevent or mitigate these throughout the innovation process.

The Motivation team begins its risk assessment process for an innovation by looking forward 6–12 months and brainstorming what the project would look like if it 'went terribly.' As a team exercise, staff then identified what could happen or could fail to happen for this worst case scenario to come about and created strategies to mitigate or prevent this possible scenario. These strategies were then built into the project plan.

Motivation's structured approach to risk contributed to the success of its pilot and early diffusion; however this was significantly aided by the strong ability of the Motivation team to work flexibly and responsively to new risks as they arose. This flexibility was vital when Motivation faced surprise setbacks in the pilot, for example when its key implementing partner, Handicap International, was unable to get the prototype wheelchairs into the Philippines after Typhoon Haiyan.

Photo: A potential user tries out the emergency wheelchair during the second trial in Kenya, 2013. Credit: Motivation

to them when appropriate. It seemed more important that innovation processes were agile enough to respond to risks as they arose. However, it is unclear whether this reflects more on the role (or lack thereof) risk assessment plays in successful innovation or on the quality of the risk assessment carried out by some innovating teams. Several innovation managers felt a better anticipation of certain risks – in particular strategic risks to adoption of the innovation – would have made the process more efficient and more successful. This raises a question as to whether higher-quality risk assessment at the outset will lead to different findings. Regardless, even innovating teams that failed to identify important risks at the outset were often able to manage these effectively by maintaining a proactive approach to identifying and engaging with threats to the innovation process as it proceeded.

For the second type of risk, there remains a lack of attention in innovation practice to the ethical issues raised by innovations that involve affected people. If humanitarians are going to explore greater risk-taking, there needs to be a careful consideration of the people for whom these risks are being raised. An increase in risk-taking is currently occurring without sufficient attention to clear safeguards for affected people who may be affected by an innovation process. This creates the danger of increasing risk for affected people only. While there were very few examples in the case studies of engaging affected people in pilots or trials, this research did find that current innovation practices take insufficient account of ways to engage affected people in innovation processes in a meaningful and responsible way. Further work is required to explore approaches to innovation that allow for creative exploration while remaining ethically sound.[4]

4.1.7 Creating a culture for innovation

Organisational culture plays a strong role in setting the background conditions and informal rules that either suffocate or support innovative ideas and practices. In several case studies, some of the most significant hurdles faced by innovating teams lay within their own organisations, particularly with senior leadership. As part of this research, ALNAP sought out input from grantees with track records of repeated innovation to understand what they had done to encourage innovation in their organisation. Some cited the non-hierarchical nature of their organisation as key to enabling innovative ideas to take root and bloom into full innovations. When describing his organisation's approach to innovation, Rasmus Stuhr Jakobsen described the 'Scandinavian' model of organisation used by the Danish Refugee Council and Danish Demining Group as 'very non-hierarchical and quite informal', which contributed to the generation of innovation processes. As an illustration of this, DRC hosts an annual innovations platform where staff at all levels can pitch ideas for improvement to gain core funding.

4 There has been some initial work on identifying stronger ethical principles and guidance for innovation managers, such as the work done by members of the Ethics Review Board of Médecins Sans Frontières. (Jobanputra et al., submitted for publication 2016) and a workshop on the ethical principles for innovation hosted by the Humanitarian Innovation Project at the University of Oxford.

Practices of organisations and innovating teams that were effective in 'Creating a culture for innovation':

- Staff had space for innovative thinking and clear platforms and opportunities to propose ideas for improvement (e.g. an annual 'innovation pitch' event or an ongoing innovation stream to develop new ideas).
- Senior leadership saw innovation as an opportunity to fulfil a new strategic goal or direction.
- Changes in the operational context were treated as opportunities to do things differently, providing a launch pad for innovation.
- The organisation fostered a culture that was open and positive about ideas/ contributions.
- The organisation was open to trailing new ideas or concepts if they showed promise of improving practice.
- A feeling of ownership of the innovation was built up within the organisation. The initiative was supported across departments.

Jock Baker described the collaborative environment of the ECB Project, a consortium of six humanitarian organisations and a key partner in *The Humanitarian Lessons-learned Genome Project*, as 'an open invitation to be innovative'. A similar environment was observed in the case study *Motivation's appropriate and affordable wheelchairs*, where the innovation team was able to effectively develop an improved solution in large part because of their dedication to and passion for the problem area. When asked what organisational factors had contributed to a culture for ideation, Sarah Sheldon offered the following points:

1. 'Start by recruiting passionate people where possible
2. Develop the framework and focus of the organisation so it is clear how an individual's work contributes to the whole
3. Good and involved leadership – low hierarchy gradient to encourage contributions from all staff – … but leadership is strong and focused where necessary
4. Maintain relevance by keeping as close to beneficiary group as possible
5. Positive feedback and no blame culture
6. Be open and positive about ideas/contributions
7. Pleasant working environment
8. Share success stories across organisation, including administrative successes like audit being signed off as well as project and beneficiary successes'.
9. Senior leaders must also recognise and strongly endorse the value of taking measured and appropriate risks to achieve improvements in performance.

'[A lot of our innovations] that will eventually go global all have in common that they come from someone in our system thinking, "We need to do something about this." [This depends on staff] having the courage and feeling confident enough to pursue it, having a supervisor who says, "That sounds like a really good idea and if you feel convinced there's something here then give it a go and spend some time pursuing that."'

Rasmus Stuhr Jakobsen, DRC
(formerly DDG Director)
Key informant, *Linking Communities to Mine Action*

4.2 The key activities of a successful innovation process

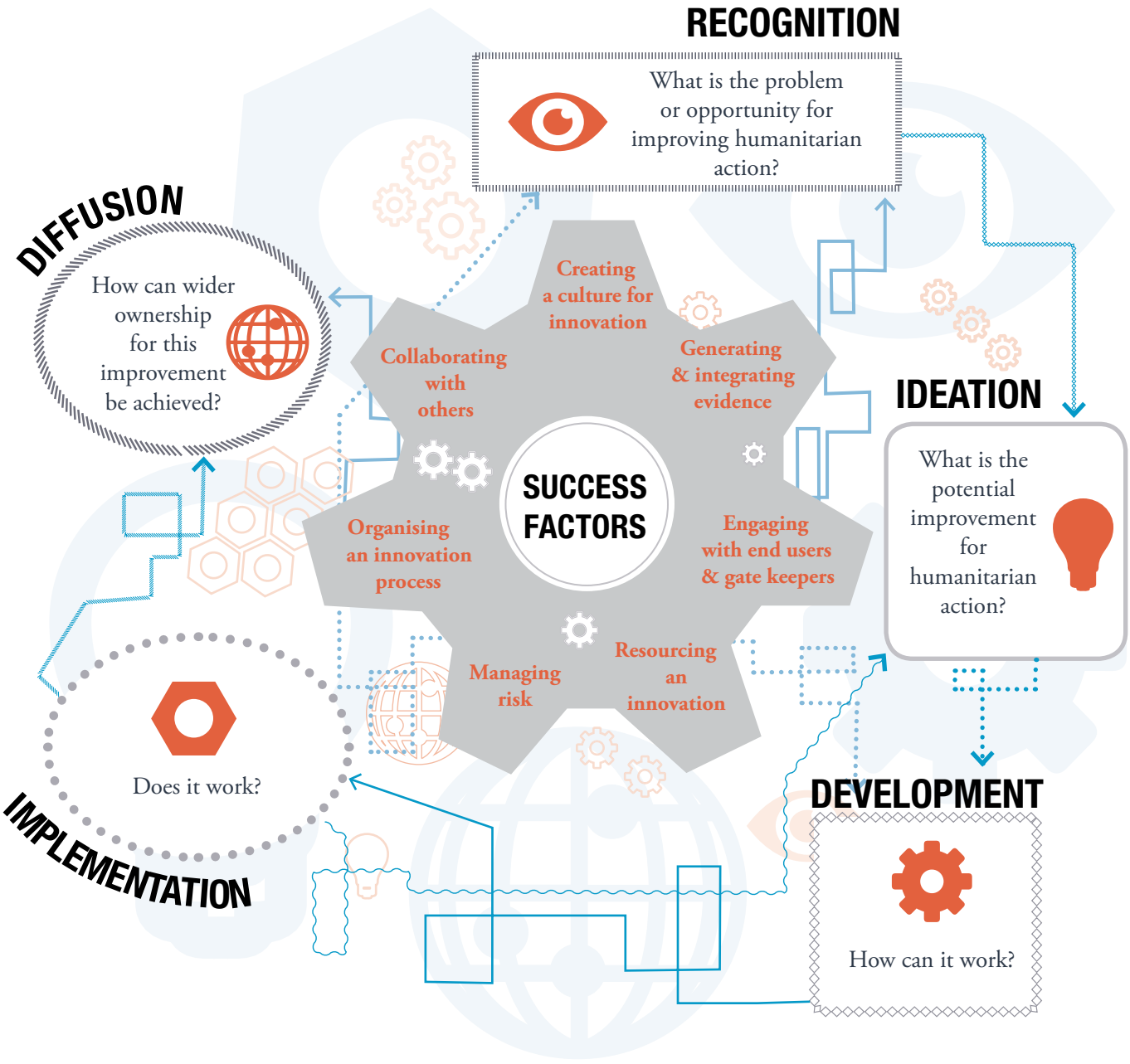
Every innovation project is a unique process of exploration, trialling, setback and discovery. Yet innovation processes – especially successful ones – tend to follow broad patterns in terms of their activities and milestones, and it is these that form the basis for the study of innovation as a practice that can be managed. This section presents an expanded version of the HIF's five-stage model of a successful humanitarian innovation process. As framed in Figure 3, a successful humanitarian innovation process consists of five sets of activities, or 'stages', which each seek to answer a particular question. The seven success factors run across all five stages—while they are present in different ways in each stage, these success factors are critical to the overall success of the innovation process. This section describes the stages of the innovation process and how the success factors enable humanitarian innovators to carry out each stage effectively.

"[Recognition, Ideation, Development, Implementation and Diffusion] broadly echo our innovation process, but it is not necessarily linear: there is a lot of iteration. There were things we thought worked, but then in the end they didn't, and we had to go back to the drawing board. We are doing diffusion right now but are still working on adding other applications to the product. With those, we are still at the Ideation stage. Also, Diffusion is something we did continuously; we don't think of Diffusion as the thing we do at the end, but an activity that you do continuously."

Jean-Martin Bauer (WFP)
Key informant, *WFP's mVAM*

FIGURE 3

The innovation process, stages and success factors



4.2.1 Recognition

'What is the problem or opportunity for improving humanitarian action?'

What is it?

Through recognition activities, individuals and teams identify a specific problem or opportunity to be seized in relation to improving humanitarian action. In problem-driven innovations, the innovating team identifies a challenge or barrier to effective, high-quality humanitarian action. In opportunity-driven innovations, either humanitarian professionals become aware of technologies and approaches that could improve an area of humanitarian action or technical experts outside the system try to introduce a new technology or approach. Recognition activities include inter- and intra-organisational discussions, exchanges of ideas at conferences or over web-based platforms, strategic reviews that open up opportunities to develop new approaches, personal experiences of a problematic project or programme, reviews of evaluations or market research and horizon scanning exercises.

What are the challenges to doing it in a humanitarian context?

There are few challenges to recognising problems in humanitarian action: the challenge lies in finding the momentum or collective awareness to address them. Humanitarian agencies do not offer enough incentives or clear pathways to address challenges identified by staff. In terms of opportunity-driven innovation, such agencies rarely invest in horizon scanning or other 'search and discovery' (Ramalingam et al., 2015) activities that would enable them to identify new technologies or approaches to improve their operations. Those outside the system seeking to adapt existing approaches to a humanitarian context often face significant barriers to entry, including low investment in partnership and a resistance to outsiders seen to be unfamiliar with humanitarian contexts.

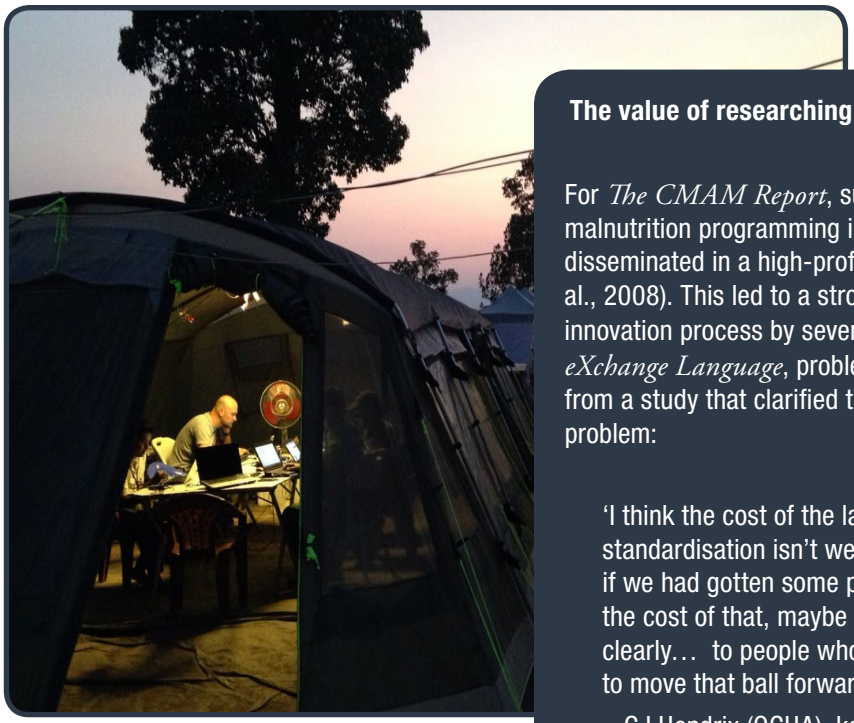
The basics

Recognition and the next stage, Ideation, are concerned with generating initial knowledge and ideas about ways to improve humanitarian action. Innovating teams use the following channels to recognise problems and opportunities:

- Learning from experience: Technical and field staff often know the problems facing humanitarian operations but lack access to reliable mechanisms for raising attention to these or for initiating problem-solving processes.
- Learning from affected people: A few case studies found problem recognition began with feedback from affected people, as gathered through evaluations. In each case, however, there was an extended period of time – in some cases years – between registering this input and taking action to

address it through innovation. Feedback mechanisms with affected people continue to be used in silo when they could serve as useful ways to identify problems as well as potential solutions.

- Research and evaluations: Research and evaluation are powerful tools for problem recognition. They contribute to a better understanding of the problem context for the innovating team (which aids the development of a more relevant innovation), as well as for gatekeepers and donors, who can provide needed support and resources to addressing the problem. Innovating teams interviewed for this research identified 'research on the problem' as a key factor that could have assisted the innovation in its early stages, primarily in making a stronger case for innovation to external stakeholders.
- Learning from crises: In some cases, research and evaluation is substituted by a problem becoming more prominent – through changes in donor policy or visible failures in a humanitarian response. Such changes in the broader environment may make the issue a strategic priority for senior management. In the case of *Listening to the Voice of Haitians*, the IFRC's experience in the 2004 tsunami response led to a strategic decision to finance a Beneficiary Communications programme in its response to the 2010 Haiti earthquake. This created the space for innovation by leading the IFRC to consider how best to engage the indigenous population.



The value of researching the problem

For *The CMAM Report*, substantive research into how severe malnutrition programming is monitored and reported was disseminated in a high-profile publication (Navarro-Colorado et al., 2008). This led to a strong investment of resources in the innovation process by several major donors. In *Humanitarian eXchange Language*, problem recognition would have benefited from a study that clarified the cost of not resolving the core problem:

> 'I think the cost of the lack of data coordination [or] data standardisation isn't well studied or well understood, so maybe if we had gotten some people to come in and really study the cost of that, maybe that would have made the case more clearly… to people who are not information mangers in order to move that ball forward.'
>
> CJ Hendrix (OCHA), key informant, *Humanitarian eXchange Language*.

Photo: Chautara, Sindhupalchok (20 May 2015): Aid workers continue to work into the night as the temperature cools down from a daytime high of 38 degrees Celsius. Credit: OCHA

How to do it well

Collaborating with others

Many innovation processes start through collective recognition of problems or opportunities enabled by an informal interaction between one or more individuals. Conferences, workshops, coffee shops and emergency response settings have all served as incubators for initial introductions and the sharing of ideas, frustrations and approaches that have eventually led to an innovation. In the recognition stage, innovation managers should seek to identify the level of recognition of the problem or who has expertise in the opportunity. Working with those who have direct experience of the problem was observed to be critical to meeting the success criterion of Improved Solution. Building up relationships with these individuals or organisations was also important later on for piloting and Diffusion activities.

Organising an innovation process

Recognition tends to be a more informal set of activities in the innovation process and therefore organising activities typically occur either at the beginning or at the end of the next stage, Ideation. However, it can be helpful at this point to identify sources of information and expertise that are relevant to the recognised problem/opportunity. This will support the later identification of people or agencies to involve in an advisory group or as partners in the innovation process.

Generating and integrating evidence

Having a full understanding of the problem at the outset is not necessary for successful innovation. However, it is important to carry out research as the innovation process progresses, in order to deepen understanding of the problem. This information can be used as a key communication tool to raise awareness among potential end users and gatekeepers for both the problem and the innovation. It is also useful to begin thinking about the following types of information in order to develop a well-rounded understanding of the problem/opportunity:

- Who sees this as a problem (those who will be receptive to a solution)
- Who is invested in addressing the problem (and could act as partner, advisory group member, etc.)
- The underlying causes of the problem

Iterative loop: When might you find yourself back at recognition?

- After early Development, when it appears the original problem is too big to address in a single innovation process, as experienced by the team in the *Humanitarian eXchange Language* case study. [Tip: Can you isolate bigger and smaller components of the problem that can be addressed by different innovations, allowing you to modify your process based on initial potential end user response?]
- After an unsuccessful pilot: In *The CMAM Report*, SCUK reassessed its understanding of the problem after a challenging pilot using an Access-based software. As a result, a broader understanding of the problem was achieved and a new ICT solution developed. [Tip: Start compiling evidence for your understanding of the problem so that learning from the pilot can be utilised more quickly.]
- When Diffusion is not going your way: *Words of Relief* commissioned an impact study looking at the problem of low comprehension of public information messaging and the benefits of its translation service to addressing this. This was used as an advocacy tool both for the problem and for the innovation. [Tip: Consider not only the factual evidence about the problem but also how different stakeholders perceive and experience it. How might you need to convince them of the problem, and of your solution to it?]

- End user needs and incentives
- Previous attempted solutions and why they failed
- Existing practices relevant to the problem

Engaging with end users and gatekeepers

Across the case studies, ALNAP found three different compositions of end users and innovating teams:

- The innovating team includes one or more end users
- The innovating team does not include end users and end users are affected people
- The innovating team is from outside the humanitarian system, does not include end users, and end users are humanitarian agencies

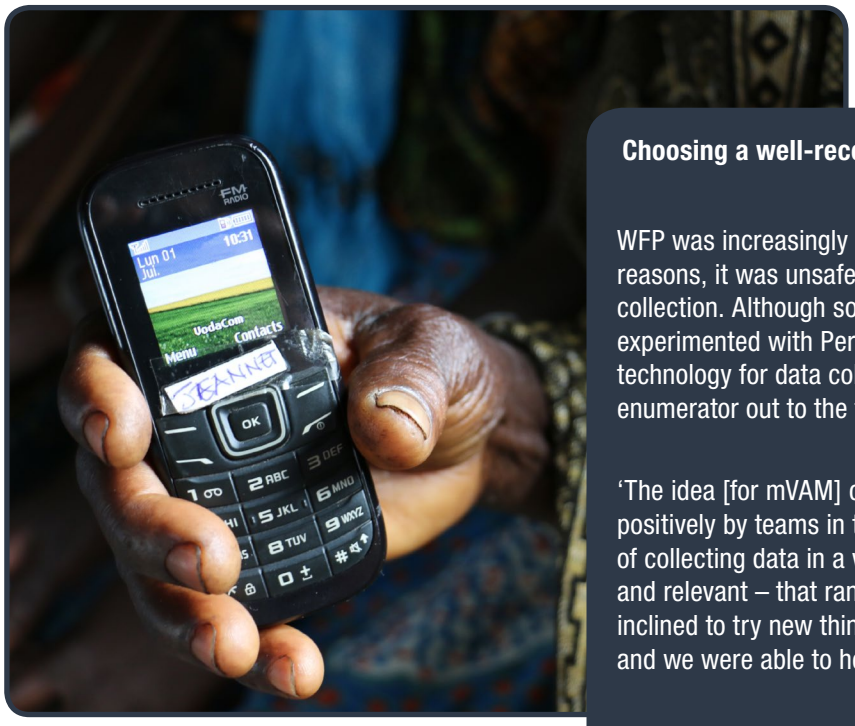
Based on these different compositions, innovating teams adopted an array of strategies to increase ownership amongst end users for both the problem/opportunity and the innovation itself.

BOX 4. OPPORTUNITY-DRIVEN INNOVATIONS

While rarer, some humanitarian innovations are driven not by problems, but by an opportunity to improve humanitarian programming. In the *Community-based financing for DRR* case study, Wetlands International developed the Bio-rights approach to sustainable development in the early 1990s. This uses a microfinance mechanism to incentivise community-based ecosystem conservation while also supporting development outcomes such as sustainable livelihoods. The Bio-rights approach had only ever been applied to development contexts. When Wetlands International joined Partners for Resilience, a consortium of Netherlands-based NGOs seeking to use an integrated approach to DRR, senior staff felt Bio-rights would be applicable to a DRR context and decided to pilot it with CARE in Guatemala. Wetlands International generated useful lessons from the pilot on how to adapt the Bio-rights approach and has since diffused it in a much larger DRR project.

In *SMS Feedback in Somalia* and *Listening to the Voice of Haitians,* both of which used technology-based innovation to improve accountability to affected people, a mixture of two elements drove opportunities for innovation. There was an awareness of new technologies (in these cases SMS and IVR) as well as recognition that a particular operating context would be particularly appropriate to trying to use this technology for humanitarian purposes (Haiti, as it transitioned from emergency response to recovery, and Somalia, with its unique challenges because of constrained access).

During the recognition stage, this requires first mapping out the end users and primary beneficiaries of an innovation, as well as identifying some potential gatekeepers. A next step is to identify ways either to involve the end user perspective in the innovation process (if there are end users who already recognise the problem) or to find ways of convincing end users that this problem exists and should be addressed. Some innovating teams started drafting user profiles and compiling possible design criteria for the innovation based on their understanding of users. This was continued in the ideation stage.



Choosing a well-recognised problem: *WFP's mVAM*

WFP was increasingly working in places where, for various reasons, it was unsafe or expensive to send staff out for data collection. Although some WFP country offices had previously experimented with Personal Digital Assistants and other technology for data collection, these still required sending an enumerator out to the field with the device.

'The idea [for mVAM] came from us, but was picked up positively by teams in the field. We were facing a big challenge of collecting data in a way that was affordable for WFP, quick and relevant – that rang bells for a lot of people who were inclined to try new things, so the demand came from the field and we were able to help people out.'

Jean-Martin Bauer, WFP Analyst, *WFP's mVAM* case study

Photo: WFP-provided cell phone (through HIF funding) held by a respondent in Mugunga 3, Democratic Republic of Congo (DRC). Credit: WFP/Lucia Casarin

4.2.2. Ideation

What is the potential improvement for humanitarian action?

What is it?

This is the most creative function in an innovation process – the phase in which new ideas are generated (invention) or existing approaches significantly rethought (adaptation) as potential pathways to improved humanitarian performance.

What are the challenges to doing it in a humanitarian context?

The art of ideation lies in creating or adapting ideas to do things differently. Drawing on a diverse set of inputs – including technical experts, other innovators, those familiar with the humanitarian context and potential end users – is key to generating ideas that are aspirational but also realistic and practical. The first challenge lies in fostering the right relationships or platforms for discussion that allow humanitarian innovators to draw on expertise outside their field. A second challenge is moving forward past the early 'fun' activities of brainstorming and focusing the innovation process. A third lies in finding the most appropriate way to involve end users in the early design stages of ideation. Here, the principle difficulty lies in incorporating end user preferences without overburdening them with repeated and prolonged focus groups and interviews, or raising their expectations for a potential prototype.

The basics

A first activity in ideation is developing a set of design criteria to assess different ideas that arise from brainstorming. These design criteria can be informed by: aspects of the problem, desired performance metrics, needs and preferences of end users, and end user or gatekeeper incentives. They help 'test' ideas either by grounding them in the reality of users or by assuring they fall within the scope of the problem or opportunity.

At its most basic level, ideation relies on creating an environment in which individuals feel able to suggest ideas. This is strongly influenced by the success factor of 'Creating a culture for innovation' discussed in section 4.1.7. When asked what, specifically, contributed to idea generation at the beginning of an innovation, project teams cited a 'no-blame culture', working with individuals who are passionate about the problem/opportunity, creating an environment of positive feedback, and building on ideas rather than shooting them down at the outset. Members of several innovating teams often gave credit for particular ideas to specific individuals when speaking about how their innovation had developed. This indicated a tendency to recognise and reward contributions, a practice that organisations seeking to improve their innovation practice could adopt.

How to do it well

Collaborating with others

Innovating teams can use advisors and advisory groups to fill gaps in their background knowledge and expertise. Some grantees created advisory groups of potential end users; others recruited technical experts (e.g. experts in particular software and IT tools) or sectoral experts (e.g. experts in communicating with communities, DRR) on an individual or group basis to advise on their project. Innovations that were adapting a pre-existing approach or tool benefited from involving individuals who had previous experience working with it. These individuals either acted as advisors who could be called on when in doubt, staying at arm's length of the project, or became members of an advisory group that was more formally updated on progress. It is important to set 'terms of engagement' either formally or informally.

Advisory groups can be an excellent source of brainstorming around the initial idea of an innovation. After this initial period of invention and adaptation, an innovation manager must guide the advisory group through key decision points to progress to more focused development around a selected idea. Any substantial disagreements among advisors as to which direction an innovation should take can require a firm steer from the manager overseeing the innovation process. The *Humanitarian eXchange Language* team referred to this as 'calling it': the programme manager would call an end to debate and make a decision so the innovation process could move forward.

Organising an innovation process

Ideation, like Recognition, is an exciting creative process, and something is needed to make sure the innovation process moves beyond these early stages. A number of projects examined for this research encountered a tipping point where ideation activities became more focused and formed the first step of a defined and resourced project.

Funding incentivises clarification as to how an innovation could add value and be developed in practice. Production of a concept note can be a crucial moment in advancing the innovation process. The HIF grant application filled this role for *The Humanitarian Lessons-learned Genome Project*, *Community-based financing for DRR* and *Gaza Risk Reduction and Mitigation*. In other case studies, the concept note was a proposal to senior management.

This tipping point may also come in the form of a chance introduction to a like-minded organisation with the means and capacity to take forward the innovation. In the case of *The Humanitarian Lessons-learned Genome Project*, ECB had made some attempts to improve the accessibility of humanitarian evaluation results but had seen limited success. When the University of Groningen expressed an interest in taking on the problem, ECB was pleased to 'pass on the baton' and let the university take a lead role in innovating a solution.

While Recognition and much of early Ideation can be quite open and flexible, an innovation process needs to become more formalised, with a clear plan in place. Towards the end of their Ideation activities, several HIF grantees benefited from the creation of a 'roadmap' that outlined key milestones for the innovation to meet, based on the design criteria identified through the innovation team's early understanding of the problem area and needs. At this point, innovation managers should also begin to conceptualise or lightly plan the development stage of an innovation. This includes elements such as creating a more detailed protocol to assess the performance of an innovation, generating a loose timeline, drafting what the different steps of the development process may be, determining if agile approaches should be used (see Box 5) and identifying if pilots are necessary.

Continuous ideation in the *Mapping a Response* innovation process

'Invention, that was a step that went all the way from pretty much the first recognition of the problem when we started… The invention went from there to basically today, because you know, we're still inventing or adding things to OpenAerialMap as we develop it.' Cristiano Giovando, (formerly Humanitarian Openstreetmap Team (HOT)), key informant, *Mapping a Response* case study.

In several technology-driven innovation processes, teams frequently 'returned' to ideation activities throughout the lifespan of the innovation, creating new components for it to respond to newly discovered user needs or functions.

HOT was able to make this process more efficient and effective by keeping a detailed and well-organised record of previous ideas and brainstorming sessions using Git-Hub. The innovating team continues to use this as a reference for ideas and issues in the development of new components.

Photo: Satellite image of Tacloban, Philippines from HOT's beta version of OpenAerialMap.org. Credit: beta.openaerialmap.org

Generating and integrating evidence

Innovating teams benefit from an integrated understanding of the problem context and chosen solution. Typically, this means there are individuals who know the humanitarian context well and individuals who are experts in potential technical solutions to the problem being addressed. This integrated understanding is supported by the presence of a strong 'translation' capacity, often supplied by an individual with a mixed background in a technical area and humanitarian response. This frequently requires a person with a unique profile, such as a strong background in IT or engineering, for example, who takes a role at a humanitarian agency.

In Ideation, being aware of past attempts at addressing the core problem or area of practice is important both for building on existing learning and avoiding duplication of past efforts. Innovation teams can explore what has been tried before to make the process efficient and mitigate potential risks.

> **'[You're doing] research to make sure what you're actually doing in the first place hasn't been done before, or if there are any obvious blockers that are just going to stop you straight away, as soon as you actually got into a testing phase. So doing research beforehand saves heartache and energy later on.'**
>
> John Williams (formerly Université Laval)
> Key informant, *Improving Water Quality in Emergencies*

Engaging with end users and gatekeepers

A critical question that emerged during this research was how to effectively engage end users and gatekeepers in an innovation process, and at what stage. Ideation generates the broad idea for the innovation. In Ideation activities, engagement of end users and gatekeepers is intended to ensure the core idea for the innovation is relevant and a wide range of actors will be interested to adopt it. For this to become a reality, the following information is relevant:

- The needs and preferences of end users
- The capacities of end users
- The incentives (or disincentives) for change experienced by end users and gatekeepers

There were three observed options for acquiring this information in the case studies:

- Direct participation of a wide group of end users
- Representation of end user perspectives through an advisory group or partnership
- Representation of end user perspectives through secondary references, such as evaluations or external research

Whether and how to engage end users at this stage depends on which of the three compositions of end users and innovating teams (introduced above under Recognition) is present in an innovation process. Where end users are affected people, they could in theory participate directly in Ideation activities, in particular identifying and brainstorming ideas to address their problems. However, real examples of this in humanitarian innovation remain rare: there were no examples in this research of affected people participating in Ideation activities.

In the case that most approximated a user-centred design approach with affected people (*Improving Menstrual Hygiene Management in Emergencies*), the IFRC headquarters team identified the problems surrounding menstrual hygiene management in an emergency setting based on the feedback of affected people through secondary references (evaluations). Several years later the IFRC decided to create a new personal hygiene kit to address these issues. The IFRC team 'invented' the solution but used focus group discussions and interviews with affected people to develop the contents of the kit (see more below under Development).

In cases where end users are humanitarian aid workers, it is often not enough to understand their preferences and needs. Since the 'market' for humanitarian workers does not function like an economic market, it is also important to understand end user capacities and incentives for change, as well as to identify key gatekeepers, such as senior leadership or donors, and seek to address their concerns.

For innovations where the team includes end users, team members can use their own experience of the problem as a basis for understanding user needs. Yet these teams must avoid overemphasising their own perspective and crowding out the perspectives of other important end user groups.

4.2.3. Development

'How can it work?'

What is it?

Development activities bring an innovation to life. Through design, coding, manufacturing and/or project planning, the innovation is created. Development often occurs throughout the innovation process, from producing a 'proof of concept' – an initial design that can meet broad design criteria – to fine-tuning a successful prototype. Development activities tend to consume the bulk of resources in an innovation process. Successful development often relies on a good plan that creates structure but also provides flexibility to adapt a prototype in response to lessons learnt about the context, user needs and incentives, or the prototype's functionality. For this reason, development activities are often deeply intertwined with implementation activities.

What are the challenges to doing it in a humanitarian context?

Standard approaches to humanitarian project management and programming are not conducive to the activities needed in the development phase of an innovation process. Innovation processes are iterative and can be unpredictable, most of all in terms of timelines. The development stage is often where innovation processes start to face delays. This is inevitable given the uncertainty involved in working out an answer to the 'How can it work?' question. However, the fixed and often very short-term timelines under which humanitarian projects operate can create unnecessary and counterproductive pressures to force certain design decisions.

The basics

Development activities bring an innovation to life by answering the question, 'How can it work?' As an innovation progresses, an innovating team moves from:

- Asking this question at an abstract level: 'How can it work at all?
    - To asking it at an applied level but with a limited focus: 'How can it work in this particular context?'
        - To asking it at a broader applied level: 'How can it work in wider/more humanitarian contexts?'

The first question leads to a proof of concept – an initial demonstration that the innovation is feasible. A proof of concept will not meet all of the design criteria the innovating team is seeking, but it should show the idea is, in principle, viable for further development.

As described in McClure and Gray (2014), after validating an initial idea (proof of concept), innovating teams must add complexity to their testing of the innovation in order to see whether it can deliver against all design criteria. This moves the team to the second question: 'How can it work in this particular context?' As seen in the case studies, complexity can be added gradually through the lab-based or controlled-environment development of a prototype (e.g. *Improving Water Quality in Emergencies*) or in a field setting (e.g. *Motivation's appropriate and affordable wheelchairs*).

While development and implementation activities are closely intertwined, and often occur during the same time frame, the two sets of activities pose distinct questions which are important to distinguish in order to organise an innovation process and manage it efficiently.

How to do it well

Collaborating with others

Advisory groups deliver different benefits to an innovation process throughout its lifespan. A strategic approach to advisory group management and engagement can be helpful in making the most out of advisors' specific expertise

as the innovation progresses. For instance, technology-driven innovations such as Words of Relief and Humanitarian eXchange Language set up advisory groups featuring individuals with a diverse array of backgrounds. Their insights on the broader strategic issues that could affect the innovation process were very valuable, particularly in the early stages of the innovation. However, as the innovation progressed and the questions became more technical, it was considered useful for the project lead to coordinate separately with technical experts and more on an ad hoc basis. The Humanitarian eXchange Language Working Group, for instance, adjusted its structure and composition as the development stage progressed. As explained in its final Grant report to the HIF: 'The important lesson learned here is that different people and governance are needed for different stages of a standard's development. During the initial months, broad representation from many stakeholders can help pool expertise and build consensus, but the actual technical work of constructing the standard does not require broad representation, but instead, a high level of personal commitment and an interest in detail'.

Yet other advisory group members should be 'kept in the loop' with the possibility of participating further. At the end of the initial Ideation activities, or the beginning of the Development activities, it is important to establish regular 'check-ins' or feedback deadlines with implementers and developers, while also enabling stakeholders to feel they can reach out to the relationship manager on a rolling basis and receive a timely and reliable response.

Organising an innovation process

Using traditional humanitarian project management models to assess progress can lead to challenges during development activities. Delays are very common at this stage because of the iterative nature of the process (see innovation process diagram), which can cause frustration. To address this, humanitarian actors may benefit from looking more in-depth at the principles and approaches of agile design (see box 5), in particular at how these approaches are able to create clear roadmaps for progress while still enabling some flexibility with respect to timeline. When initiating development activities, several successful innovation teams used roadmaps to organise inputs from different collaborators, outline clear design criteria and identify a timeline for engaging end users.

Clearly dividing tasks and responsibilities can be helpful for managing the inputs of multiple organisations to different components of the innovation. In other cases, a fluid approach to tasks and responsibilities can enable individuals on a single team to share responsibilities when they have overlapping backgrounds or significant shared technical expertise. For example, Motivation assigned clear roles and responsibilities both internally and with partners during the *Motivation's appropriate and affordable wheelchairs* innovation process. However, given the extensive experience of the core team, the length of time they had worked together and the shared expertise of some members, they were able to act in a more fluid manner, covering for one another if necessary.

Generating and integrating evidence:

Innovating teams must integrate a range of information when developing an innovation. Feedback loops are often used to bring in this information, which the innovation manager must oversee. There are two key feedback loops that an innovation manager deals with in Development and Implementation (see Figure 4). The first concerns the Development question 'How can it work?' and is a feedback loop between the innovation manager and the developers of an innovation. Design criteria direct technical development activities which lead to a prototype. The innovation manager must then manage a second feedback loop to test the prototype and answer the 'Does it work?' question of Implementation. Feedback from Implementation activities—typically pilots—

BOX 5. AGILE APPROACHES TO MANAGING INNOVATION - ROADMAPS AND SPRINTS

'Agile project management allows for quick changes, encouraging innovation and responding swiftly. It avoids going down blind alleys and not meeting the needs. It's also recognition that developing software is really hard. Where you think you're going may not be where you end up. This approach is in a way a demonstration of a little bit of humility in that process.' Cristiano Giovando, (formerly HOT), key informant, *Mapping a Response*.

Agile approaches combine open learning with structured processes. This enables both the level of creativity needed to identify a better solution and the focus needed to generate progress on an innovation.

To achieve this, roadmaps are used in agile design to provide the key reference point for a project and describe the value proposition for the innovation as the team initially understands it. This is used as the basis to create initial design requirements for the proof of concept or prototype to meet. Roadmaps generally stay quite loose, allowing for the innovation to change as the process unfolds.

What allows agile processes to make concrete progress within this flexible plan is the use of 'sprints': short cycles of development in which innovating teams explore specific aspects of the problem or potential solution in order to make concrete progress and identify ways forward. Sprints contribute to new learning, which in turn can be used to revise or hone the roadmap.

However, further work is needed to adapt agile approaches to humanitarian innovation. Sprints are useful for development activities with technical experts, but they may not be as useful when piloting with potential end users. Pilots carried out using bug-ridden software with humanitarian workers as end users risk inducing fatigue with the innovation and reluctance to continue using future iterations.

Source: Adapted from Kimbell (2014).

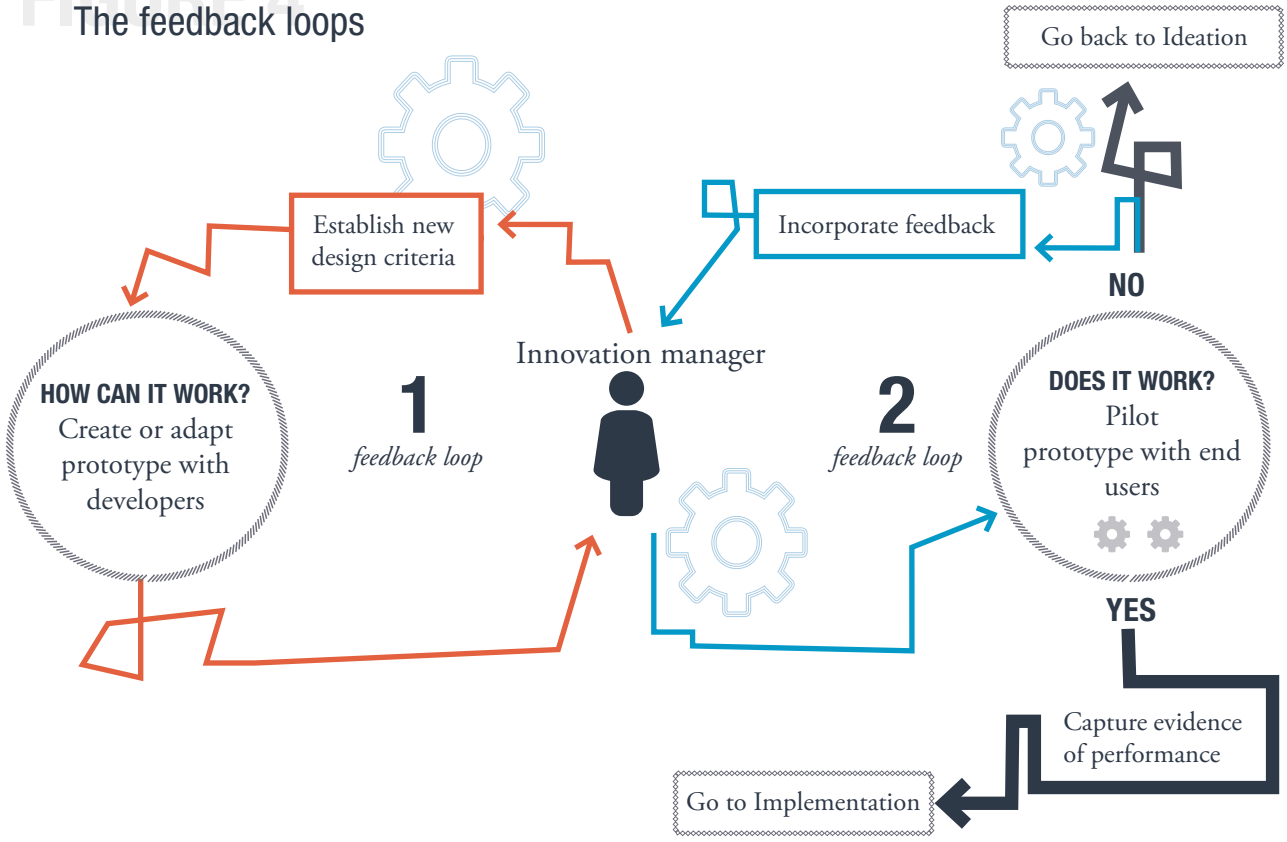
can lead to diffusion, or, if further refinements are needed, can be drawn back up into Development activities. These come in the form of either technical refinements by developers or, at times, indications that the innovation team should rethink the innovation. In this latter case, the innovation manager may return to Ideation, to refine the overall idea for the innovation.

While best practice will depend significantly on the type of innovation and the context in which it is being trialled, many case studies indicated that faster feedback loops for Development activities were more effective than longer feedback loops. Faster feedback loops were found to be particularly effective for the following:

- Development of a proof of concept (with representative end users)
- Development of a prototype (with representative or friendly end users – primarily as pilot participants in non-emergency settings, or as members of an advisory group or steering group)
- Early Diffusion, when potential early adopters have requests for further adjustments that must be actioned quickly in order to avoid losing momentum

FIGURE 4

The feedback loops



Engaging with end users and gatekeepers

At the Development stage, engagement with end users and gatekeepers focuses on generating input for the design of the innovation. However, it is also important for innovating teams to think about how they will approach Diffusion once the innovation is fully designed.

As described above, during the development of its Menstrual Hygiene Kits, the IFRC East Africa Regional office, in partnership with national societies, carried out focus group discussions and key informant interviews with women and girls to improve the evidence base for MHM in emergencies and to select the contents for the kits. Focus group discussions were held prior to the distribution of two types of kits, then after one month of use and finally after three months of use. User engagement helped identify what should come as standard in the kits (e.g. reusable or disposable pads) and what needed to be adapted to local context (e.g. type of bathing and laundry soap).

These participatory techniques should be encouraged; they align with existing humanitarian commitments to accountability and participation of affected people and help ensure humanitarian innovation is responding to the needs and interests of affected people. More work in this area could be explored, and does not require the development of sophisticated new tools. In the IFRC case, the team used standard consultation practices from participatory methodologies that have existed in the aid system for decades.

When end users are humanitarian staff, innovators need to be careful to avoid overburdening end users, especially country and field staff, with demands for their input. Innovating teams also need to maintain the right balance between soliciting input and providing a tangible prototype to end users so as to create momentum for an innovation. Innovations should be fairly well developed before use in an emergency context, as humanitarian workers are unable to offer timely feedback for further development, and often seek more fine-tuned 'off-the-shelf' innovations that can work fairly well with minimal support or tweaking.

Iterative loop: When might you find yourself back at development?

Continuously, while engaging in Implementation [Tip: Clearly identify what you are learning about the innovation in each implementation context, and how that context might shape its performance. This can help you refine your answers to the 'How does it work' question, building prototypes that can apply to a wider range of contexts.]

Using multiple testing sites to develop a new water treatment system

In the *Improving Water Quality for Emergencies* case study, a team based at Université Laval partnered with Oxfam GB and AquaPlus, an India-based manufacturing company, to develop a new water treatment system that could process higher quantities of water more quickly in emergency settings.

The development process was highly iterative and used two separate labs for testing design features. One lab was based at the AquaPlus offices in Pune, India, and the other was based at the Université Laval campus in Quebec City, Canada. Research assistants in India ran experiments with a prototype on a daily or weekly basis to test the effects of different design changes. For straightforward problems, the main prototype was modified immediately at the lab in India. Problems that were less clear were referred back to Université Laval, where further desk-based research could be carried out and potential ideas tested quickly using a much smaller model of the treatment system. Ideas that passed testing in the Quebec City lab were then trialled in the Pune lab with the full-sized prototype. Research assistants based in Université Laval and in India worked simultaneously, feeding information back and forth throughout the development process.

Photo: An early prototype of the Inclined Plate Settler, at the testing site in Pune, India. Credit: Dorea et al (2014).

4.2.4. Implementation

'Does it work?'

What is it?

Implementation is the practical application of an innovation, typically for the purposes of understanding whether it works as intended when brought outside a controlled testing context. If successful, innovating teams or their collaborators then seek to take implemented innovations to scale. Implementation activities include lab tests, pilots and field-testing of processes or products.

What are the challenges to doing it in a humanitarian context?

Implementation consists primarily of piloting, which presents a host of challenges for a humanitarian context. It is common wisdom in broader innovation circles that innovating teams should aim for fast iterations during implementation and development. According to this view, innovators should implement a prototype, identify bugs, fix these and implement again. In an emergency setting this is very difficult to do, and, based on the case studies, it is not advisable. Field or country staff need products and processes that can work for them at least to a minimal level in an emergency. As Ian Gray stated in relation to *Speed Evidence*, 'Naturally people's tolerance level and bandwidth is much lower' for dealing with problems in a prototype in the early days of a response.

Even when prototypes are well developed, there are still hurdles to implementation. Humanitarian operations rely on getting large quantities of supplies to crisis-affected areas as quickly as possible, often within 24 hours. This can make it difficult to pilot new products, even those that have been well developed and pose a viable benefit to the intervention. One HIF grantee described the attempt to add a testable prototype to their agency's response package as feeling like 'David against Goliath'.

The basics

Implementation complements Development. Both sets of activities often occur in close succession and in connection to one another. In Implementation, innovating teams learn whether their innovations are achieving expected results through experimentation via trials and pilots.

The primary task of implementation is preparing one or more pilots to gather feedback for the improvement of the prototype. Based on the case studies, good pilots have the following features:

- Early piloting of prototypes can be done in non-emergency settings that resemble the settings in which humanitarians often operate – that is, low- to middle-income countries. For example, the first prototypes in *Motivation's*

appropriate and affordable wheelchairs were tested in non-emergency settings in Kenya and Pakistan; the water treatment unit in *Improving Water Quality in Emergencies* was trialled in India). This allows for faster feedback loops and ample time to explore what is working and what isn't.

- Emergency settings can be considered for well-developed prototypes, and should be selected strategically, based on how well a crisis setting exhibits the core problem or area of improvement the innovation is targeting. For example, several innovations featuring remote engagement with affected people performed extremely well in the Ebola crisis.
- Strong relationships and communication between an innovating team, which might be based at headquarters, and the country offices in which innovations are piloted.
- Pilot participant feedback is captured and appropriately incorporated into the innovation.
- Evidence generation is clearly built into pilots. Innovating teams can commission formal research or evaluations to gain generate evidence.

"When implementing a pilot project in an ongoing humanitarian crisis — where many communities affected by the crisis are in great need of basic services, and where the national and international responders work hard to address those needs — one has to both try to engage as many as possible, as well as be honest about what our innovation can possibly do and what it may not be able to do. This also becomes a question of ethics, as you are in reality asking people to take part in your experiment, when they are under very difficult circumstances."

Karen Kisakeni Sorensen (Danish Demining Group)
Key informant, *Linking Mine Action to Communities*

How to do it well

Collaborating with others

Collaboration in Implementation activities focuses primarily on working with others to facilitate or implement a pilot. Pilots can be conducted through partner organisations or internally with country or field teams. When working with partners, it is important to have already fostered trust and to establish open communication between the project lead and the partner focal point. In the cases of *The CMAM Report* and *Humanitarian eXchange Language*, the innovating team took a very active 'support role', answering any questions from implementing partners and responding very promptly on any reported issues or bugs.

When piloting through country or field teams within the same organisation, it is important to empower teams and respect their understanding of the local context. This was seen as particularly important in the case of IFRC's *Improving Menstrual Hygiene Management in Emergencies*. Project management was handed over to IFRC's East Africa Regional Water and Sanitation Unit,

which then implemented a field test together with the Burundi Red Cross. The role of headquarters staff in this project was primarily as 'knowledge broker'. This reflects the decentralised structure of IFRC but also how Diffusion can commence early on. This respect and trust between head and country and field offices supported effective pilots and built ownership for the solution, and was also found in *WFP's mVAM* and *The CMAM Report*.

Organising an innovation process

A pilot is a 'test' of the innovation in a real-world context. In some cases, it may be useful to carry out multiple pilots in order to answer the 'Does it work?' question for a wide range of contexts and explore the scope of an innovation's viability.

Organising a pilot requires flexibility and a readiness to capitalise on a little bit of luck. Once a prototype is past the early Development phase and can be potentially implemented in an emergency setting, innovation managers should ensure it can be deployed swiftly. Different approaches can be taken depending on the nature of the innovation. In *WFP's mVAM*, the team relied on good relationships with gatekeepers to WFP's emergency response, in this case presenting the innovation to the lead for WFP's ebola response, who signed off on its implementation in West Africa. Advisory group members involved in humanitarian response can also provide an avenue for piloting at the individual level. In *The CMAM Report*, advisory group members from Concern Worldwide, International Medical Corps and GOAL piloted the software within their own organisations and fed back to SCUK on the software's functionality. In *Humanitarian eXchange Language*, one of HXL's advisory group members tested the innovation during his deployment to the Nepal Earthquake response. Innovating teams can also prepare for potential deployment by creating stockpiles of an innovation in strategic locations, as Motivation did with its *Motivation's appropriate and affordable wheelchairs*, working with partners Handicap International and Johanniter International.

A clear division of tasks and responsibilities is also important, as this contributes to well-organised pilots, which in turn had a positive impact on uptake. For example, WFP drew on a clear assignment of tasks and responsibilities to execute a pilot of its mobile-based food security survey during the Ebola crisis. In this pilot, roles and responsibilities were seen as essential to managing the risk of implementing an innovation in an emergency setting, which in turn allowed WFP to monitor potential issues in data credibility while adapting easily to the staff structures of country offices. The high profile of this crisis, combined with a smoothly run pilot, generated positive attention for the innovation and created a receptive environment for scaling.

Iterative loop – when might you find yourself back at Implementation?

During Diffusion, which may begin prior to completion of the implementation phase. Learning from these early Diffusion activities can be used to hone a prototype.

Tip: Build iterative loops between diffusion and implementation so a diffusion strategy can be informed by a better understanding of end user preferences generated through the implementation activities.

The importance of selecting appropriate pilot sites

DRC's *SMS Feedback in Somalia* was first piloted in Somaliland and Puntland for a community-driven reconstruction and development (CDRD) programme. However, in its first three months, the system received only around 50 verifiable SMS texts. There were no immediately clear reasons for this low uptake. Yet, when DRC had the opportunity to pilot the innovation with a cash transfer programme in Mogadishu, over 150 SMS texts were received in a period of the same length.

One reasonable explanation for this difference is that community participation is central to the CDRD programme, which therefore limited the need for communities to use the SMS system. By contrast, cash distributions are more likely to be short-term interventions characterised by limited engagement with beneficiaries—a context in which the DRC's SMS system could offer a bigger improvement. (Scriven, 2013).

Generating and integrating evidence

Protocols, guidelines and standards identified in early Development activities are a significant enabler to answering the question 'Does it work?' They provide a clear set of criteria an innovation must meet in order to be considered effective. They also provide a framework of comparison for understanding whether an innovation offers an improvement over current interventions. Feedback loops are a critical part of Implementation, as they generate the information used to answer its core question: 'Does it work?' Feedback loops also strongly connect Implementation to Development (see Figure 4). As mentioned above, feedback loops for technical development activities tend to work better when they are focused and use shorter timeframes. Feedback loops used to answer the 'Does it work?' question in piloting, on the other hand, often featured longer timeframes and were broader, in order to capture the range of needs and preferences of pilot participants. 'Closed' feedback loops, in which learning and feedback from end users or pilot participants is fed back into the design process, contributes both to generating consolidated learning and evidence and to the quality of the innovation. The presence of an individual with specific responsibilities to action this feedback is useful; in cases where this responsibility is not allocated, planned review activities can ensure this feedback is actioned.

Engaging with end users and gatekeepers

Many innovations engaged end users directly in Implementation activities by involving them as pilot participants. However, this was done most successfully when innovating teams were able to effectively manage expectations and create clear timelines for taking on and responding to feedback. This is particularly important when implementing in a humanitarian response setting. Engaging with end users too early, with a prototype that is not fully formed or that cannot demonstrate results, can damage the way the innovation is perceived and impact on how end users react to it later.

In the case studies, grantees balanced these competing demands by working with an end user as a partner or inviting end users to participate in an advisory group, as well as by drawing on strong working relationships with field and country teams to carry out pilots. In some cases, problems can be avoided by doing pilots with 'critical friends'. In the case of WFP, these critical friends were former colleagues of the project lead. They trusted and respected his expertise, and expectations were well-managed. Such critical friends can also come through broader communities of practitioners or working/advisory groups.

BOX 6. INNOVATING IN A CONFLICT SETTING: DANISH DEMINING GROUP

In *Linking Communities to Mine Action*, DDG sought to develop and pilot a digital platform for communicating with civilians affected by conflict to improve the accessibility of information about the location of unexploded ordnances (UXOs) and mines. This leads to quicker action by clearance organisations and supports life-saving behaviour choices and coping strategies for civilians.

This case study illustrates the challenges facing humanitarian innovators in conflict or post-conflict settings. DDG took significant precautions in order to undertake the innovation process responsibly, in a way that did not violate their commitment to 'do no harm.' DDG used stakeholder mapping, to identify key local stakeholders such as government bodies and local NGOs, and planned ways to engage them in the innovation process. Working with CartonNG, DDG carried out an extensive Knowledge, Attitudes and Practices (KAP) survey and focus group discussions to identify the information needs of civilians in Eastern Ukraine at the outset of the project, in order to inform design of the digital platform. Similar focus groups were used twice again during the development activities of the platform. DDG considered diffusion from the outset of the project, planning to handover the innovation to the Ukrainian State Emergency Service and invested significantly in partnership with the SES.

Despite these efforts by DDG, this innovation process faced a number of critical challenges. Although many stakeholders, including the Ukrainian government, recognised the problem that DDG's innovation was aiming to address, their capacities were often too stretched to invest adequate time to support the innovation. Conflict settings, such as the one in eastern Ukraine, are also highly politically sensitive, posing particular challenges to an innovation that seeks to improve two-way communication between civilians and aid agencies or government authorities. While civilians showed interest in the platform, they also expressed fears that submitting information to a digital platform could expose them to political harassment or reprisal. As a result, one of the core innovative components of the digital platform—the crowdsourcing and sharing of information on the location of mines and UXOs with affected people—had to be significantly revised.

This reflects the difficulties in innovating in conflict settings, particularly innovations targeting accountability or communication with affected people. Such settings are often highly politically charged, thereby increasing the potential harm if an innovating team misjudges the potential consequences of their innovation process. This also reaffirms the finding from other case studies that piloting innovations in emergencies prior to early development and implementation cycles is very challenging, as there is no pre-existing tangible evidence that the innovation will work, and there are also more 'bugs' to be ironed out, which can be challenging to do in a conflict or post-conflict response.

4.2.5 Diffusion

How can wider ownership for this improvement be achieved?

What is it?

Diffusion is concerned with achieving wider ownership of the idea for improvement. This is done by taking an improved solution 'to scale' by promoting its use by others. It consists of three main activities:

1. Accurately identifying who the innovation is for and who else needs to change in order for it to work
2. Cultivating ownership for the innovation
3. Sustainably resourcing the scaling of an innovation

These activities can be focused internally, at the country offices of a large international organisation, or externally, to governments and other organisations in the sector. Diffusion can also occur through many different mechanisms, from commercialisation of an innovation to the use of grant or core funding. Diffusion is possibly the most complex and difficult aspect of innovation, as it is the stage that depends most on factors outside the control of the innovating team.

What are the challenges to doing it in a humanitarian context?

In the private sector, the purpose of innovation is ultimately to create greater profit for the firm. In the humanitarian context, the purpose of innovation is to bring about improvements in humanitarian assistance. This creates a more complex picture for humanitarian innovation, in two ways. First, as the focus is on change, the 'selling' of humanitarian innovation is more political and more akin to organisational change processes than to marketing. This can require partnership-building with governments or advocacy with others in the sector, bringing humanitarians closer to work that is traditionally associated with development actors. Second, there are both supply- and demand-driven mechanisms in the humanitarian system, leading to a diverse set of ways in which scaling can be resourced. There is currently little evidence to help humanitarian innovators select certain resourcing models over others. Moreover, there are very few tools to assist humanitarian innovating teams seeking alternatives to using core or grant funding to support their scaling activities.

The basics

Uptake of innovation in the humanitarian sector often seems erratic because it is based on the personal biases, interests and areas of influence of different actors. While there certainly is no 'recipe' for successful innovation, common trends observed across the case studies point to a set of diffusion activities that innovating teams can use to achieve uptake.

In the humanitarian context, there has been confusion over what scaling means (Ramalingam et al., 2015). This is because diffusion is not simply about finding a sustainable way to produce an innovation in a 'market' once it has been piloted successfully. Humanitarian innovation is about creating improvements in humanitarian performance and it is therefore concerned with broader change processes. To navigate this effectively, humanitarians need to answer three questions in their diffusion activities:

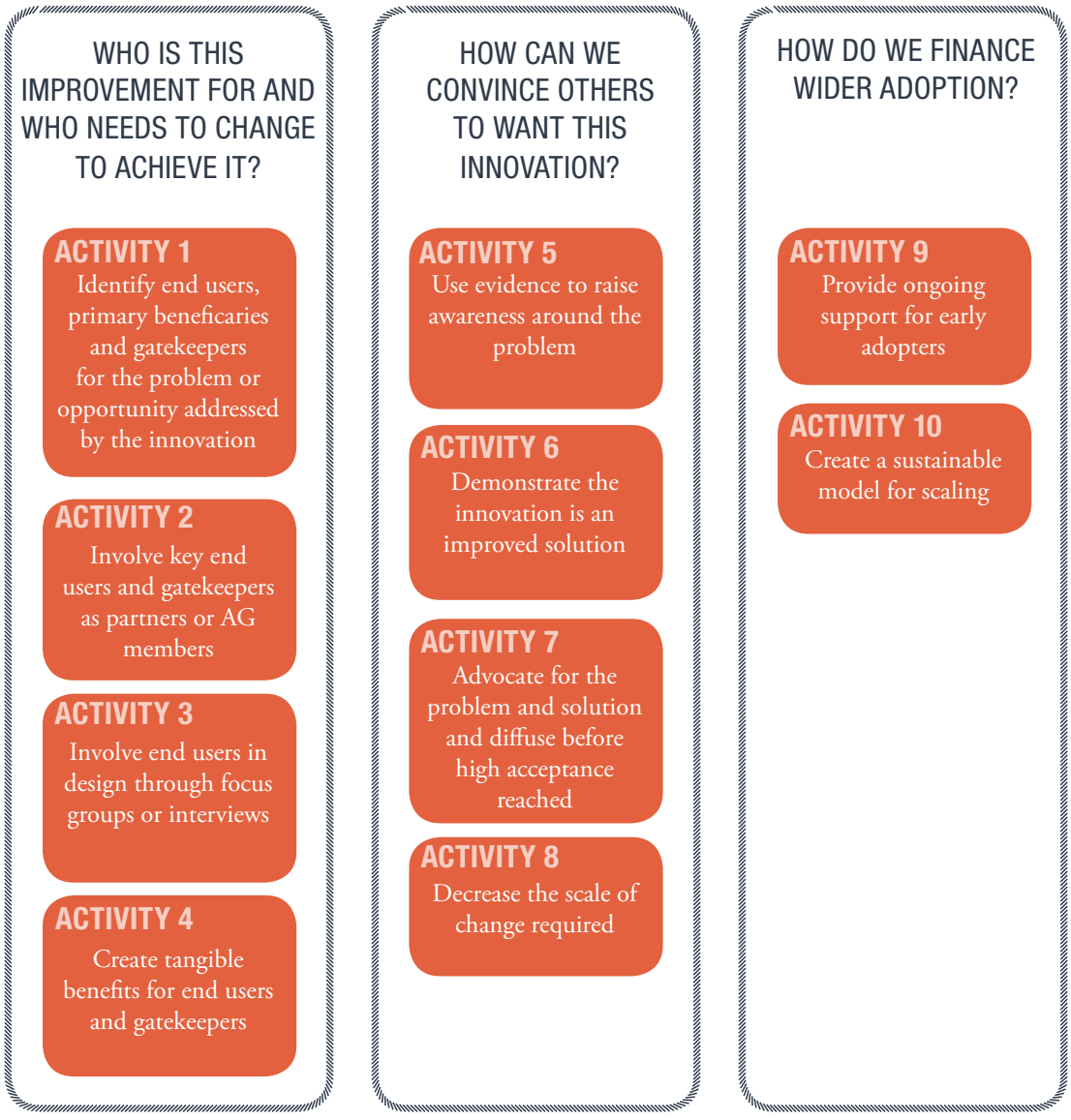
- **Strategising for diffusion:** Who is this improvement for, and who needs to change to achieve it? This should occur early on alongside Recognition and Ideation activities. Innovating teams must be able to accurately identify whom the innovation is for (primary beneficiaries) and who else needs to change in order for it to work (end users, gatekeepers).
- **'Selling' the problem and/or solution:** How can we convince others to want this innovation? As an innovation progresses, innovating teams need to try to maintain an outward-facing focus on sharing key information about the innovation to external parties. This can be difficult to do while engaging in the inward-facing activities of Development and Implementation, but is critical for an innovation to achieve timely diffusion. These activities centre on cultivating a wider ownership for the innovation.
- **Scaling:** How do we finance wider adoption? This final set of activities concerns the actual transfer of ownership to others by finding ways to increase production of an innovation and/or support its adoption in other organisations. Depending on the type of innovation, there are different approaches to sustainably resourcing the scaling of an innovation; innovating teams should seek to understand these options as early as possible.

How to do it well

Successful innovating teams tended to be those that, at some point in their process, created strategies to help them answer these questions and to deal with the particular configuration of end users, primary beneficiaries and gatekeepers in their innovation space. For greater accessibility, this section is ordered according to the different diffusion activities that contribute to success and the questions they help the innovation manager address, summarised in Figure 5. The seven success factors remain relevant and important here, and the relevant success factors are indicated next to each of the diffusion activities.

FIGURE 5

Acceptance of the innovation



Strategising for diffusion

Activity 1: Identify end users, primary beneficiaries and gatekeepers for the problem or opportunity addressed by the innovation
Managing risk

As an initial step, innovating teams should ask themselves the following questions:

- Who will primarily benefit from this innovation?
- Can these individuals choose to adopt this innovation if they want, or are there gatekeepers?
- How are we going to ensure the design remains relevant to our primary beneficiaries?
- Who might be the other end users of this innovation and how can we make the design relevant and beneficial to them?
- What are the incentives and key relationships for gatekeepers that are relevant to this innovation?

Activity 2: Involve key end users/gatekeepers as partners or advisory group members
Engaging with end users and gatekeepers

Another strategising activity is to involve key end users or gatekeepers as partners in a project or as advisory group members. This is a common activity for innovations managed by non-implementing 'outsiders': *Words of Relief*, *Motivation's appropriate and affordable wheelchairs* and *The Humanitarian Lessons-learned Genome Project* worked to develop strong partnerships and advisory relationships with implementing humanitarian actors in order to learn how to reach a broader range of end users.

Activity 3: Involve end users in design through focus groups or interviews
Engaging with end users and gatekeepers

Another approach to ensuring an innovation remains relevant and well connected to the preferences and needs of end users is to adopt user-centred design methods, such as focus groups or key informant interviews. This is particularly important for innovations in which the end users of an innovation are affected people.

> **"I think in the NGO world, there seems to be a big hesitance of taking on board what others have developed. We always seem to prefer having our own logo printed on something, which I think is really sad to see. Sometimes [it's about] timing, so there's not really the openness and flexibility to just say, 'Actually, others are already ahead of us. Why don't we drop our idea and join the others?' Often it's not really an option, unfortunately. Then I think often we don't know enough about what the others are doing. We are living in our own world, thinking that what we know is enough, and there's not enough sharing."**
>
> Regina Kopplow (Concern Worldwide)
> Key informant, *The CMAM Report*

Activity 4: Create tangible benefits for end users and gatekeepers
Managing risk
Engaging with end users and gatekeepers

A final activity is to create tangible benefits for end users and gatekeepers if they are not already primary beneficiaries of the innovation. This is done by including design criteria into the innovation process that are targeted at these end users and gatekeepers. These 'carrots' added into an innovation can mitigate the risk of a failed diffusion by broadening its appeal.

'Selling' the problem and/or solution

Activity 5: Use evidence to raise awareness around the problem
Generating and integrating evidence

In some cases, humanitarian innovations are a response to a problem that is not widely recognised or owned in the humanitarian system. These innovation processes face an uphill battle in diffusion. Not only must they try to gain acceptance for their innovation but also they must first work to ensure the problem is an important one to address and raise awareness around it. Generating solid evidence to support the need for the innovation makes a strong contribution to its diffusion. For example, in *The CMAM Report*, SCUK and the Emergency Nutrition Network produced a high-profile Network paper for the Humanitarian Practice Network highlighting the issues in monitoring data for malnutrition programming, which galvanised support for their innovation process. In *Words of Relief*, an impact study commissioned by Translators without Borders highlighted the problem of the lack of local language translation in humanitarian messaging with affected people, as well as provided evidence that the *Words of Relief* network of local language translators was effective at addressing this problem.

Activity 6: Demonstrate the innovation is an improved solution
Generating and integrating evidence

Even if there is good recognition of a problem in the humanitarian system, potential end users may not be convinced that the innovation on offer is the best way to address it. Therefore, it is also important to generate credible evidence that an innovation offers an improvement over status quo practices, through comparative testing, impact studies and field demonstrations.

Activity 7: Advocate for the problem and solution and diffuse before high acceptance reached
Organising an innovation process
Generating and integrating evidence

Some innovations start small with incremental changes in order to address problems not widely recognised or prioritised by humanitarian actors. For example, menstrual health was a long-neglected issue in the WASH sector when IFRC began its development of a personal kit for MHM in 2011. The idea was not a radical departure from current practices, and one of the aims of the IFRC staff involved was to use the project to gain wider acceptance and attention to MHM issues in the WASH sector. Timing is critical for these innovations: waiting to diffuse too late can lower the unique impact of an innovation, as practice in the sector may have shifted to broader acceptance of the problem and a greater openness to more radical solutions.

Activity 8: Decrease the scale of change required
Organising an innovation process

Innovations that offer a high degree of change from current practice face a different set of challenges in diffusing. In these cases, end users and gatekeepers perceive the required behaviour change to be quite significant and possibly unfeasible. If the level of change the innovation offers is high, then an innovating team can attempt to adjust the degree of change its innovation offers, lowering it to a more acceptable level. This was the approach taken by OCHA in its *Humanitarian eXchange Language*, when the original idea proved too radical for potential end users to accept. Here there may be a need to return to Ideation to identify a new overarching idea for the innovation or to find a way of breaking up the innovation into smaller parts, thus creating steps in the change process.

Scaling

Activity 9: Provide ongoing support for early adopters
Collaborating with others
Engaging with end users and gatekeepers

Ownership plays a critical role in scaling. Several key informants felt that innovation in the humanitarian sector is hampered by the so-called 'not built

here' syndrome: the tendency for humanitarian organisations, particularly larger UN agencies and INGOs, to favour developing their own products or processes rather than adopting innovations developed by others. Because of this phenomenon, there is a tendency towards de-branding innovations and making technology-driven innovations open source in order to support wider adoption, as agencies can adapt solutions to be 'their own' in some way.

However, evidence from the case studies indicates that, while making an innovation open source can certainly contribute to development activities and can support adoption, on its own it is rarely an effective activity for diffusion. This is because the 'not built here' bias is only one of the reasons agencies do not take on new innovations. Another reason is simply that agencies are wary of adopting new products and processes if there is no reliable support available to help them understand and use these effectively.

'I think having the dedicated team that has been in place [has] worked really well, because there's been a focal point driving forward the development of the software, and project managing it, and that gives a contact to those externally as well. Having the help desk so that country offices can get support as well has been a real success of the project.'

Nicki Connell (Save the Children US)
Key informant, The CMAM Report

For this reason, the adage 'build it and they will come' does not appear to hold true for innovation in the humanitarian sector. While open-source and crowd-source innovations seem attractive because of their de-branded and cost-effective mode of operation, in order to work well they rely on strong existing communities made up of multiple end users who already possess a sense of ownership over the innovation. Where these communities do not exist, an innovation's diffusion relies on advocating for it and passing ownership to potential end users. These potential end users may be discouraged from engaging if there is no clear support line to introduce them to the innovation and answer their questions on how to use it. For this reason, early adoption of several technology-driven innovations in the case studies was strongly supported by the presence of a clear support function for early adopters. In nearly all cases, the same person who held the relationship management role throughout the innovation process delivered this function. This seemed to allow 'ownership' to pass from the originator of the innovation to early adopters, who then become 'owners' themselves.

"Investing in an open source software project that is backed by an existing community is a very good bet for an innovation funder. It creates a situation in which this resource, which is to say the body of code and the services that are built on that code, have the ability to continue forward, to continue creating value, and continue to be incrementally extended past the life of the grant. But the presence of an existing community is absolutely crucial. Building a new open source community is a very difficult thing. It takes a lot of effort to create the cultural conditions and the alignment of interests among a group of people who do not share any common financial interest, and create that in a way that is self-sustaining."

Schuyler Erle (independent consultant)
Key informant, *Mapping a Response*

Activity 10: Create a sustainable model for scaling
Collaborating with others; Resourcing an innovation

A variety of mechanisms can be used to scale an innovation:

- Partner with a private sector organisation that will produce the innovation at scale and market it (e.g. *WFP's mVAM*, *Improving Water Quality in Emergencies*).
- Partner with a government that will take on innovation and implement it (*Community-based financing for DRR*, *Linking Communities to Mine Action*).
- Provide the service for free, or sell it directly to humanitarian agencies (*Motivation's appropriate and affordable wheelchairs*, *Words of Relief*, *The CMAM Report*, *The Humanitarian Lessons-learned Genome Project*, *Mapping a Response*, *Humanitarian eXchange Language*).
- Implement internally (*Improving Menstrual Hygiene Management in Emergencies*, *The CMAM Report*, *WFP's mVAM*, *SMS Feedback in Somalia*, *Gaza Risk Reduction and Mitigation*).

In general, it is important to bear in mind that the objective for humanitarian scaling is improvement to humanitarian assistance, not profit. For this reason, even commercialisation of an innovation will often need to be paired with strong advocacy for its use.

Thinking about diffusion in the earliest stages of the innovation is important for success. However, many humanitarian innovators lack the tools to help them think through the different issues that are relevant to diffusion and to devise plans to manage these. The Business Model Canvas[5] is a tool developed for private sector use by entrepreneurs to design business models around their innovation processes. Innovation researchers are currently exploring how to adapt this model for a non-profit environment (Gray and MacClure, 2016; Tidd and Bessant, 2016) and this may serve as a fruitful area for guidance for humanitarian innovators on sustainably resourcing the diffusion of their innovations.

5 See http://www.businessmodelgeneration.com/

CONCLUSIONS

5. Key issues looking ahead

This report has presented a synthesis of findings from 15 case studies of humanitarian innovation processes. In order to introduce humanitarian innovation to a more general audience and make progress in the system's understanding of how to innovate successfully, the report posed two core questions:

1. What does a successful humanitarian innovation process look like?
2. What are the factors that enable success in innovation management in the humanitarian system?

As described in the Introduction and Section 3, a successful humanitarian innovation process is an iterative process of identifying, adjusting and diffusing ideas for improving humanitarian action that leads to 1) Consolidated Learning and Evidence, 2) an Improved Solution for humanitarian action and/or 3) wide Adoption of an improved solution. Humanitarian innovation processes progress through a set of often overlapping and repeating activities that seek to answer the following five questions:

1. **Recognition:** What is the problem or opportunity for improving humanitarian action?
2. **Ideation:** What is the potential improvement for humanitarian action?
3. **Development:** How can it work?
4. **Implementation:** Does it work?
5. **Diffusion:** How can wider ownership for this improvement be achieved?

Section 4 described how innovating teams that effectively engaged in these activities tended to have the following success factors in place:

- Collaborating with others
- Generating and integrating evidence
- Resourcing an innovation
- Creating a culture for innovation
- Organising an innovation process
- Engaging with end users and gatekeepers
- Managing risk

These factors may not be necessary or sufficient on their own for successful innovation. However, based on the case studies, when innovation processes are successful, these factors tend to be present and are understood by innovating teams and external stakeholders as contributing to success. When innovation processes are not successful they do not appear to be as strongly present.

In the following section, we summarise the report's key messages and their implications for the humanitarian innovation debate. In addition, we discuss how this

research connects to several contemporary issues in humanitarian innovation. The issues addressed are:

- Innovation's contribution to humanitarian performance
- The role of non-humanitarian actors in humanitarian innovation
- The role of affected people in humanitarian innovation
- The research agenda for humanitarian innovation
- Financing humanitarian innovation
- Enhancing innovation in the humanitarian system

5.1. What is innovation's contribution to humanitarian performance?

Humanitarian innovation is not pursued for its own sake: it is meant to lead to substantial improvements in the quality, efficiency and effectiveness of humanitarian assistance. Yet there remains little evidence on the relationship between innovation and humanitarian performance, resulting in ongoing questions as to whether innovation activity is actually leading to improvements in humanitarian action. There are also important questions around the cost–benefit ratios of investing in stronger innovation capacities in humanitarian organisations.

While this research did not aim to answer these questions directly (determining the broader improvements brought about by the innovation in the system requires an impact assessment and was outside the scope of the research), evidence from the 15 case studies offers three relevant findings for the future research and evaluation of humanitarian innovation's contributions to quality, efficiency and effectiveness.

KEY MESSAGE 1

Building an evidence base and demonstrating performance are critical to successful innovation and should be considered at the outset of an innovation process.

KEY MESSAGE 2

There needs to be better performance measurement and monitoring across the humanitarian system, in order to support the identification and testing of better ideas and approaches and, where relevant, to provide a case for their scaling.

In order to demonstrate that an innovation offers an improvement over current practices, innovating teams must be able to collect high-quality data on the performance of their prototype. But they also need access to such data on the performance of current interventions and approaches in order to be able to

draw a comparison between the status quo and the level of performance offered by the innovation. Demonstrating the value of innovation therefore relies on the use of pre-existing common standards and protocols or quality baseline data in order to measure this value.

This case study research adds to the existing literature that has called for an improvement in evidence and research practices in the sector in order to support innovation. Many reports on humanitarian innovation have highlighted that a significant barrier to innovation lies in the humanitarian system's lack of quality baseline data, protocols for testing new interventions and good practices for performance monitoring (Betts and Bloom, 2013; Deloitte, 2015a; Ramalingam et al., 2015). This was confirmed by the experiences of the HIF grantees observed in this research. The problems with the humanitarian system's current performance measurement practices cannot be overstated. HIF grantees featured in these case studies consistently faced uphill battles in developing and diffusing their innovation as a result of a lack of standardised protocols and minimally acceptable data on the quality and effectiveness of current interventions.

While innovating teams should be expected to demonstrate that their innovation offers an improvement over current practices, there is also a need to hold current humanitarian programming to account for using standardised protocols to measure performance and for collecting consistent and quality evidence on the effectiveness of current interventions. In the case studies, the gaps in these general performance monitoring functions led to an absence of basic data. Innovating teams developed these data themselves, but this required additional resources and often caused delays to the project, particularly in the diffusion stage.

KEY MESSAGE 3

Innovation makes substantial contributions to the evidence base for humanitarian action in multiple ways, including the generation of baseline data and the creation of protocols for assessing performance.

This research consistently found that, in the face of missing baseline data and lack of quality evidence on the performance of current interventions, innovators make substantial contributions to the knowledge and evidence base around their given sub-sectors. In nearly all the case studies examined for this research, no pre-existing data existed on the performance of current humanitarian practices that could be used to demonstrate the improvements an innovation offered. Instead, in several cases, the HIF grantees themselves had to generate baseline or comparative data.

While innovation is expected to improve the sector's evidence for the performance of new solutions, in many case studies the innovation process was also observed as providing an additional benefit by contributing to the sector's basic knowledge of the performance of current interventions. For example,

IFRC carried out trials to measure the views of affected people on its menstrual hygiene kits, producing the first evidence of this kind for menstrual hygiene management in a humanitarian context. Faced with a lack of protocols for water treatment systems in humanitarian settings, Université Laval, Oxfam and AquaPlus developed their own protocols for testing their water treatment system, simultaneously generating findings on the cost-effectiveness of existing treatment systems in humanitarian contexts. In their project, SCUK, in partnership with ENN, generated the first and only global analysis of the effectiveness of supplementary feeding programmes.

5.2. The role of non-humanitarian actors in humanitarian innovation

Innovation benefits in many ways from collaboration – from the cross-sectoral and cross-organisational fertilisation of ideas, to partnership in the development, implementation and scaling of an innovation. Because of their familiarity with innovation practice, private sector organisations are often the most obvious innovation partner for humanitarian actors. Academic institutions, non-humanitarian third sector design and service organisations, the military and diaspora groups can also contribute as key partners. In some cases, affected people are also engaged as partners in an innovation process. While there is widespread acknowledgement that partnership and collaboration need to improve (Deloitte, 2015; Ramalingam et al., 2015), often these are seen as system-level problems to be addressed with larger, incentive-changing initiatives rather than as issues for individual organisations to address.

KEY MESSAGE 4

The humanitarian system remains averse to partnering with non-humanitarian actors as well as to considering innovations offered from outside the humanitarian sector. Addressing this requires not only system-wide solutions to facilitate greater collaboration, but also a shift in humanitarian agencies' mind sets as to how they approach and invest in partnerships.

This research compared the experiences of innovations led by implementing humanitarian agencies and those led by non-implementing agencies, as well as a mix of partnership types. Non-implementing agencies faced some of the biggest struggles in diffusing their innovations, even when there was strong evidence of the innovations' effectiveness. Private and third sector partners interviewed for the case studies cited a range of impediments to better collaboration, including perverse incentives in the sector, 'culture clash' between the humanitarian INGO sector and others, and a tendency for INGOs in particular to underinvest in partnerships with others. The core business of emergency response creates understandable disruptions and can lead implementing agencies to become 'distracted' from the longer-term goals of a partnership.

KEY MESSAGE 5

Organisations that are well placed to create networks or opportunities for collaboration across humanitarian and non-humanitarian actors should consider the options for open collective innovation and how best to foster this. Drawing on examples from the technology community may be instructive.

Looking ahead, open and collective innovation (Bessant and Moslein, 2011) may become an increasingly relevant approach for humanitarian agencies to create more space for non-humanitarian actors in humanitarian innovation. 'Open collective innovation' is a practice in which organisations look to harness the creative ideas and technical skills that exist outside their own internal structures. This goes beyond partnership to mechanisms that allow an even wider range of inputs to reach the innovating organisation, such as innovation contests or open calls for new ideas for improvement. The HIF has experimented with supporting open collective innovation. For instance, in its WASH challenge, it identified a set of key challenges facing the WASH sector through a gap mapping exercise and initiated a competition of ideas to address these. Other mechanisms for open collective innovation, such as innovation markets and communities for collaborative innovation, have yet to be widely used for humanitarian purposes but could provide an environment for humanitarian and non-humanitarian actors to meet and work with one another to generate successful innovations.

5.3. User-centred design and the role of affected people in humanitarian innovation

Engaging with end users should be thought through carefully by innovating teams and planned well. In particular, engaging end users too heavily at early stages of design can run the risk of overburdening them with over-consultation as the innovation process progresses. It can also raise expectations, with a significant drop in interest if early prototypes fail to meet these expectations. For affected people, it is particularly important to communicate clearly how an innovation is different from standard programming and what are the implications if the prototype is successful (e.g. will affected people continue to receive it if it is successful?) or unsuccessful (e.g. is there good understanding of what a 'pilot' means and has consent been provided?).

KEY MESSAGE 6

While understanding needs is important for success, engaging end users of an innovation should be thought through carefully and done strategically.

Bearing in mind these risks that are specific to a humanitarian innovation context, engagement of users in the innovation process has clear links to success.

By engaging early, innovations are better suited to the specific needs of users and are better matched to users' realities. User-centred design, 'a philosophy and [set of] methods which focus on designing for and involving users in the design of computerized systems' (Abras et al., 2004), holds potential as a method that can be imported from the IT sector into humanitarian innovation contexts to facilitate more successful innovation. It involves identifying users, comprehending their needs and expectations and creating design solutions based on these. On completion of these steps, designers engage with users to understand their usability criteria. Refinement of the design is then done through an interactive and iterative process in which techniques such as focus groups, usability testing and questionnaires are used to gather feedback. Several of the case studies involving technology-driven innovations chose this approach, developing 'user profiles' at the outset of their design process to set their design criteria and objectives.

Tips for user-centred design with affected people

"Affected people know their challenges and resources, and what they will actually find useful or will work in their everyday lives.

A few actions during the focus group discussions contributed to success and helped us keep women and girls' needs and preferences at the centre of the innovation's design:

- It was really important to be able to show samples of the different options. When asking which they preferred, it was crucial to ask 'Why' (e.g. Why did they prefer the basin over the bucket?) Getting the women and girls to justify their choices and to articulate out loud how they would use the item and which features would be useful was extremely useful.
- For this innovation, it was very important to have age-segregated FGDs
- During the FGDs, we also presented drafts of the information, education and communication materials included in the kit. This helped us gauge how well the materials were getting messages across. And of course it helped identify what was needed to adapt and improve for that particular context"

Chelsea Giles-Hansen, IFRC

Very few humanitarian innovations examined for this research featured user-centred design with affected people as their primary end user, which limits the scope of this report's conclusions in this area. Only three of these, *Motivation's appropriate and affordable wheelchairs*, *Linking Communities to Mine Action* and *Improving Menstrual Hygiene Management in Emergencies*, employed user-centred design approaches to ensure the needs and preferences of affected people informed the innovation.

In *Linking Communities to Mine Action*, DDG carried out focus groups and a Knowledge, Attitudes and Practice (KAP) survey to understand the information

use practices and needs of civilians in Eastern Ukraine. This information was used to develop user profiles, which served as the design criteria for a digital platform to support two-way communication and sharing of information on mine risk and the location of mines and UXOs in the region. Two further focus groups were held during the development of the platform in order to seek feedback on its design. In order to manage expectations and mitigate any potential harm to affected people in this process, DDG used 'expectation management' as the basis for their engagement, spending considerable efforts in communicating the nature of the project and the potential benefits as well as risks to the participants. DDG also worked closely with local community-based organisations for the selection of and engagement with the focus group participants.

In the *Improving MHM* innovation process, IFRC used focus group discussions with women and girls in Burundi, Madagascar, Uganda and Somalia to understand end user needs for the design of its personal hygiene kits for MHM. A key lesson from this case study is that user-centred design in humanitarian innovation does not require importing a completely foreign set of tools and methods from the private and/or IT sector. Humanitarians often already have community engagement and participatory tools at their disposal that can be employed in innovation processes with affected people. The mystery of user-centred design with affected people is not in how to do it but in why so few humanitarian innovations make use of it.

KEY MESSAGE 7

User-centred design methods from outside the humanitarian system should be further explored, while recognising that many have been developed for customer engagement in developed consumer economies, potentially limiting their relevance. Humanitarian actors may also already have many tools at their disposal, including participatory methodologies from development programming.

KEY MESSAGE 8

There needs to be significantly more involvement of affected people in humanitarian innovation, and greater attempts to address problems and solutions from their perspective.

5.4. Innovation: Intentional, or just luck?

One of the key questions for this research was: Can innovations be managed, or are they driven by serendipitous events and informal relationships that cannot be meaningfully controlled? While informality and serendipity were found to play a role in many of the innovation processes examined in this research, this was often enabled by intentional organisational decisions or strategies.

Two examples highlight this finding well: informal relationships and the passion of innovation leads or team members.

The initial seeds for many innovation processes were found in coffee shops, conference and workshop lunch breaks or office hallways. The case studies frequently highlighted informal relationships and the trust they built as contributing to a successful innovation process. Grantees also often attributed their success to having the 'right team' or a passionate lead in place. Elements such as the project lead's charisma or the team's dedication played crucial roles in the progression of innovation processes, particularly when these processes ran up against significant challenges. This energy and drive helped ensure the innovation team continued to move forward and learned from any failures. It also contributed to external stakeholders investing in the innovation and to the fostering of champions.

All of these elements, however, are not matters of pure luck; organisations can nurture and encourage them. This observation, found across multiple case studies, is the grounds for identifying Creating a culture for innovation as one of the seven success factors. Organisations can encourage members of staff to attend conferences, build networks and partnerships and communicate with other teams and staff within the organisation in order to explore potential areas for collaboration on a problem or opportunity.

While these organisational approaches cannot guarantee the presence of passion or informal relationships that support successful innovation, they can increase the likelihood of these occurring. More research should be undertaken to identify how humanitarian organisations can create better organisational cultures for innovation and invest in longer-term capacities for innovation.

KEY MESSAGE 9

Successful innovation can be shaped by serendipitous events or factors; however, there are clear choices organisations and teams can make to improve their culture for innovation and increase the likelihood of serendipity occurring.

5.5. Issues for the innovation research agenda:

This study presents the first project-level findings on success factors for innovation in humanitarian contexts. However, this should be viewed as a beginning, not an end point: the field of humanitarian innovation requires better-quality research that uses empirical evidence to inform policy and practice.

KEY MESSAGE 10

Humanitarian innovation is still under-researched. Further research is needed to support organisations and teams to achieve successful innovation.

The findings of this report provide the broad brush strokes for how successful innovation is done. Below are further questions to be explored by a future research agenda for humanitarian innovation.

Innovating across the humanitarian–development divide

The innovations examined in this research were categorised as humanitarian. However, in several cases, the sustainability of an innovation requires thinking beyond the humanitarian context to consider how an innovation can be utilised by development actors or address end user needs in a more integrated fashion. There is a need to understand how humanitarian innovators can take better account of the broader development context for their innovation in order to achieve long-term scaling.

Strengthening monitoring and evaluation for innovation

This report provides an initial set of success criteria for humanitarian innovation that could be considered for the basis of monitoring and evaluation (M&E) systems for innovation. Significantly more work is needed to understand how to monitor and evaluate innovation in humanitarian contexts and to guide innovating teams in setting up M&E frameworks that are realistic to the innovation context yet still rigorous.

This work should answer the following questions to support a more strategic organisation-wide approach to innovation: What indicators, if any, signal that it is time to call the innovation a 'good fail', learn from it and move on? How do these markers differ between products, processes, positioning and paradigms? What are the key deliverables of a successful innovation process?

Doing innovation better: Deepening understanding of the success factors in humanitarian innovation

Collaborating with others

The sector needs more research to understand how to collaborate strategically and effectively for innovation:

1. What does an ideal innovating team look like? How can humanitarian organisations learn from emerging research from the private sector on team composition and effective collaboration?

2. Are there different partnership models that work better for different types of innovation/innovation problem areas?

Organising an innovation process

While there are good examples of how to organise and manage an innovation process, more work is needed to explore the full potential of certain project management techniques and approaches that are specific to the nature of innovation:

1. How can agile approaches to innovation in the technology and service

industry sectors be adapted to fit the humanitarian innovation context?

2. Are there any particular best practices in role and responsibility allocation that are unique to innovation? Do these need to be adapted to humanitarian contexts, and if so how?

3. What characteristics or skills do effective innovation managers/project leads possess?

Generating and integrating evidence

Innovating teams should consider a number of sources and types of information. However, questions remain about how best to gather and use this information:

1. Is onsolidating learning and evidence more likely if it is assigned as a role and responsibility or is it more effective to maintain this as a shared responsibility?

2. Are there observable differences in how opportunity- and problem-driven innovations collect and use information about the problem, past solutions or end user needs, and does this affect the success of these innovation processes?

3. Are there indicators for identifying the optimal time to pilot an innovation?

Engaging with users and gatekeepers

Humanitarians face a complex 'market' that differs in many ways from private sector markets, and they need better tools to think about these markets. Significantly more work is needed to demonstrate the benefits of user-centred design with affected people or more entrepreneurial approaches to innovation in which affected people are also leading their own innovations to improve their situation:

1. What strategies or tools are most effective at developing an understanding of the needs and incentives of end users and gatekeepers (e.g. stakeholder mapping, 'force fields')?

2. What types of feedback mechanisms are most effective for generating useful feedback from end users for an innovation process?

3. What strategies are most successful for engaging with gatekeepers? Should innovation processes incorporate feedback mechanisms for gatekeepers? How does this affect the success criterion of adoption?

Resourcing an innovation

Resourcing an innovation so it has stable support throughout its lifespan is critical but also very challenging. Innovation managers would benefit from more

detailed guidance on sustainably financing the entire lifespan of an innovation:

1. What types of contingency planning practices might be useful for innovating teams seeking to plan potential outcomes for their innovation and the different financial needs for each outcome?

2. Outside of grant or core funding, what are other potential business models for funding an innovation process?

3. What are the different financing needs for diffusion in comparison with the rest of the innovation process, and different models for funding the activities that seek to take an innovation to scale?

Managing risk

A team's ability to identify and adapt to risk is vital as all innovation processes have a number of 'unknown unknowns' – risks or factors that the innovation team could not have foreseen or planned for. Standard risk management practices need to be adapted in order to be useful for innovation processes, but it remains unclear how best this can be done:

1. What risk management practices from other innovation contexts could be adopted for humanitarian innovation?

2. How can innovation processes better mitigate risks to enhance their efficiency?

3. How can mechanisms for accountability to affected people be harnessed to ensure an accountable and responsible approach to risk in innovation?

5.6. Funding humanitarian innovation

There are two key issues facing donors in their support for humanitarian innovation: offsetting the risks involved in creating flexible funding streams for innovation and navigating the different risk levels of innovation processes to achieve impact.

This research found that strict funding deadlines could stifle an innovation process, whereas more flexible approaches to funding sources supported a successful innovation. This is an unsurprising finding; however, many HIF grantees repeatedly cited the HIF's flexibility as a donor as remaining quite rare and, in their experience, highly valued. This flexibility was viewed as contributing to an innovation team's ability to work with a timeline appropriate to the innovation rather than one that was artificial and externally enforced.

"I think knowing that you have a donor who is understanding and focused on the innovation gets you in the mind-set of: we're learning, we're testing things out, and if something doesn't work, it's not the end of the world, we'll just find another solution."

Marie Enlund (WFP)
Key informant, *WFP's mVAM*

Yet flexible funding poses certain risks to donors: in some cases, delays on a timeline are necessary to get a prototype right; in other cases, these delays can be the result of mismanagement and poor planning. To mitigate the risk of offering flexible funding streams, donors can consider the following:

- Clarify the relationship between evidence and innovation in funding applications and focus on achieving a good picture of the practices that applicants have in place to generate and use evidence, rather than on whether their original idea is 'evidence-based.' Asking for evidence of an innovation idea's potential effectiveness in a funding application can be confusing, as often the aim of innovation is to explore previously untested or underexplored ideas for improvement. Donors should instead aim to understand the strength of the learning and evidence generation practices embedded in an innovating team. This can include asking a funded organisation to explain 1) what baseline evidence informs its understanding of the core problem/opportunity for improvement; and 2) what their plans are for generating evidence on the comparative performance of their innovation in relation to current 'status quo' practices.
- Look for the proven ability of the project lead to skilfully manage a diverse range of inputs. Successful innovations are those that harness a wide range of inputs from diverse skill areas. These inputs must be well managed in order to provide value to an innovation process. This is a difficult task that requires a skilled project lead who can 'translate' across inputs or draw from elsewhere to build translation capacity within the project. In providing flexible funding streams, donors should seek a proven ability in the project lead to manage a diverse set of contributors. This will be a useful indication of their ability to manage the project efficiently and effectively, even in the face of unexpected delays.
- Clarify that risk assessment should focus on risks posed to affected people by the innovation and risks posed to achieving the three success criteria for innovation (Consolidated Learning and Evidence; Improved Solution; Adoption). Rather than simply requiring a traditional risk assessment, ask potential applicants to explain in detail the risks of the innovation to affected people and how they will mitigate these, including how they will manage the expectations of pilot participants. It may also be beneficial to understand how they will monitor for unexpected risks that arise over the lifespan of the innovation.

In terms of impact, donors face choices in terms of when in the innovation process they invest funding. For nascent innovation ideas, funding can act as

a trigger for more focused and structured brainstorming, a review of existing practices, or early development of a proof of concept. However, in such cases, there is a risk that the innovation team will have an insufficient understanding of the problem, end user or humanitarian context more broadly. For innovation processes that are further along – innovations that have gone through one or more iterations using other sources of funding – a new funding opportunity can help 'recharge' the initiative and help it achieve a new milestone. Nevertheless, these innovations may run the risk of not having the time or capacity to appropriately absorb lessons learnt from previous iterations.

Donors may also wish to include in their innovation portfolios projects that are at a later 'tipping point' and might benefit from a final push of support to gain wider adoption in the humanitarian system. In these cases, there is a risk that the broader environment for an innovation shifts as an innovation process proceeds, thereby making the project less innovative and thus ceasing to offer a unique contribution. What may be a radical innovation in 2016 can quickly become commonplace in 2020.

Elsewhere in the literature on humanitarian innovation it is recommended that donors take a portfolio approach to their funding of innovation projects, combining projects that are more likely to offer a unique impact at a higher risk with projects less likely to offer a unique impact but with greater certainty of success. To supplement this strategy, donors can also consider the following:

- Invest significantly more in innovations driven by the participation of affected people, including those based on the ideas of affected people from recognition all the way to diffusion.
- Better mitigate the risk in high-risk projects by asking innovation teams to include tasks like stakeholder mapping or a review of existing approaches and solutions in their early funded activities.
- For innovations in the middle of their process, request consolidated lessons from the process to date or, if relevant, an evaluation from a previous phase of the process, and ask how these lessons are being built upon.
- Provide more support to activities that can trigger innovation projects, such as networking events or communities of practice around key humanitarian sectors but also, importantly, around cross-sector interventions. These can serve as incubators for identifying problems in a way that cultivates ownership and generates momentum to address these problems.
- Consider pooled, multi-donor funding for activities that provide a system-wide benefit but can be risky and costly to undertake, such as an intensive horizon scanning exercise for identifying new technologies and approaches to use in humanitarian contexts.

In short, the funding of humanitarian innovation may have wider impact if it focuses more on the 'how' of innovation, and ways to identify and support processes and practices for successful innovation.

KEY MESSAGE 11

Looking ahead in humanitarian financing, donors should seek to focus on increasing the flexibility and impact of their funding. This requires greater attention to the 'how': supporting innovations with strong processes in place and looking more at system-level facilities and mechanisms that can cultivate better innovation at the organisational level.

5.7. Enhancing innovation and its value in the humanitarian context

This research sought to understand how successful innovation happens in humanitarian settings. Innovation is a complex process and doing it well requires different approaches and strategies depending on the type of innovation, who is leading the innovation and the broader environment for improvement in the sector.

There are several useful toolkits and resources for innovation management outside the humanitarian system.[6] These should be adapted to the constraints and characteristics of the system in order to provide practical guidance to humanitarian innovators. Existing tools and approaches within the system, such as those used for accountability to affected populations, could also be examined to consider how they can be adapted as tools in an innovation process.

It is also important to recognise that successful innovation does not take a 'one-size-fits-all' approach. In the private sector, different firms possess different capacities needed for strong innovation, and will therefore need to follow different recommendations to improve their innovation practice (Hansen and Birkinshaw, 2007). The same holds for organisations seeking to innovate for humanitarian purposes. Humanitarian innovators not only need better tools, but also customised support that speaks to their specific capacities.

KEY MESSAGE 12

Many factors contribute to successful innovation. Humanitarian innovation management could benefit from the development of a 'toolkit' that provides practical guidance on how to achieve these in different innovation settings. The customised support offered by key facilitators of innovation such as the HIF is also critical for the future of humanitarian innovation.

6 See, for instance, The Innovation Portal: http://www.innovation-portal.info/, and Forum for the Future's toolkit on innovative design: https://www.forumforthefuture.org/sites/default/files/images/Forum/Projects/E21C/Innovation_infrastructure/1.%20Toolbox%20A5%20Cards%20updated.pdf For innovation in the development sector, see the DIY toolkit on social innovation: http://diytoolkit.org/about/

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