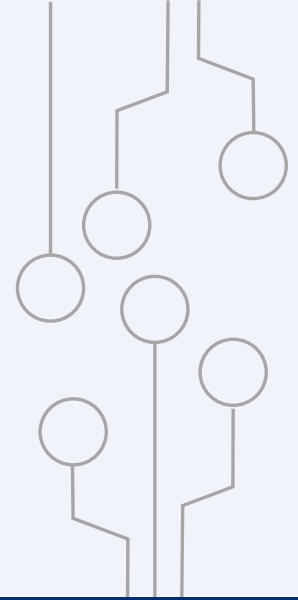


TECHNOLOGIES IN HUMANITARIAN SETTINGS: SUPPORTING COMMUNITY-LED ICT INNOVATIONS

DECEMBER 2022



In brief:

- The digital transformation of humanitarian action was made possible by significant donor support and investment that are generally only possible within large and well-established organizations, largely failing to engage and support community-led ICT innovations.
- The absence and inconsistencies in defining ‘local’ and ‘community-led’ processes hinder meaningful local ownership and decision-making roles in ICT development and implementation.
- Risk-adverse funding practices and other barriers (e.g. organization registration) to direct funding of community-led ICTs perpetuate top-down dynamics and power asymmetries.
- “Checkbox” approaches to community representation in community-led ICT development and implementation does not guarantee representation and/or engagement with the community needs of those affected and could even reinforce pre-existing exclusionary practices.
- Donors should consider increased flexibility, risk tolerance, direct support, and long-term commitment as pillar of their support for community-led ICT innovations.

DISCLAIMER:

The author’s views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government. USAID Contract 720FDA20CA00084



This publication was produced with support from the United States Agency for International Development. It was prepared independently by the Harvard Humanitarian Initiative as part of a series of thematic analyses on meaningful community and stakeholder engagement in the development and implementation of digital technologies for use in humanitarian settings. The report was prepared by Wesli Turner. HHI's series on 'Technologies in Humanitarian Settings' is edited by Saira Khan and Patrick Vinck.

Turner W, Khan S, Vinck P. Technologies in Humanitarian Settings: Supporting Community-led ICTs. Harvard Humanitarian Initiative, 2022.

© Harvard Humanitarian Initiative, 2022

INTRODUCTION

Technology and innovation, coined within the humanitarian sector as a ‘vehicle for change’ in 2009, have grown in prominence to become a strategic focus of many humanitarian actors and the sector as a whole [1, 2]. Technology is generally considered to have increased the effectiveness and efficiency of humanitarian response. For example, in 2019, the Inter-Agency Standing Committee (IASC) identified ways in which technology and innovation were being used by humanitarian actors to improve aid for those in need [3]. Examples include financial tracking services that provide greater transparency, or the use of digital cash-based programming, and technology-enabled joint needs assessment. The use of technology is also associated with improved coordination of logistics and program delivery, as well as streamlined monitoring and evaluation (M&E), among others.

This digital transformation of humanitarian responses has been linked to the 2016 Grand Bargain commitment to provide more support and funding tools to local and national responders [4]. This linkage, however, is primarily framed around the use of technology to make assistance better coordinated, more efficient and transparent. Consideration for engagement with communities and local actors is often limited to feedback channels, falling short of decision-making roles in the development and deployment of technologies. Despite the recognition of the need to integrate innovations from within affected populations and local organizations [5], there remains a widespread sense that the development of technologies is top-down, designed to meet needs of international humanitarian actors without sufficient consultation with national actors and communities.

Some efforts have been undertaken to connect technology and innovation with localization

efforts through decentralized and/or local incubation and innovation hubs, though most are initiated by or remain dependent on international actors. Donors have also worked to create funding mechanisms for more local financial support for humanitarian technology and innovation. These efforts have been met with unforeseen or unrecognized barriers, often preventing the direct funding of technology and innovation to community-led innovators and organizations.

This study specifically focuses on the challenges and best practices of humanitarian organizations and other funding mechanisms to identify, support, and fund community-led ICT innovations.

Many best practices identified through interviews include ways of shifting the power (decision making) and resources (funding) to affected communities, enabling affected communities to find solutions to humanitarian challenges in ways that are culturally appropriate and are also supported by those affected.

This analysis helps identify ways that humanitarian actors at-large can use to enhance support for community-led organizations and innovators through existing funding mechanisms. These efforts require not only a shift in power and resources but also a shift in mindset around accountability, compliance, and funding.

This report therefore aims to address three main research questions:

How can granting bodies and large humanitarian organizations better recognize, support and fund community-developed ICT innovations? What processes and mechanisms are in place to achieve this? What are existing barriers and/or best practices?

RESEARCH APPROACH

CONCEPTUAL FRAMEWORK

The research was structured according to a “technology use” conceptual framework which uses a systems approach to place technology within a wider system of multiple components including (i) technology, (ii) policies and processes, (iii) people, (iv) partnerships, and (v) operating environment [6-7]. These components are used across a series of analyses on the use of technologies in humanitarian settings. Drawing from this framework, the research study focused on three primary questions outlined in table I. A more detailed list of research questions is available in annex.

METHODOLOGY

A qualitative research approach was taken for this report and conducted in two phases between February and July of 2022. The first phase consisted of a comprehensive desk review of relevant primary and secondary documents (strategy papers, evaluations,

research, project reports, academic articles, toolkits, principals, frameworks, etc.). Relevant documents related to support for community-led ICT innovations were identified using search strings in Google Scholar. The literature review provided historical context which was used to formulate questions for the semi-structured interviews.

Between March and June 2022 semi-structured interviews were conducted with 23 representatives from 22 organizations spanning 16 countries. Several individuals were identified through desk research and online searches related to humanitarian response and ICT innovation. Expert contacts and snowball sampling was used to identify additional participants. Interviews were conducted across a wide range of stakeholders, including donors that fund ICT innovation in humanitarian contexts (8), innovation hubs and accelerators, organizations that provide start-up support and mentorship (11), implementers of community-led ICT innovative (4) as well as community-based ICT innovators (1).

Table I: Analytical framework and research questions

TECHNOLOGY	What community-led ICT innovations are supported by granting bodies and humanitarian organizations, at what stage in the innovation cycle, and under what conditions?
POLICIES AND PROCESSES	What processes and mechanisms are in place to support community-led ICT innovations? What are existing barriers and/or best practices?
PEOPLE	Who supports and participates in community-led ICT innovations?
PARTNERSHIPS	What does the partnership ‘look like’? What are the power dynamics, how are partners defined (e.g. community-led) and identified?
OPERATING ENVIRONMENT	How have external factors, including the Covid-19 pandemic, influenced support for community-led ICT innovations?

SUBJECT

The focus of this analysis is on support and funding for community-led ICT innovations within the wider context of humanitarian funding for ICTs and localization. We first examine what is meant by community led and localization.

Localization as a priority within the humanitarian sector was codified through the Grand Bargain which aimed to address the humanitarian funding gap by improving the effectiveness and efficiency of humanitarian response. Localization, in part, is the acknowledgment that local participation in the design, development and implementation of programs can tailor solutions to local contexts, increase impact and minimize risk [8].

What it looks like in practice, varies widely based on an organization's interpretation of localization. For example, in 2017, a year after the Grand Bargain, the Australian Red Cross commissioned a study to better understand the challenges and opportunities for localization of humanitarian action in the Pacific region [9]. In this study, the working definition of localization used was, "the shift of resources and decision making to local and national responders in humanitarian action". What they found was that humanitarian actors understood localization to mean, "the process in which both national and international actors have complementary roles, but the emphasis is on shifting relationships and power" [9]. At the time, the policies and standards for local and national actors working with international humanitarian agencies ran counter to the aim of localization emphasizing that localization requires more than shifting relationships and power, it also requires shifting the mindset of international actors.

These general findings on localization are applicable to the more narrowly defined topic of this analysis: humanitarian ICT innovations. Community-led ICT innovations sit at the

crossroads of humanitarian innovation funding and funding for locally led/community-led programs. As interviews conducted for this analysis show, funding for community-led ICT innovations has largely been left out of localization efforts. Funding opportunities often aim to bring large-scale ICT innovations and/or private sector-led innovations to humanitarian settings while at the same time encouraging "locally-led enterprises, including those led by refugees and/or host communities" to apply [10].

In practice pursuing these two aims, top-down "localization" of global ICT and bottom-up community-based ICT development, is often lumped together despite fundamental differences and barriers. As this analysis will show, eligibility criteria, for example, hinder the ability for refugee-led/community-led initiatives to apply. Other funding opportunities encourage refugee-led/community-led initiative to apply, but only as part of a consortium with larger humanitarian or non-profit organization. This, however, risks reinforcing power imbalances and the ability of refugee-led/community-led initiatives to maintain any level of decision-making power. Many support and funding processes and mechanisms are unlikely to enable a locally-led/community-led ICT innovation program to receive funding despite what looks like a prioritization to do so.

Even well-meaning mentorship and support opportunities for locally led ICTs can create unintentional power imbalance and have adverse implications for the local initiative.

Yet, the need and value for community-led ICT innovation are well documented [11-17]. Examples include the success of the Humanitarian OpenStreetMap Team in Nepal following the 2015 earthquake in which within hours, more than 4,000 Humanitarian Open Street Map Team volunteers and partners identified damaged roads and neighborhoods,

displaced person camps, and helicopter landing zones [11].

It is those within the community affected by the humanitarian crisis, after all, that understand the contexts, and barriers and can, if not develop solutions on their own, and contribute to the design, development, and implementation of a humanitarian solution.

International donors have attempted to provide more funding to support community-led ICT and innovations, developing specific funding mechanisms such as humanitarian grand challenges which aim to put funding in the hands of affected communities. However, the criteria established for community-led ICT innovators to apply for support from humanitarian grand challenges include administrative and institutional barriers that prevent community organizations from accessing funding specifically meant for them.

More generally, humanitarian funding for community-led ICT initiatives can be broadly grouped in three main categories: (1) small grants (<10,000 USD) for locally-led conceptualization and piloting of ICT innovations, (2) large grants (100,000s USD and over) for scaling/enhancing established ICTs, and (3) an emerging, alternative, third bucket which includes a wide range of non-traditional mechanisms such as crowdfunding and venture capital. Often, small grants are channeled not directly to community-based innovators but through organizations that support individual ICT innovators, like hubs. Larger grants, on the other hands will often be targeted at more established organizations. The third bucket remains relatively anecdotal but offers interesting opportunities to bridge the gap in current funding opportunities.

Across funding opportunities, community-led ICT programs face numerous challenges to access funding directly with limited options for

long-term sustainable investments needed to scale innovations in low-resource areas.

This is not to imply that organizations have not made efforts to expand their funding schemes for local organizations. However, eligibility criteria fail to take into account situations affecting local applicants that may exclude them from the selection process. For example, organizations offering to fund community-led ICT programs often require that local organizations or ICT innovators are registered entities, have an established partner, and/or have the administrative capacity to manage large grants. In many countries experiencing humanitarian crises, registering a local non-profit is a feat in and of itself requiring extensive and expensive paperwork, fees, and often bribes. It is often difficult to engage a partner if you are not a registered entity, and without financial support it is often not possible to register an entity at all.

In addition, the administrative capacity needed to manage medium to large grants requires funding for administrative staff, with most grants limiting or prohibiting the use of funds for administrative purposes. This perpetuates the cycle of ineligibility. Additionally, grant applications, more often than not, must be submitted in a language other than the native language of the staff of the community-led ICT program. This requirement limits the opportunities through language exclusion. In contrast, there are not often requirements that the applicant is from the affected community or has a connection to the intended project community.

To further complicate matters, community-led ICT organizations are competing for funds against larger organizations as the absence of a universal definition of community-led creates room for organizations and donors to generate their own definitions. Some have relied on nationality as the determinant factor while some

measure degrees of separation between the affected community and the program team. Others take a closer look at the dynamics between the program implementors and the community to determine who holds the decision-making power.

This report aims to encapsulate these multifaceted and complex debates and concerns by focusing on how international humanitarian organizations and other donors can better identify, support, and fund community-led ICT innovations and how local community-led ICT organizations and innovators can effectively access support. By interviewing organizations at every level from ICT innovators, community/refugee-led ICT organizations to organizations that act as brokers between large international humanitarian organizations and local community-led innovators as well as international donors, this report seeks to understand the current challenges and provide realistic, actionable recommendations to improve the current system. Current best practices support many of the recommendations provided.

FINDINGS SUMMARY

- ▶ Technology is playing an integral role in how humanitarian organizations operate and provide assistance. This is made possible by significant donor support and investment in digital transformation that are only possible within large and well-established organizations.
- ▶ ‘High-tech’ ICT solutions are attractive because they make competing organizations look ‘innovative’ and ‘high-impact’ in the eyes of donors and the public, but they are not always suitable for local contexts.
- ▶ While donors often correlate investing in community-led organizations to taking on a fiduciary risk, the risk that money or materials are not used for intended purposes, the reality is that community-led organizations are much more vulnerable to financial risk with limited means of absorbing unforeseen costs or delays.
- ▶ Early efforts encouraged “short-sightedness” and quick wins (e.g. flashy interfaces) rather than usefulness and appropriateness, with many overpromising and under delivering. This has fueled a more failure-adverse approach to ICT among donors, and short funding cycles.
- ▶ For many refugee-led organizations or entrepreneurs becoming a legally incorporated entity is a barrier to due to lack of documentation, the cost associated with incorporation, lack of access to financial resources, and/or lack of a physical space dedicated to the operations of the organization/entrepreneur.
- ▶ The humanitarian sector lacks a universal definition of “community-led” or “local organization”. This results in organizations establishing their own criteria or assessment method which can at times be clear-cut and at others more complex or even misleading.
- ▶ While “community-led” is not always clearly defined, neither are the criteria for assessing applicants from woman-led or refugee-led initiatives, undermining policies and institutional strategies to support these candidates.
- ▶ Participation quotas in grants and supported activities are not enough to bridge the digital divide, particularly in countries where educating women and girls has been prohibitive due to culture and/or conflict.
- ▶ Local innovators often face competing demand for their time, especially when compensation for their ICT-related work is insufficient.
- ▶ While community-led ICT innovation programs grapple with the challenges of reporting requirements, in contrast, donors do not have the capacity to manage an increased number of grants to smaller entities due to a lack of staff to oversee the administration and management of grants as mandated by their own organizational standards and policies.
- ▶ Community-led initiatives are not well equipped to respond to global call defined by donors far removed from the field and concerned with ‘big picture’ challenges.
- ▶ Relationship quality and equitable partnerships where community organizations feel empowered to be decision makers generate higher levels of trust and capacity.
- ▶ Who defines the problem to address matters and influences the dynamic of partnership.
- ▶ Respondents noted that donors rarely fund community-led initiatives directly due to risk aversion or the perception that low-resource means low quality. Partners who champion an organization with no financial ties can help build credibility.
- ▶ Crowdfunding, microfinancing, and joint ventures are emerging as a pathway to reimagine partnerships and diversify funding sources.
- ▶ An alternative partnership model that is being adopted, which encourages ICT

innovation by focusing on capacity, is the use of innovation hubs as business incubators and/or accelerators within the humanitarian sector.

- ▶ COVID-19 impacted humanitarian funding in a very unique way. Namely, it 1) increased the perceived value of community-led organizations due to their proximity to affected populations and the inability of international actors to provide assistance due to travel restrictions and border closures and 2) demonstrated that many of the processes and procedures that often exclude community-led organizations from eligibility are unnecessary.

FINDINGS

TECHNOLOGY

Technology is playing an integral role in how humanitarian organizations operate and provide assistance. This was made possible by significant donor support and investment in digital transformation that are only possible within large and well-established organizations.

As the International Committee of the Red Cross highlighted, increased connectivity and digital access can empower communities affected by humanitarian crises [18]. It can serve as a way for communities to access information, communicate needs through rapid feedback mechanisms and receive humanitarian assistance through digital cash programs, for example. Additionally, digitally rooted contextual analyses, crisis mapping, and digitalized services can support humanitarian action by providing humanitarians with real-time data that influence and impact humanitarian operations. However, as observed by Hugo Slim, “humanitarian aid can only help some of the people, in some of the ways, some of the time” [19].

The increasing use of digital technology, while expanding the reach of affected people being served, will again only reach a portion of those affected. However, if the technology or solutions are developed and adapted by the individuals and/or populations affected, they have the possibility of reaching and assisting more people and serving communities longer by being sustainable [11].

Importantly, support towards the digital transformation of humanitarian action, as several stakeholders noted, is often supported through internal funding mechanisms, requiring resources that are rarely available to small and local actors. In discussions with key stakeholders on barriers to funding community-led ICT innovations, three main topics surfaced.

1. The misconception by donors that high-tech solutions are the best solutions
2. The reluctance to work directly with ICT innovators preferring to sub-contract with partners that can absorb the perceived risk of engaging a local organization
3. Concerns that community-led ICT innovations are not fully conceptualized to support scaling

‘High-tech’ ICT solutions are attractive because they make competing organizations look ‘innovative’ and ‘high-impact’ in the eyes of donors and the public, but they are not always suitable for local contexts.

In interviews with representatives of organizations supporting community-led ICT innovations, the enthusiasm of donors and investors in “high-tech” solutions was repeatedly mentioned. As noted by ODI’s John Bryant, “tech-based solutions are also attractive because they make competing organizations look ‘innovative’ and ‘high-impact’ in the eyes of donors and the public” [20]. However, in resource-limited settings, “high tech” may not be feasible or suitable due to lack of infrastructure, effective due to lack of accessibility, or efficient due to maintenance requirements or knowledge required to implement or maintain the technology within the community. Therefore, innovative “low-tech” solutions should not be overlooked, but rather assessed for “fit for purpose”.

As demonstrated in Example 1, low-tech but innovative uses of ICTs can have a larger impact due to community buy-in, accessibility, and sustainability over high-tech solutions. This line of reasoning is substantiated by findings from Kenyarō Toyama. In 2011, Toyama studied ICT initiatives in India and found that ICT initiatives that failed, did so due to numerous reasons including a lack of context-appropriate technology, failure to partner with local

Example 1: Innovation suitability

During COVID-19 pandemic misinformation was rampant within the Bidi Bidi Refugee Settlement in Uganda. Local authorities tried to combat the misinformation but did so in mediums that were not readily accessible by refugees. For example, refugees have limited or lack access to televisions or TVs, radios, newspapers, and the internet. Those that did have access had difficulty understanding the messaging as it was given in languages not readily spoken within the settlement such as English, Luganda and Swahili and included technical terms not easily understood. Local refugee-led organization CECI worked with refugee youth to record audio and video messages using languages spoken within the settlement and containing non-technical terms, the messages were distributed through social media platforms such as WhatsApp, Facebook, Twitter and YouTube. However, recognizing the limited access to radio and the internet, they also included an offline component using “brother brother talk talk” and the blue message bicycle initiative where a motorcycle or bicycle is outfitted with a loudspeaker that replays recorded audio messages as it is driven throughout the settlement broadcasting the information. A low-tech but effective ICT innovation that provided life-saving information to refugee communities.

organizations, failure to adhere to sociocultural norms, failure to account for poor infrastructure, failure to build relationships with local governments, failure to invite the participation of the community, failure to provide services that meet local needs, failure to think through a viable financial model, a failure provide incentives for all stakeholders [21-22]. The majority of these failures related directly to the lack of community knowledge, buy-in, and involvement. Additionally, he concluded that successful ICT programs that rely on technology could not be scaled just by scaling the technology but rather required direct investments in building human capacity [22]. These same observations were echoed in interviews with organizations implementing ICT innovations.

While donors often correlate investing in community-led organizations to taking on a fiduciary risk, the risk that money or materials are not used for intended purposes, the reality is that community-led organizations are much more vulnerable to financial risk with limited

means of absorbing unforeseen costs or delays [23].

To mitigate the perceived risks, donors institute procedures that are burdensome to community organizations requiring additional staff and work time for reporting. However, despite the requirement of the donor to meet these increased reporting demands, there are often minimal or no funds to cover the administrative costs for the community organization [23].

Some donors opt to work through “broker” organizations to transfer risk, in turn, the “broker” organization accepts a level of responsibility for the community organization by overseeing vetting and regulatory compliance. In interviews with organizations that served in the role of “broker”, they felt that they provided a service both to the international donor who sought a familiar organization with experience in working with the humanitarian system as well as to the community organization which they saw as gaining legitimacy through the partnership.

Some interviewees felt that the necessity of organizations to obtain legitimacy through a broker organization perpetuated the idea that community organizations were incapable when in fact it is the requirements of the donors that make them so. There were some positive aspects and appreciation, however. One interviewee suggested that the ability to apply for funding as a coalition with other local organizations served to increase their credibility and helped develop an increased sense of community amongst local organizations who at times could become extremely competitive towards one another as a result of limited funding opportunities.

Early efforts encouraged “short-sightedness” and quick wins (e.g. flashy interfaces) rather than usefulness and appropriateness, with many overpromising and underdelivering. This has fueled a more failure-adverse approach to ICT innovations among donors, and short funding cycles.

Respondents expressed concerns around short-sighted concepts for ICT innovations and the ability of innovations to scale and be sustainable. Mobile or web-based applications were specifically mentioned as a tool that have been overly relied upon as an ICT solution for humanitarian or information needs. Little attention is paid to the application’s user interface, its accessibility, and how the application will be maintained. These relate to other concerns expressed by donors around concept, scalability, and sustainability. The result is a flood of web and phone applications that are poorly designed with few long-term users, generating hesitancy from donors to invest in similar projects.

Furthermore, as noted in several interviews and substantiated in the literature, there are systemic barriers within the humanitarian sector to scale innovation, including hesitation around using the “fail first” philosophy of

innovation development within the humanitarian sector [24]. Contributing to the short-sighted approach taken by many innovators within the humanitarian sector, is the way funding is currently made available to community-led ICT innovators, i.e., short-term, idea-based project grants that lack long-term financial support for innovators, which is often needed to ensure an innovation can go from idea to scale.

As a result, many innovators focus on the idea, but not the ability or intent to scale due to limited resources, creating a cycle of individuals or organizations that target seed funding but do not often move beyond that to scalability. Additionally, “scale” is frequently understood by international organizations to mean an innovation that can be scaled globally while local organizations may interpret scale to encompass the entire community or at most, the country. This creates situations in which local innovators are expected to apply their solutions in unfamiliar or incompatible contexts, eliminating the value of community expertise and instead lays the foundation to turn small startups/social enterprises into multinational organizations which may not provide the same effective solutions had they remained focused on the community level.

PEOPLE

For many refugee-led organizations or entrepreneurs becoming a legally incorporated entity is a barrier due to lack of documentation, the cost associated with incorporation, lack of access to financial resources, and/or lack of a physical space dedicated to the operations of the organization/entrepreneur.

Most of the funding for community-led ICT innovations is in the form of grants. Donors like foundations, government agencies, or humanitarian organizations themselves, establish criteria to assess applicants based on institutional priorities as well as local and

internationally agreed-upon commitments and standards.

Two major commitments identified within the Grand Bargain and other institutional priorities are to increase funding to community-led/local organizations as well as bridge the gender digital divide and expand women-led initiatives and opportunities within the technology and innovation sector. Refugee-led and/or minority-led initiatives are also identified in the literature and among interview participants as a priority for donors.

Despite these commitments, there are institutional barriers that prevent funding to these target populations. For example, requirements for eligibility for innovation funds often require that the applicant be an organization, or a legally incorporated entity, as well as demonstrate existing or future investment from the private sector [25]. Criteria within the application or within official guidelines that identify applicants as refugees/refugee-led organizations or minority/minority-led organizations are rarely spelled out. There are exceptions such as grant opportunities from the Bill and Melinda Gates, Novel Measurement for Performance Improvement Challenge, or USAID's Development Ventures, which allow for applications from individuals, a team, or an organization, either nonprofit and for-profit entities [26].

The humanitarian sector lacks a universal definition of “community-led” or “local organization”. This results in organizations establishing their own criteria or assessment method which can at times be clear-cut and at others more complex or even misleading.

Participants in interviews identified three approaches used to assess or define the concept of “community-led”.

The first approach identified is by **nationality**. Organizations access grant applications and/or funding request and determine if the project is “community-led” by whether they hold the same nationality as the affected community or not. However, this has also brought up debates around the engagement of diaspora and whether individuals who have benefited in some way by living outside of the affected country should be considered as representing the “affected community” or not. In particular, participants noted the idea that these individuals will have had better access to resources, education, and/or funding sources than the ‘local community’. The counterargument is that while they may have resources available that the affected community does not, their “connection” to the community implies that they can and/or are representing those individuals.

Other organizations define community-led by **the degree to which the grantee is separated from the affected community**. For example, does the organization have a partnership or collaboration with the affected community? Are community members engaged in the design or implementation of the project? Is the project led by community members? According to interviews, this means of accessing whether a project is community-led or not also enables organizations to establish connections/partnerships with affected communities.

This is beneficial as some donors require local organizations or community-led ICT innovators to identify a partnership with a larger organization as part of the grant application. For many community-led initiatives, this can be difficult. However, in this case, it is not necessarily the community-led organizers that are applying directly for the grant but rather the partner.

The third method of assessment identified determines within the project, **who holds the decision-making power**. If it is with the affected community and/or its members, then it is community-led.

To further complicate matters, “community-led” and “locally-led” are often used interchangeably within the humanitarian sector but can mean different things. For example, community-led implies that the affected community is driving the innovation and is directly involved in the decision-making process. In contrast, locally led could mean individuals or organizations within the affected country,

comprised of national residents, but are removed from realities impacting the affected community.

“(…) many of the tech innovators emerging from the national scenes are often members of the urban middle class or national elite (and not just diaspora as mentioned). These are technically “local” actors if we use that term to designate all national residents, but they are often quite shielded from the reality of life in refugee settlements, areas impacted by drought, conflict zones, etc.”

International Stakeholder

Table 2: How Organizations Assess “Community-led”

Method	Modalities	Challenges with Method
NATIONALITY	Implemented by a national of the country in which the affected community resides.	National does not necessarily represent the affected community / culturally and/or linguistically
LEVEL OF CONNECTION TO THE AFFECTED COMMUNITY	<ul style="list-style-type: none"> ▶ Implementing organization plans to partner with a local community organization ▶ Implementing organization has an established partnership with a local community organization ▶ Local community is consulted in the design or implementation of the project ▶ Local community members are involved in the project (staff) ▶ Local community members are leading the project 	<ul style="list-style-type: none"> ▶ As above, and: ▶ No guarantee that ‘connection’ leads to understanding / engaging the community needs of those affected. ▶ Risk that community consultations is carried out only with those in positions of authority / power within the community ▶ Risk of fostering pre-existing exclusions due to cultural norms or biases
WHO HOLDS POWER / DECISION MAKING AUTHORITY	The power and/or decision making is with the affected community. This can take the form of collaboration and/or leadership.	This method has few reported challenges other than to ensure that women and minorities are included within the process.

While community-led is not always clearly defined, neither are the criteria for assessing applicants from woman-led or refugee-led initiatives undermining policies and institutional strategies to support these candidates.

Many donors and supporting organizations have institutional priorities to support women-led and/or minority-led initiatives but do not have processes in place to ensure that this happens. Additionally, in programs and organizations where women are targeted such as workshops, hackathons, and incubation hubs their specific and unique needs are not always identified or considered within budgeting or program design.

For example, during a training session in Jordan for community-led innovators with a focus on encouraging female-led innovations, childcare was provided for women so they could attend the training. However, the childcare was not covered as part of the training grant requiring the organization to reallocate funds from other sources.

In another example, an organization was required to meet an established quota by the donors for women to attend the training. However, many women that attended the training were significantly under-educated compared to their male counterparts. This created a steep learning curve, and also made it difficult for the women to succeed as they were already behind in understanding technology before attending the workshops and thus not necessarily equipped to understand more complex concepts.

Donors may see this as a lack of capacity on the part of the workshop facilitators however, this approach of “leave no one behind” irrespective of their baseline education or ICT understanding is problematic in that either the facilitators have to simplify their workshops to accommodate those with less education or they

get left behind, forcing them to either “sink or swim”.

Participation quotas in grants and supported activities are not enough to bridge the digital divide, particularly in countries where educating women and girls has been prohibitive due to culture and/or conflict.

There needs to be targeted programming for female ICT innovators that considers cultural barriers, gender barriers, and norms accounting for the need to advocate on the behalf of women for access to education and/or technology as well as providing opportunities for foundational courses with the goal of nurturing innovation in digital technology.

“(…) One of the most common examples is having to include more women in a certain program, but we have not worked on developing a community of women that are enabled or capable enough in that certain area in technology. For example, we have not worked on having enough women in technology, (...) for example, to have them actually start businesses in that area. Until now we have cultural and traditional barriers that prevent women from even entering the sector to certain areas.”

Local innovators often face competing demand for their time, especially when compensation for their ICT-related work is insufficient.

A key observation discussed in interviews was the level of familial responsibility an ICT innovator may have, particularly if they are located in a refugee settlement. For example, in Jordan program coordinators realized that many of the ICT innovators attending workshops and training were also working full-time jobs to support their families. This often delayed the development of an ICT innovation or resulted in some innovators giving up on their projects or being unable to attend in the first place.

While another interviewee observed that there was an ideal recruitment period for innovators: just after completing school but before obtaining a job to support the family. If the innovator was then presented with a paid opportunity, they were more focused and dedicated to the project.

POLICIES AND PROCESS

There has been a significant uptick in the promotion of technology and innovations following the 2015 World Humanitarian Summit and the Grand Bargain. However, that has not necessarily translated into more direct funding for local ICT organizations and nonprofits.

In a white paper commissioned by USAID and drafted by the PSC's Council of International Development Companies, preference for using local and regional expertise was explicitly identified; however, compliance barriers have limited the amount of funds contracted or granted directly to local firms and non-profits [27]. This finding was echoed by many in interviews. In addition to compliance, concerns over risk were explicitly mentioned by organizations as justification for maintaining control of funds as well as other precautions such as requiring local organizations to have a partner that in essence "legitimizes" their organization and work. However, this does not empower communities or local organizations in the same way as they lack the ability to make decisions around the use of funds.

"I actually think that's a really important point is that you're not actually empowering people if you're not taking the risk. (...) Genuine localization doesn't mean you try to do the same thing you would have done anyway, but with local people appearing to lead, you actually hand over power, and you accept the risk of maybe something that you would consider ridiculous."

While community-led ICT innovation programs grapple with the challenges of reporting requirements, in contrast, donors do not have the capacity to manage an increased number of grants to smaller entities due to a lack of staff to oversee the administration and management of grants as mandated by their own government standards and policies.

Grant and funding amounts are driven, in part, by the capacity of an organization to monitor the funds. This results in either small sums dispersed to grantees with little reporting requirements, often seen as tokens, between \$1-5k, or larger sums, often \$250k and above, that require more intensive reporting requirements. This creates a situation in which community-based organizations cannot access larger amounts of money needed to develop and sustain their ICTs. Donor restrictions, however, are often rooted in public accounting and accountability laws, not necessarily rules and regulations established by themselves. This limits the flexibility of funding mechanisms available to them.

However, historically there have been other options. As retold in an interview, donors have in the past used large firms such as Deloitte to audit local organizations to ensure that compliance and reporting were met while also offloading the burden of managing multiple small-scale grants at one time and building the capacity of the local organization. An example of such a program is the TUNAJALI "We Care" initiative implemented in Tanzania in 2007 by Deloitte with the end goal of increasing the capacity of local institutions to manage program funds while planning, implementing, monitoring, and evaluating program activities [28].

Additionally, alternative reporting methods, as will be discussed within the recommendations, are already being implemented by some organizations wishing to increase access to funding for community-led ICT innovation

programs. Unrestricted funding supports community-led initiatives by empowering them to take ownership of the successes and failures of the project and to allocate funding where it is needed, including to cover administrative costs associated with organizational operations including grant reporting.

Community-led initiatives are not well equipped to respond to a global call defined by donors far removed from the field and concerned with 'big picture' challenges.

Equally important is the design of the funding mechanism itself. Innovation grants, those that fund early-stage, community-led ICT innovations, are often designed by HQ-based staff far removed from the contexts in which the technologies are applied. This forces the grant application process to be conducted in a limited number of languages (typically English only) and to look for solutions that solve big, often ill-defined global issues as opposed to specific, context-driven problems. This creates clear disadvantages for community-led initiatives and instead is optimized for Global North-based INGOs, ICT firms, or social enterprises (who design for a global scale) and makes it hard for local innovators to compete. In situations where funding is directly targeting local actors, this generic approach tends to favor local applications of trending technology as opposed to the more effective use of lower-tech solutions. Decentralizing the grant-making process, at least to regional hubs but ideally to response-level entities would better support the application of the localization agenda.

PARTNERSHIPS

Relationship quality and equitable partnerships where community organizations feel empowered to be decision makers generate higher levels of trust and capacity.

Partnerships are critical to community-led ICT programs, particularly the partnership between

community-led ICT innovation programs and larger international humanitarian organizations and donors.

In 2017, the Global Mentoring Initiative (GMI) conducted interviews with over 250 local community organizations identifying seven dimensions that cause frustration in working with international humanitarian actors and where they want to see change [29]. Four of the seven dimensions, relationship quality, participation, funding and financing, and capacity were also highlighted in interviews with community-led organizations and organizations that support community-led innovators. Rather than national actors, interviewees focused on community members or community-led organizations. Respondents focused heavily on the importance of relationship quality, noting that equitable partnerships where community organizations feel empowered to be decision makers generate higher levels of trust and capacity.

Across interviews, it was stressed that when local organizations feel that the relationship between grantee and donor is that of a valued partnership, they are more effective. Additionally, one community-led ICT program indicated that because they felt valued as a partner, they reciprocated by treating their relationships with community members and other organizations as valuable, perpetuating a feeling of empowerment and trust.

"I think for the partnership, this is one of the projects that I feel really comfortable in talking with our coordinating partners. I could see that they are solution oriented. And also the hierarchy of partnerships is not like the Northwest where they receive or like, or like, something more like a consultation, and when we are having some challenges, we could always email (...) So we really value [this] partnership, and also the way they support us."

Table 3: GMI's Seven Dimensions of Localization in Practice and as Applied to Community-led ICT Innovators/Innovation Programs [28]

	GMI's Seven Dimensions of Localization	Applied to Community-led ICT
RELATIONSHIP QUALITY	<ul style="list-style-type: none"> ▶ Respectful and equitable ▶ Reciprocal transparency and accountability 	<ul style="list-style-type: none"> ▶ Donors/INGOs treat community-led initiatives as equal partners maintaining open communication with community partners
PARTICIPATION REVOLUTION	<ul style="list-style-type: none"> ▶ Deeper participation of at-risk & affected populations 	<ul style="list-style-type: none"> ▶ Communities are involved at all levels of the innovative process from design, development to implementation
FUNDING AND FINANCING	<ul style="list-style-type: none"> ▶ Better quality ▶ Greater quantity 	<ul style="list-style-type: none"> ▶ Flexible funding for ICT innovation programs ▶ More funding opportunities that bridge the financial divide between startup funds and scale funding
CAPACITY	<ul style="list-style-type: none"> ▶ Sustainable organizations and collaborative capacities ▶ Stop undermining capacities 	<ul style="list-style-type: none"> ▶ Sustainable community-led ICT innovations
COORDINATION MECHANISMS	<ul style="list-style-type: none"> ▶ National actors' greater presence and influence 	<ul style="list-style-type: none"> ▶ Greater presence of Community-led ICT innovations/ innovators
VISIBILITY	<ul style="list-style-type: none"> ▶ Roles, results, and innovations by national actors are visible and reported on 	<ul style="list-style-type: none"> ▶ Roles, results, and innovations by community-led initiatives are visible and reported on
POLICY	<ul style="list-style-type: none"> ▶ National actors have greater presence and influence in international policy debates 	<ul style="list-style-type: none"> ▶ Community-led ICT innovators and organizations have a greater presence and influence within discussions on humanitarian ICT innovation strategies and policies

Who defines the problem to address matters and influences the dynamic of partnership?

A challenge across humanitarian ICT innovation programs is whether the innovation is addressing a problem as perceived by the community or a challenge that has been identified by a humanitarian organization. At times, this could be one and the same, but when

they are in opposition it leads to issues around uptake and sustainability. Often this does not come to light until program implementation. Therefore, one consideration for partnerships to both encourage community buy-in as well as ensure the ICT innovation program is a success, is investing in community engagement through consultations when the challenge has been identified by a humanitarian organization.

Respondents noted that donors rarely fund community-led initiatives directly due to risk aversion or the perception that low-resource means low quality. Partners who champion an organization with no financial ties can help build credibility.

Many representatives interviewed from community-led programs acknowledge that being viewed as a valuable partner takes time. As such, one approach being adopted is the use of go-between organizations that serve to broker relationships, connecting demand for solutions with the local supply of innovations [30].

This often translates into relationships between larger donor organizations and local organizations/ community-led innovators. This can serve to provide “credibility” for local organizations that are newly formed or engaging for the first time with international donors. This is also seen as a measure to mitigate risk by having an organization “vouch” for them. These go-between organizations do not manage funds, nor do they report to the donor, rather they serve to recommend the local organization. A model adopted in Somalia is that the “broker” organization engages with the local humanitarian clusters, through the cluster system they are able to understand existing challenges, often with organizations presenting challenges to them and then linking local community innovators and/or community organizations with the organization/sector that is in need of an ICT solution. Similar approaches have been taken in other locations.

Crowdfunding, microfinancing, and joint ventures are emerging as a pathway to reimagine partnerships and diversify funding sources.

Crowdfunding and microfinancing loans were identified in interviews as ways that community-led organizations are receiving funding and

support outside of the traditional humanitarian grant. Crowdfunding is unique in that it can serve a dual purpose; 1) gain buy-in from the community and 2) provide start-up funds for local entrepreneurs and ICT innovators. Community-led organizations and ICT innovators are not the only ones using crowdfunding, as revealed in interviews, large INGOs are also using online platforms to source funds for community projects as a means of ensuring community buy-in and ownership.

Microfinancing loans are another alternative partnership, though not widely available. Respondents noted that several organizations are working with financial institutions within countries that haven’t established accessible small business loan structures to increase opportunities for local innovators.

While respondents acknowledged that recipients would much rather receive grant funding than a microfinance loan, they have noted that there has been a high rate of success among borrowers who, according to interviewees, feel more pressure to succeed than if they had received a grant.

In addition to funding mechanisms there are also several new emerging funding modalities including venture capital/social impact funding whereby an INGO takes an ownership stake in a local start-up/innovation in exchange for funding and scaling support. This practice is currently implemented by Mercy Corps, while Save the Children are in the process of developing a similar program.

Additionally, there has been an increase in “prizes” or flexible funding awarded to organizations who have demonstrated previous achievements obtained through other funding sources. This modality is supported by innovation hubs such as the Response Innovation Labs as it rewards innovators who

have found ways to bootstrap their projects while providing fully flexible funds that do not require post-facto financial management from the donor [31].

An alternative partnership model that is being adopted, which encourages ICT innovation by focusing on capacity, is the use of innovation hubs as business incubators and/or accelerators within the humanitarian sector.

Five One Labs serves as an example of a business incubator serving refugees in Iraq, providing training and mentorship to refugees and underserved communities. Business incubation programs often influence aspiring entrepreneurs to develop or pilot technologies that can solve a particular challenge within the community. This alternative model sidesteps many of the risks outlined within a typical community-led ICT innovation program due to its overall design which focuses on business development often from conception to pilot to scale. In many countries, there are developed pipelines through different projects and activities to support entrepreneurs.

The initial program focuses on early-stage ideas. This is currently implemented, for example, by Orange Corners, after attending training and receiving mentorship on their design concepts, entrepreneurs are then able to move to the next stage, an acceleration program. The difference in approach is that the funding is focused on investing in the entrepreneur and his/her concept and building their capacity rather than focusing on a specific outcome.

However, the pipelines are not always in sync with programs offering similar training or grants within the same area preventing entrepreneurs from moving on to the “next step”. This often results in entrepreneurs becoming stagnant and/or developing concepts without access or ability to scale through acceleration.

Entrepreneurs in humanitarian settings or with a technology designed for assisting in humanitarian crises are likely to face the same challenges associated with barriers to entry for humanitarian funding, short-term grants, and complex reporting requirements but rather than these challenges preventing the initial pilot or scale, they will more likely impact sustainability unless the entrepreneur/innovator is able to procure private investors based on current funding mechanisms as highlighted above.

COVID-19

COVID-19 impacted humanitarian funding in a very unique way, 1) increasing the perceived value of community-led organizations due to their proximity to affected populations and the inability of international actors to provide assistance due to travel restrictions and border closures and 2) demonstrating that many of the processes and procedures that often exclude community-led organizations from eligibility are unnecessary.

Funds were made available to local organizations that could access communities, organizations that would, under normal circumstances, have been outbid or overlooked. Policies were adjusted to facilitate support to community organizations such as vetting practices and lowering barriers that would have normally prohibited local actors from being able to partner or engage in activities. Many interviewed saw the shift as an opportunity to move forward towards greater localization efforts.

There were some drawbacks, however. The accelerated use of digital platforms for basic service delivery during COVID-19, specifically in cash assistance, education and health communications also increased digital divide-related equity issues, i.e. populations that were

not digitally connected or were not digitally (or functionally) literate were unreachable.

As COVID-19 restrictions lifted, INGOs and other larger actors have returned to pre-COVID policies reinstating partnership requirements that served as barriers to funding.

KEY AREAS FOR CONSIDERATIONS AND ACTION

Across interviews, key areas for consideration were highlighted. Below is a selection of considerations matched with best practices that are currently being implemented and which if adopted on a larger scale could significantly impact access to funding and support for community-led organizations and ICT innovators.

GRANT APPLICATION REQUIREMENTS

Donors should consider conducting a regional review of their existing application requirements inviting stakeholders such as government partners, community-led ICT innovators, and others to provide feedback on the application process and identify opportunities and barriers. Below are specific barriers and best practices mentioned during interviews, however, there are likely many more ways to create a more inclusive application process.

Valuing context and local grounding

A major criticism of the failure of ICT innovations is the lack of cultural and contextual understanding of the environment for which the innovation is to be implemented. In theory, this should be addressed by using innovators from the affected community, but without a universally recognized definition of “community-led”, this is not always the reality. To ensure the success of the applicant, applications for

ICT innovations should include a local review panel to ensure that the community/humanitarian context is adequately understood.

Action:

- ▶ Donors should **create country or regional review panels** for funding applications to ensure grounding in the environment and understanding of possible challenges associated with implementation or sustainability.
- ▶ Community ICT Innovation Programs should ensure that they have adequately **considered infrastructural, community and environmental factors** that could impact the implementation of the ICT innovation.

Adapting language

The grant application process is perhaps the first barrier to entry for many community-led organizations and community-led ICT innovators. Developing alternative processes could go a long way to make the application process more inclusive and diverse. In particular, community organizations and innovators face challenges in submitting written applications. Language was specifically mentioned as an institutionalized barrier with most donors requiring applications to be submitted in English, French, or other dominant language placing community-led organizations and ICT innovators at a disadvantage compared to international organizations and/or competitors with expatriate employees with native speakers who are competing for the same funds.

Action:

- ▶ International donors should consider the context in which they are seeking requests for proposals. Specifically, the criteria established for submitting grant applications

should be **reviewed to address barriers associated with language and format of applications**, such as submission in official languages of the target country, local initial review by individuals who speak the language of the community/and or take the responsibility of translating the applications. This could provide an opportunity to **decentralize the grant-making process** and empower local missions to lead on grant selection and management.

- ▶ Donor should also consider expanding **flexibility with the application medium**, allowing for community organizations and ICT innovators to apply using video or audio applications. This helps to alleviate disparities in written applications often associated with language and can instead provide a demonstration of the organization and individuals' knowledge of the problem to be addressed as well as their proposed solution.
- ▶ Community ICT Innovation Programs should consider **reviewing the grant application processes and highlight areas where organizations can improve their processes to eliminate barriers** specifically mentioning areas where they are required to take on additional responsibilities such as translation compared to international organizations and advocate for better inclusive policies.

Allow for realistic and flexible budgets that meet the needs of community-led organizations

Community-led organizations develop project budgets for grants which often require reimagining due to realities on the ground. Not all current funding structures provide flexibility in adjusting the budget creating complications and barriers for local organizations.

Action

- ▶ International Donors: consider developing country or regional consultative processes with community-led organizations and other stakeholders to **understand challenges associated with project budgets** and the current processes and procedures. As provided in one interview as a best practice, consider flexibility in the design and facilitation of the budget allowing for adjustments throughout the call process to take into account feedback from involved (local) stakeholders and adaptation to changing contexts
- ▶ Community ICT Innovation Programs: consider engaging stakeholders early in the project design phase to take into account potential budget adjustments. **Include assumptions and risks as part of the submitted budget allowing for flexibility** during the implementation process if the assumptions are proven incorrect or risks are encountered.

Develop flexible registration mechanisms

Community-led organizations and community-led ICT innovators face challenges associated with establishing themselves as a “legal entity” a requirement for the majority of grants. In particular, they face obstacles in procuring and maintaining office space and administrative staff as these indirect costs are excluded from most grant funds. This generates a cyclical issue, organizations can't become established entities because they don't have the funds or physical space, yet they can't afford it as funding opportunities exclude these costs.

Action

- ▶ International Donors should, in line with Grand Bargain commitments, **ensure that funding is flexible allowing for the inclusion of indirect/administrative costs**. This is an acknowledgment not only of the expense that many community-led

organizations incur but also that all staff are important to the implementation of a project and assist in ensuring compliance with reporting requirements.

- ▶ Community ICT Innovation Programs: consider working in collaboration with government authorities in advocating for **redefining requirements for legal registration to account for existing circumstances**. For example, if there is a requirement that the organization has a physical location, advocate for a co-working space to meet that requirement.

Simplify reporting requirements

Community-led ICT innovation programs often struggle to meet the reporting requirements set out by donors. However, historically donors have relied on a third party to assist with auditing and compliance both building capacity within programs while also meeting the demands of the donor.

Action:

- ▶ International Donors should consider **revisiting partnerships with large auditing firms** to assist with unburdening the administration and management of smaller grants to community-led ICT innovations in order to support community-led ICT innovations while also meeting the reporting requirements mandated by institutional policies.
- ▶ Community ICT Innovation Programs should consider **partnering with audit firms to meet the administrative demands of larger grants** to support project scaling while also building internal capacity for future funding.

Consider broader social impact of supporting community-led ICT

Project outcomes are just one aspect of innovation; the larger picture is what *impact* the

ICT innovation has had on individuals and the community. There is often a lack of reporting on the social impact of an ICT solution, despite its value and the interest of donors to see how their investment has supported the community beyond directly reported outcomes.

Community-led innovation programs spoke of the desire to share the “bigger picture” with donors rather than relying on predetermined metrics established by the donor for evaluation and reporting.

Action

- ▶ International Donors should **consider adopting the use of Social Return on Investment (SROI)** as a performance measure. An SROI can provide social impact relative to the monetary investment and can also consider projected impacts beyond the immediate end of the project. Donor organizations can work with the community-led organization or innovators to develop criteria for the SROI calculation following project outcomes which are routinely collected as part of most M&E reporting requirements. Existing frameworks currently exist through the World Health Organization [31] and the Social Value UK [32] while other organizations such as the Digital Impact Alliance [33] offer toolkits to support the development of an SROI calculation specific for ICT innovations.
- ▶ To this end, international actors and donors can work to **create a universal template for SROI for innovation** projects which would serve as a baseline introduction to SROI and help organizations identify and collect the necessary data. INGOs can facilitate training workshops on SROI to assist with capacity building local, community-led organizations in capturing the data required to calculate an SROI.
- ▶ Community ICT Innovation Programs should consider adopting data collection

methods that would support the use of a Social Return on Investment calculation in order to **demonstrate to current donors the impact their projects/investment has on the community** and as well as the organization's value as the implementing organization. By reporting on the impact, the program has on the community at large, donors will have a greater understanding of the reach and/or sustainability of the innovation.

Enhance community feedback mechanism and evaluation of ICTs

Feedback mechanisms from users and communities, a critical measure of success, should be a considered the backbone of ICT innovation monitoring, evaluation, accountability, and learning (MEAL) systems so that Human Centered Design approaches can be validated, and the voice of the communities play a central role in the management of these projects.

Action

- ▶ International Donors should consider **incorporating feedback mechanisms from users and communities for ICT innovation project MEAL systems** as a means of measuring the success of a project and to ensure that Human Centered Design approaches can be validated and the voice of the communities heard.
- ▶ Community ICT Innovation Programs should **include feedback mechanisms within the monitoring and evaluation frameworks for ICT innovation** projects to elicit input from users and the community and to demonstrate the success of the innovation.

Allow for adjustment of objectives and outputs based on technological issues

Donors, INGOs, and UN agency MEAL log frames require partners to pre-decide several levels of thematic objectives. This can be problematic for innovators receiving startup funds, who are still working on the design of their innovation as they may need to “pivot” and potentially alter their results hierarchy. Currently, the log frames are generic, which can force small-scale, short-term pilots to have to meet outcome-level objectives that may not be available or cannot be reached without repeat/prolonged use of the innovation.

- ▶ International Donors should **consider developing log frames specifically geared towards small-scale, short-term pilots** with the flexibility to pivot as needed based on the development of the innovation/community needs.
- ▶ Community ICT Innovation Programs should consider **advocating for the use of an abbreviated log frame** that takes into account small-scale, short-term pilots with short-term, intermediary objectives that can realistically be achieved with initial use of the innovation.

Support and fund sustainability

Sustainability is a concern for both international donors as well as community organizations and ICT innovators. Heavy reliance on grants for seed and scale funding generates a focus on creating the “next big thing” rather than improving existing projects or innovations. It can also prove difficult for the longevity of an organization that prioritizes project-based solutions over problem-based solutions.

Action

- ▶ International Donors could **consider adjusting their focus and investment from “solutions driven” to “problem identification”**. This creates more circumspection as well as longer-term

funding to address the problem rather than limiting a solution to a specific time-bound project. This also supports innovative thinking without the distraction or concern over where the next grant will come from. Additionally, donors could support organizations' attendance at international or regional pitch conferences that attract private investors as a way of diversifying their income and support as a means of supporting capacity building in line with commitments defined within the Grand Bargain.

- ▶ Community ICT Innovation Programs could **consider attending regional and international pitch conferences that match private investors with local community-led innovators.** This would increase the diversification of funds and increase sustainability by providing longer-term investments.

Institutionalize and implement priorities for diversity

While many organizations have an institutional priority to support women-led/minority-led/refugee-led initiatives, there are not always policies in place to ensure that this is done in practice. In interviews with donor organizations, it was expressed that while organizations have institutional priorities to increase the funding for women-led organizations and/or minority-led/refugee-led organizations they did not have a means of identifying among grant applicants who that was. There were also no clear procedures on how this information was used in assessing applications.

Action

- ▶ International Donors consider **increasing diversity among staff as a means of attracting diverse grant applicants.**
- ▶ Additionally, ensuring that grant criteria aim to attract applications from diverse

candidates has a means of identifying who they are within the application assessment. Whether this is a checkbox to indicate if the organization is women-led/minority-led/refugee-led or a text box to describe how the organization includes diversity within its organization.

- ▶ Community ICT Innovation Programs **consider including diversity of the organization within the organization/team details of the grant applications** whether or not the information is specifically asked for.

Adapt quota approaches toward meaningful support for engagement and inclusion

Efforts to bridge the gender digital divide through a gender quota system are not always helpful, particularly when they are required for training or workshops. As one interviewee responded, training and workshop quotas in contexts where women are generally behind in education due to cultural restrictions on female education and/or lack of educational resources result in female attendees feeling left out and unable to participate. The majority do not continue within the field, while those who do face a steep learning curve compared to their male counterparts.

Action

- ▶ International Organizations: **consider alternatives to gender quotas** for technology and innovation workshops such as specific training targeting women and girls that would include remedial education and/or assistance or access to educational resources that they may lack due to gender norms.
- ▶ Additionally, rather than prioritizing quantity over quality, consider investing in opportunities that attract the “best and brightest” of female candidates such as

increasing funding for training scholarships or investment in female-led initiatives.

- ▶ Community ICT Innovation Programs increase the number of positions held by female staff members. As noted by one respondent, the organization's awareness and inclusion of female initiatives increased with the increase in female staff members. Additionally, women are more likely to be encouraged by an organization targeting female entrepreneurs or innovators if the organization has individuals that look like them and/or hold positions they aspire to.

Define partnerships

There is not a universally recognized definition for “Community-led” which leaves organizations to determine that criteria for themselves generating mass discrepancies.

Action

- ▶ International Donors and Community Organizations: consider creating a working group to develop a universally recognized definition of “Community-led” and/or standards of assessment that can be used by all organizations, donors, and funding mechanisms to ensure that local organizations are accurately identified and can access support and funding.

Cooperate more than compete

Community-led organizations are often in competition with one another as well as international organizations for funding. Creating opportunities for community-led organizations to apply as a coalition could expand funding opportunities for local organizations.

Action

- ▶ International Donors: consider including options for community-led coalitions within grant applications in addition to expanding

criteria for partnerships to support coalition applications.

- ▶ Community ICT Innovation Programs consider advocating with donors and among local organizations for opportunities to apply as a coalition, generating a supportive environment for community organizations rather than fueling competitive agendas. This could increase community support for local initiatives as well as generate local partnerships that improve the community and surrounding area.

Address power and financial imbalances

Within the debate on equitable partnerships between international donors and local community organizations and community members is the undercurrent of pay equality. The large gap between international and local humanitarian workers generates power imbalances and disincentivizes localization efforts.

Action

- ▶ International Donors consider creating pay equality/uniformity for all workers regardless of their nationality.
- ▶ Community ICT Innovation Programs continue to advocate for pay equality, emphasizing the direct correlation between pay inequality and power imbalances.

Build capacity for community-led ICT Innovation

There is an outstanding need to bridge the gender digital divide, however current methods often lack an understanding of the nature of the divide. For example, in post-conflict settings such as Iraq, women were unable to attend school during the war and are for social/cultural reasons often left out of educational advancement opportunities. Despite this, there is still a desire by Iraqi women to become digital entrepreneurs.

- ▶ International Donors: Rather than emphasizing gender quotes for workshops and trainings as a means of bridging the gender digital divide, ensure that there are funds available for foundational courses available to female participants that funnel into workshops and trainings so that they can address fundamental educational goals and be on par with their male peers.
- ▶ Community ICT Innovation Programs: consider establishing educational pipelines for female ICT innovators that start at the foundational level and build to include the design and development of ICT innovations. Additionally, consider increasing advocacy around the nature of the gender digital divide such as social/cultural norms and misconceptions.

ENDNOTES

1. Ramalingam B, Scriven K, Foley C. Innovations in international humanitarian action. Overseas Development Institute; 2009 Jul.
2. Sandvik KB. Now is the time to deliver: looking for humanitarian innovation's theory of change. *Journal of International Humanitarian Action*. 2017 Dec;2(1):1-1
3. Technology and innovation in the Grand Bargain. (2019) (IASC 1-pager). Retrieved September 5, 2022, from <https://interagencystandingcommittee.org/grand-bargain/technology-and-innovation-grand-bargain-september-2019-1-pager>
4. Inter-Agency Standing Committee. (2021). IASC Commitments, Accountability to Affected Populations. https://interagencystandingcommittee.org/system/files/legacy_files/IASC%20Principals%20commitments%20on%20AAP%20%28CAAP%29March%202013.pdf
5. Principles for Digital Development. N.d. Principle: Design with the User. https://digitalprinciples.org/wp-content/uploads/PDD_Principle-DesignWithUser_v31.pdf
6. Bryant J., Holloway K., Lough O., and Willitts-King B. (2020). Bridging humanitarian digital divides during Covid-19. HPG Briefing Note. London: ODI. www.odi.org/publications/17580-bridging-humanitarian-digital-divides-during-covid-19
7. WFP. (2022). Strategic Evaluation of WFP's Use of Technology in Constrained Environments. Centralized Evaluation Report – Volume I. OEV/2020/002 Office of Evaluation, WFP.
8. Arendt-Cassetta L. From digital promise to frontline practice: new and emerging technologies in humanitarian action. New York: UNOCHA. 2021.
9. Australian rejal. (2017). Going Local: Achieving a more appropriate and fit-for-purpose humanitarian ecosystem in the Pacific. <https://humanitarianadvisorygroup.org/wp-content/uploads/2020/12/ARC-Localisation-report-Electronic-301017.pdf>
10. See USAID (2022). 'Smart Communities Coalition Innovation Fund'. USAID, New York. <https://www.usaid.gov/powerafrica/sccif>
11. Arendt-Cassetta L. From digital promise to frontline practice: new and emerging technologies in humanitarian action. New York
12. Elrha. (2021a, August 19). How one organisation in Indonesia is making disaster preparedness more inclusive. Elrha. <https://medium.com/elrha/is-localisation-the-key-to-making-disaster-preparedness-more-inclusive-9dee6e77e990>
13. Elrha. (2021b, October 14). The role of community-led innovation in decolonising aid. Community-Led Innovation Partnership. <https://medium.com/community-led-innovation-partnership/the-role-of-community-led-innovation-in-decolonising-aid-7fe3173d9eb2>
14. Tent Partnership for Refugees. Refugee Entrepreneurship, Business Ownership, and the Right to Work in Host Communities: A Legal Comparative Analysis. (2021). Retrieved February 17, 2022, from <https://www.tent.org/wp-content/uploads/2021/03/Refugee-ent-FINAL.pdf>
15. Comes, T., Meesters, K., & Torjesen, S. (2017). Making sense of crises: The implications of information asymmetries for resilience and social justice in disaster-ridden communities. *Sustainable and Resilient Infrastructure*, 4, 1–13. <https://doi.org/10.1080/23789689.2017.1405653> UNGA, 2016
16. Betts, A., Bloom, L., & Weaver, N. (2015). Humanitarian innovation that starts with communities. 52. <https://www.rsc.ox.ac.uk/refugee-innovation-humanitarian-innovation-that-starts-with-communities>

17. Gigler, B.-S. (2011). Informational Capabilities—The Missing Link for the Impact of ICT on Development. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.2191594>
18. Rejali, S. and Heiniger, Y. (2020). Editorial: The Role of Digital Technologies in Humanitarian Law, Policy, and Action: Charting a Path Forward. *International Review of the Red Cross* 102 (913), 1–22. Digital technologies and war. doi:10.1017/S1816383121000114
19. A Conversation with Hugo Slim: Warfare, Civilians and Humanitarians in the Twenty First Century. UNOCHA Recording. (2021) - <https://www.youtube.com/watch?v=KfjqL4b5MIY>
20. Bryant, J. (n.d.). New technologies are changing humanitarian action, but don't assume their inclusive. ODI. <https://odi.org/en/insights/new-technologies-are-changing-humanitarian-action-but-dont-assume-theyre-inclusive/>
21. Kisan, W. S., Dadabhau, A. S., & Singh, K. (2013). Factors affecting the sustainability of ICT intervention for agricultural development -A review. *Agricultural Reviews*, 34(3), 198. <https://doi.org/10.5958/j.0976-0741.34.3.004>
22. Toyama, K. (2011). Technology as amplifier in international development. *Proceedings of the 2011 I Conference*, 75–82. <https://doi.org/10.1145/1940761.1940772>
23. Stoddard A, Czwaro M, Hamsik L. NGOs and Risk: Managing Uncertainty in Local-International Partnerships. *Global Report. InterAction and Humanitarian Outcomes*. 2019.
24. Sandvik, K.B., Jacobsen, K.L. and McDonald, S.M., 2017. Do no harm: A taxonomy of the challenges of humanitarian experimentation. *International Review of the Red Cross*, 99(904), pp.319-344.; Elrha (2018)
25. Bill and Melinda Gates Foundation. (2022) Novel Measurement for Performance Improvement Challenge. Frequently Asked Questions (FAQs) https://solve.mit.edu/challenges/performance-improvement/custom/faq-l#challenge-subnav-offset;%20%20https://www.usaid.gov/div/FAQs#FAQ_Eligibility
26. Humanitarian Grand Challenge. (2020) Humanitarian Grand Challenge: Request for Proposals. Frequently Asked Questions (FAQs). *Creating Hope in Conflict: A Humanitarian Grand Challenge*. <https://humanitariangrandchallenge.org/wp-content/uploads/2020/10/HGC-R3-FAQ-2020-EN-1.pdf>
27. Council of International Development Companies (CIDC) (2021). Perspectives on Localization. Retrieved June 7, 2022, from https://www.pscouncil.org/a/Resources/2021/Perspectives_On_Localization.aspx
28. Deloitte. (2007). Case Study: Improving access to support and treatment for people living with HIV/AIDS. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Public-Sector/dttl-ps-peoplelivingwithhivandaidsasestudy-08082013.pdf>
29. Global Mentoring Initiative (GMI). (2022). Global Solidarity, Localisation, and Reform of the International Aid System. <https://www.gmentor.org/equitable-partnership>
30. What We Do. Response Innovation Lab. (2022) <https://www.responseinnovationlab.com/what-we-do/>.
31. Hamelmann C, Turatto F, Then V, Dyakova M. Social return on investment: accounting for value in the context of implementing Health 2020 and the 2030 Agenda for Sustainable Development (Investment for Health and Development Discussion Paper). World Health Organization. Regional Office for Europe; 2017.
32. Hamelmann C, Turatto F, Then V, Dyakova M. Social return on investment: accounting for value in the context of implementing Health 2020 and the 2030 Agenda for Sustainable Development (Investment for Health and Development Discussion Paper). World Health Organization. Regional Office for Europe; 2017.

33. Social Value UK. (2012). A Guide to Social Return on Investment 2012.
<https://socialvalueuk.org/resource/a-guide-to-social-return-on-investment-2012/>
34. Digital Impact Alliance (DIAL). (n.d.) Valuing Impact Toolkit. Method Overview SROI. 64.
https://resources.dial.community/resources/valuing_impact_toolkit/play/64

ANNEX: CASE STUDY QUESTIONS AND SUB-QUESTIONS

Main Research Questions	Pillar	Sub-Questions
<p>How are community-led ICT innovations prioritized within granting bodies and large humanitarian organizations?</p> <p>What processes and mechanisms are in place to achieve this?</p> <p>What are existing barriers and/or best practices?</p>	Technology	<ol style="list-style-type: none"> 1) What type of technology is being developed by Community-Led ICT Innovators? 2) What technology is your organization using to engage with community-developed ICT innovators? E.g., social media, online platforms, and phone apps. 3) In your experience, what are some of the greatest needs/gaps in resources faced by community-based ICT innovators? 4) How does your organization define community-developed ICT innovation? 5) At what phase of innovation can community ICT innovators receive funds? E.g. concept, prototype, completed ICT, beta tested, small scale distribution [i.e. scale up funds]
	People	<ol style="list-style-type: none"> 1) How are barriers to entry for community-developed ICT innovators identified and prioritized within the organization? 2) What is required for community-developed ICT innovators to gain access to information about support/funding/training? 3) Do you have/ What percentage of resources are allocated for female innovators?
	Policies and Processes	<ol style="list-style-type: none"> 1) What policies and processes are in place to support community-developed ICT innovations/innovators? 2) To what extent is your organization prioritizing support for community-developed ICTs? 3) What policies and processes are in place to recognize barriers to entry of community-developed ICT innovations? 4) To what degree does the organization perceives the current situation related to engaging community-developed ICT innovators as intolerable or needing change? 5) What policies and processes are in place to attract community-developed ICT innovations/innovators? 6) How does support for community-developed ICT innovations/innovators align with organizational values?
	Partnerships	<ol style="list-style-type: none"> 1) What external organizations do you collaborate with on community-based ICT innovations? 2) At what stage in the development of the ICT innovation is a partnership formed? 3) To what extent does the organization partner with affected communities? And how are affected communities defined?

	COVID-19	<ol style="list-style-type: none">1) How has the organization's structure (social architecture, age, maturity, and size) enabled the support of community-developed ICTs during COVID-19?2) In what way were resources dedicated to community-developed ICTs impacted by COVID-19?3) How did COVID-19 impact the priority of supporting community-based ICT innovations?4) Were there/ Are there any regulatory considerations when providing support for community-based ICT innovations?
--	----------	---