Informing an Uncertain Future II

Localizing Strategic Alignment with a conceptual analysis of 75 interviews with social impact leaders from East Africa.

NetHope's Center for the Digital Nonprofit
Jean-Louis Ecochard and Nicholas M Kerastas


"A river runs deep because of its source."
African Proverb

Gratitude is extended for the contributions from the corporate founders of NetHope's Center for the Digital Nonprofit.

A tremendous thank you is extended to the humanitarian and development professionals who dedicate their work to bettering people and planet alike in the Great Lakes Region of Africa.

Contents

Abstract

No region has endured more development and humanitarian complexities than the Horn of Africa and the Great Lakes Region. Within this geography resides trends of colonialism, conflict, and climate change that have compounded to create an operating context inhospitable for local nonprofit practitioners working toward global objectives like the Sustainable Development Goals (SDGs). Despite this underlying situational awareness of poly crisis NetHope Member nonprofits alongside community allies remain committed to advancing the interests of people and planet across the region. As a result of this commitment, NetHope identified East Africa as the geography most suited for the second phase of the community Strategic Alignment Initiative.

This whitepaper establishes that there is misalignment on the implementation of digital enabling strategies between global headquarters and the local humanitarian and development programs of East Africa. As headquarters of international NGOs – mostly based in the global north – participate in an information revolution that seeks to drive organizational efficiency (i.e., Peak Performance) through effective data use (i.e., Information Certainty) local humanitarian impact programs – mostly based in the global south – have not been afforded the equivalent digital foundation to join the information revolution on their owns terms. Consequently, when seeking to leverage business applications and digitally enabled services for amplified impact there exist fundamental barriers to success. To unlock gridlock around the amplifying potential of digital, global nonprofits must revisit foundational digital dimensions thereby finishing the job on "wiring [and connecting] the global village" (Granger-Happ, 2001), providing skills and leadership for a digital age, and ensuring that collective action is harnessed in a strategic capacity to scale innovation in parallel with sector trends of localization.

Participating Nonprofits

Background

Beginning in the Spring of 2021 NetHope launched the first phase of the community Strategic Alignment Initiative. Captured through the published whitepaper on the topic – link here – NetHope sought to understand how the collective Membership leveraged digitalization for internal effectiveness and program impact toward global objectives such as the Sustainable Development Goals (SDGs). Echoing Member commitments to go "the last mile on ending hunger, achieving full gender equality, improving health services, and getting every child into school" (UNDP Africa, 2021) NetHope began engaging in strategically placed research and development to support collective Member impact toward the SDGs through digitalization and the force-amplifying promises of technology.

NetHope revealed an ongoing information revolution taking place across the social sector and the nonprofit Membership. Having acquired digital enablement strategies from roughly 90% of the Members - 45% of which was confidential (Ecochard and Kerastas, 2021) NetHope was able to identify an intertwined transformation pathway inclusive of multiple foundation digital dimensions (Appendix Figure A). Integral to this transformation is what became known as the "Keystone Ecosystem" (Ecochard and Kerastas 2021) which is represented by a series of linked waves of change that nonprofits are engaging with for more effective digital transformation.

The various elements of this ecosystem includes Connectivity, Applied Technologies, Digital Skills, Information Certainty, and Peak Performance (Appendix Figure A). Supplementary to the 'Keystone", are the dimensions of Digital Protection and Emerging Technologies. Through NetHope's wide network of relationships and qualitative understanding of the Members, these dimensions are believed to represent latent strategic waves that will become critical to digital enablement journeys.

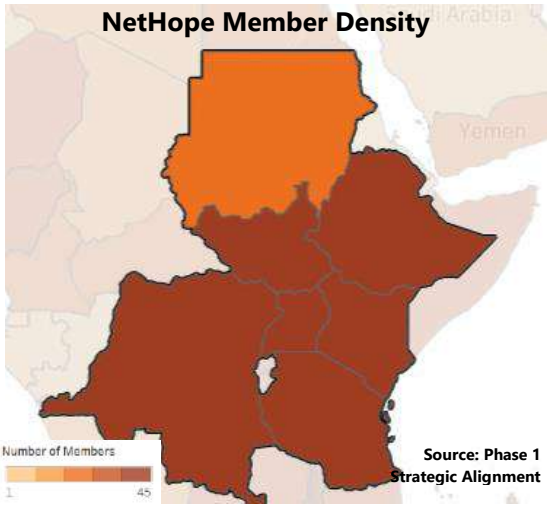
Research also validated the notion of a stressed and burdened ecosystem of social impact and humanitarian action. Global debt of developing countries - the main target of SDG objectives - has reached $10 trillion (UNCTAD, 2020), funding gaps for support of the SDGs has ballooned to $4.2 trillion (OECD, 2020), and global crises are proliferating across East Africa and global trading partners to the region in Eastern Europe (Gbadamosi, 2022).

Following these trends humanitarian action and the social sector's ability to response to development crisis will become more difficult (Kerastas and Ecochard, 2022). As a result of this situational context, Members are turning toward digital to increase return on investments and achieve greater impact during a time when resources are becoming less available.

In the Winter of 2021 NetHope began briefing Members on the second phase of the Strategic Alignment Initiative. NetHope identified East Africa (Ethiopia, DR Congo, Kenya, Uganda, and South Sudan) as the next step for Strategic Alignment based upon Member density in the region where on average there are 42 Member active in each geographic location. Coordinating with Member HQs to identify in-country contacts across locations these Member programs and the staff that support them became the main data source for this study. Density of Member activity highlights escalating needs from affected communities in the region facing threat multipliers from proliferating climate change, development challenges, and community conflict. NetHope sought to connect with these individuals to understand the local nuances of digital enablement and better understand how NetHope and the wider community can support digital advancement across East Africa.

The decision to focus on East Africa for the second phase of the Strategic Alignment Initiative was based on several factors, including the following statistics that supported the development of this focus. These statistics include data on Member presence and the increasing need for digital transformation and enablement in the nonprofit sector in East Africa.

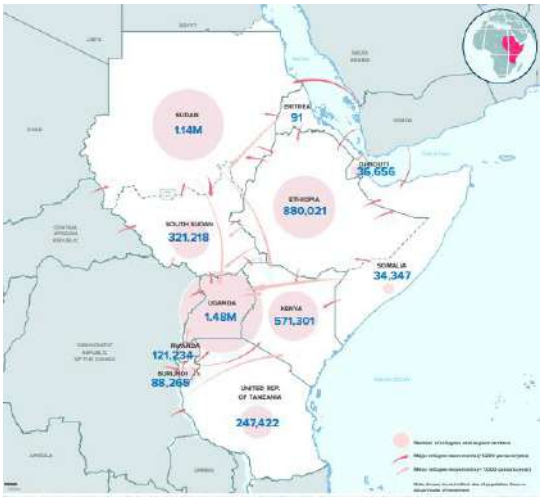
Ethiopia:
44 Members present in country
20m people in need of humanitarian assistance (WFP, 2022)
9.4m people at risk of famine (ReliefWeb, 2021)
2.6m internally displaced persons due to conflict (UN Population Fund, 2022)
880k refugees hosted (UNHCR, 2022)
600k estimated civilian casualties due to conflict (Green, 2022)



DR Congo:
40 Members present in country
27m people in need of humanitarian assistance (OCHA, 2022)
5.5m internally displaced persons due to conflict (ReliefWeb, 2022)
1m sheltering in neighboring countries (ReliefWeb, 2022)
519k refugees hosted (UNHCR, 2022)

Kenya:
43 Members present in country
4.1m people in need of humanitarian assistance (ReliefWeb, 2022)
942k children at risk of malnutrition (ReliefWeb, 2022)
571k refugees hosted (UNHCR, 2022)

Uganda:
45 Members present in country
13.8m people in need of humanitarian assistance (UNICEF, 2022)
7.4m children in need of humanitarian assistance (UNICEF, 2022)
1.1m refugees hosted (UNHCR, 2022)



South Sudan:
37 Members present in country
8.9m people in need of humanitarian assistance (OCHA, 2022)
2.3m sheltering in neighboring countries (UNHCR, 2022)
1.6m internally displaced persons due to conflict (UNHCR, 2022)
1.4m malnourished children (OCHA, 2022)
337k refugees hosted (OCHA, 2022)

With the recognition of increasing needs from affected communities in East Africa and a growing number of Member programs aiming to address these needs and assist local populations in achieving pathways to prosperity, the second phase of the Strategic Alignment Initiative is focused on understanding how collaboration and digital solutions can make a difference. As we approach 2030, it becomes increasingly crucial to make progress towards global development targets, making this goal of collective action and digital enablement more important.

Research Methodology

Drawing on a qualitative methodology this research leveraged a standardized interview protocol conducted across 75 consultations, encompassing 230 individuals, in 8 identified countries (Ethiopia, DR Congo, Kenya, Uganda, Sudan, South Sudan, Tanzania, and Zambia). Participants varied in terms of functions but the primary target for interviews were country directors or those who were responsible for ICT4D engagement. 48% of participants – despite global headquarters having Membership in NetHope – had never associated with NetHope or collective impact with peers across the sector. Accordingly, interviews began with function introductions, program priorities, proceeded by group discussion following a standardized interview protocol on digital enablement. To ensure accuracy, consultations were recorded and transcribed both manually and with the aid of AI transcription tools. Each question within the protocol focuses on each of the critical digital dimensions identified in the first phase of strategic alignment and seeks to understand how participants viewed each dimension. The questions were intended to identify which digital dimension represented a barrier and was worth the sector using collective impact to solve for impact. Each discussion ended with a core question:

- How can NetHope assist digitally enabling program impact on the local level?

After data saturation was achieved the research team was able to proceed to analysis of collected interviews and sentiments. Responses were coded based on digital dimension and the accompanying participant sentiment (i.e., barrier or enabler). The collected sentiments were then aggregated and organized through an affinity mapping process to create a story or journey map which explores how participants in East Africa perceived each digital dimension. This process allowed for a comparative analysis between global digital headquarters (from phase 1 of Strategic Alignment) with localized East Africa impact programs (from phase 2 of Strategic Alignment). NetHope was then able to identify areas of alignment or lack thereof regarding the pre-requisites for strategic digital innovation and the development of digitally driven nonprofits.

Findings Summary

Each digital dimension in the global strategic data set (Appendix Figure A) informs NetHope's strategy as it related to Membership since the onset of COVID-19. This approach is guided by the premise that Member nonprofits are moving beyond Connectivity and that an emphasis on efficiency through data and Information Certainty has emerged as the new strategic priority. It is from this frequency mapping (Appendix Figure B) that NetHope has begun the transition from 'wiring the global village' (Granger-Happ, 2001) to ethically sustaining and managing the global village with full inclusion of stakeholders. This includes implementing ethical data practices and involving all stakeholders in decision-making processes to ensure global village is managed equitably for all.

NetHope conducted a comprehensive analysis of how each dimension manifests on the local level in East Africa, and what additional steps are required to optimize these dimensions for localized impact thereby contributing progress towards the SDGs. In this context, operational intricacies emerge that impede the effective utilization of internal business applications and digital enabled programs for impact on the local level. These complexities reveal a discordance between global headquarters and local programs of NetHope Member nonprofits as it related to their digital implementation strategies and supporting technology stacks.

The assumed technology stack from global nonprofit stakeholders (Appendix Figure C) postulates that Connectivity is sufficient, where most nonprofits operate such as East Africa, to serve as a foundation of business applications and digitally enabled programming. Global actors then continue to assume that connections to the global village are adequately safeguarded with Digital Protection principles akin to existing sector norms of "Do No Harm". Ascending the stack from this global viewpoint, Digital Skills and Applied Technologies are then hypothesized to be easily conjoined in an unproblematic manner, enabling practitioners to apply cutting-edge digital methodologies for localized impact. Technologists sitting in the global north view this idealized technology stack for humanitarian action as efficient, adaptable, and data-driven with analytical acumen as embodied by Information Certainty.

However, the reality of the technology stack presents a vastly different operating landscape for digital enablement on the local level (Appendix Figure C). Applied Technologies and business applications are frequently instituted for local use at the headquarters level without ensuring that staff and affected populations possess the necessary Digital Skills or supportive technical capacities. Programmatic points of action depend on Connectivity that is neither reliable nor price conducive. Thus, when Applied Technologies are designed and integrated into humanitarian programs gaps emerge in communication capabilities and the effective use of resources and capabilities. From this ongoing process emerges a fragmented and unsustainable digital enablement process that falls short of achieving Peak Performance and Information Certainty. As a result, the current reality of digital enablement for nonprofit organizations has placed Digital Protection as an afterthought in technical capacity building, rather than a preeminent guiding principle in the development of business and digitally enabled client services, as "Do No Harm" principles necessitate.

The strategic digital misalignment identified in this research between idealist assumptions of global headquarters and realities from local practitioners is significantly preventing amplified social impact toward the SDGs with digital. The lack of alignment on each dimension is expanded upon further in the following sections.

Findings Breakdown

Connectivity

According to the 2022 global strategic data set (Appendix Figure B) Connectivity had a representation of just 32% in Member's digital enablement strategies, up by 5% since 2021, leading to the assumption that it was no longer a major priority at the headquarters level. NetHope saw this as an organizational victory, having spent over 20 years providing reliable and affordable connectivity solutions to nonprofit Members globally.

However, local stakeholders in Eastern Africa highlighted a misalignment between global and local priorities on this digital element. While global assumptions had deprioritized Connectivity, local practitioners emphasized it as a critical barrier to digital enablement. Interviews with 62 out of 70 practitioners revealed that Connectivity was a major operational barrier and a potential area of collaboration for the social sector, donors, and corporate technology partners. This disconnect between global and local realities indicates a need for greater collaboration to empower regions with the technical capacity and foundational ICT infrastructure elements to help amplify efforts toward achieving the SDGs. The significance of Connectivity becomes evident through a participant story arc, emphasizing its foundational importance to digital enablement:

"I am sorry for the delay in connecting… Our network was being updated and my hotspot was not strong enough"

"Whenever there is a kind of conflict… [insert telecom], you know, shuts down access to data and telephone"

"And now Safaricom is in the process of starting its business in Ethiopia. So, this is a new development, it's a very encouraging."

"Some locations, very remote and last mile, those locations do not have enough infrastructure or demand for telecom providers."

"In Uganda, it's been up and down. But when people are at home, using their mobile phone to, to use to create internet for their laptop grade hotspot, that's challenging"

"Here [at participating organization] connectivity is very expensive, so we have to pay high amount of money which sometimes is difficult to sustain our budget yearly budget for Internet stands to about half a million dollars per year, which is quite steep."

"Even with expensive internet, you will struggle to get good internet speeds"

"Well, there's still a very big challenge... other than connectivity, we also have power issues which are just as problematic."

"We [at participating organization] want to provide digital programming… Of course, the broadband, which they're using, is not quite enough for it to be able to support such kind of instances."

"We are pushed to use alternative options like portable dongles to just enable that area to have internet access to connectivity"

"With colleagues in our country office, it's easy to, to connect through the internet, in the same office, but with our field offices, there are many days where the internet is very slow, and it's difficult to connect with them."

"Because connectivity is an issue here. Not every location in the field has got good coverage of internet. That means that you can't reach one who is in the field at all times."

"When were out of the office, I'm unable to download emails or get some connection. And then essentially, what happens to me for me is that in the evening, when I'm in my room, I just tried to reply to everything, and it doesn't get sent until the next morning when I get connected again"

"We finalize all our finances by the 15th of the following month, and we're always late. Always the country the office that is the latest globally, because we must wait for our field offices to basically send the data in and then upload it manually in Addis because the field offices aren't online."

The Connectivity story board from local practitioners in East Africa highlights the need for the sector to continue the mission of "wiring the global village" (Granger-Happ, 2001). In this region, some governments hold unilateral control over connectivity and information-based platforms, and their policy decisions can result in service disruptions for Members. During times of conflict or political unrest, governments may even weaponize Connectivity, creating significant challenges for nonprofit programs and the communities they serve. Nonprofits have reported vastly different experiences with Connectivity, depending on their relationship with government actors. This situation can be detrimental to affected communities as well as aid organizations requiring urgent international attention.

Digital divides on the supporting infrastructure for Connectivity continue to inequitably impact urban and rural communities in unique ways for nonprofits in this analysis. In urban areas, affordability along with lack of reliable high-speed internet access (i.e, broadband) was noted as the main barrier whereas in rural areas access and demand became the main barrier. The latter is especially true in the LDCs included in this analysis. Commercial investment models have brought in new mobile infrastructure, mostly 3G or 4G in areas where demand merits, but such efforts have not provided increased access to broadband or fiber connections which are needed to support effective use of internal business applications and digitally enabled client facing services.

Government actors have taken steps to advance Connectivity and other fundamental infrastructure elements but at present these steps have not seen the level of long-term investments or collective action needed to ensure affordable and reliable services for nonprofits working in LDCs and in rural areas. The progress of existing initiatives is currently limited because of electrical infrastructure that causes reliability of power grids to interrupt service for nonprofits on a regular basis. On multiple instances such interruptions made participation in this research delayed or impossible. In cases where Connectivity infrastructure is present, and significant expenditures are spent, reliability and bandwidth of networks cannot be guaranteed to be sufficient fort efficient use of digitally enabled solutions.

The exorbitant costs of Connectivity are noted as major source of strain on local budgets, depriving nonprofits of the funds needed to develop digitally enabled programs and other essential internal investments that could have a far greater impact for affected communities. As a result, many organizations turn to alternative connectivity solutions such as VSAT or Mobile LTE, which are costly and often unreliable in remote or austere areas. The absence of collectively shared or ubiquitous connectivity solutions in East Africa also creates a troubling situation where field staff are unable to communicate or utilize digital tools and business applications implemented for use at the global level. Consequently, Connectivity is a major obstacle to the efficiency of internal business processes and the development of digitally enabled programming, but this challenge is often overlooked in the digital enabling strategies of Member nonprofits at the global level.

Misalignment between global and local stakeholders on the digital dimension of Connectivity highlights an opportunity for the sector and supporting donors to amplify impact by ensuring that nonprofits and affected communities have access to affordable and reliable Connectivity organizations will be able to more effectively leverage digital solutions designed for business applications as well as client facing service and program offerings. Without going the last mile on Connectivity, the impact of nonprofits and social impact partnerships will be limited according to local infrastructure capacities and situational complexities.

Digital Protection

In 2022, the global strategic frequency for Digital Protection stood at 51%, marking a noteworthy increase from the previous year (Appendix Figure B). Digital Protection is a manifestation of the principle of "Do No Harm" extended to the digital sphere with a focus on addressing crises such as data breaches and cyber security. As the importance of the digital dimension of Digital Protection has gained recognition, it has been integrated into global strategies, resulting in increased funding allocations, technical expertise development, and operationalization of best practices for protection.

While there are identified synergistic characteristics that align global headquarters and local practitioners' sentiments on Digital Protection, this synergy seems to lose effectiveness on the operational level when digitally enabled programs and business applications are implemented in the field. Although the criticality of Digital Protection is acknowledged across global and local actors, practitioners at the local level who provide direct assistance to affected communities do not have comparable capabilities or resources to ensure the safety or ethical considerations of digital interventions. Additionally, global assumptions do not factor in the resource intensity and operational complexities of ensuring Digital Protection on the country level and in the field. Consequently, digital inequities are starting to emerge between global and local actors, which could result in aid disruption. Participant sentiments from East Africa illustrate the variable alignment on this dimension.

"There is a great threat, the cyber security threat, given our online businesses procurement, finance, even at personal level"

"We had one huge issue recently… where something was significantly compromised… We use Okta now. I think cybersecurity is much much stronger here than it ever was before."

"within Ethiopia, where you only have one ICT provider who controls everything, you can make your own conclusions."

"sometimes we'll find people would want to breach the protocols that in the organization in terms of how we actually collaborate in terms of sharing data"

"The issue of how cyber security is handled, is really a challenge, especially on remote sites."

"We have challenges around you know, data protection, particularly for the vulnerable communities and the need for protection of children. When it comes to ensuring that the record keeping is well secured, and that it doesn't fall into the wrong hands."

"Ever since the EU introduced the GDPR. We in Africa, still trying to see how it relates back to us. And it's something that keeps on coming back as an issue, especially with our team writing project proposals"

"Even if you digitalize, then you're in compliance with data loss protection laws is really critical, which is increasingly becoming a requirement and we have to, as Nonprofits actually make sure that we also give that protection"

"More widely, and other NGOs is the whole data compliance, safe data management, and processes or procedures… It's a field that's moving at rocket speed, at least, it seems like that when you're not an expert in it, like GDPR."

"Like for example, it's very expensive for us to hire a cybersecurity person or data protection guy. So we outsourced…"

"We really need to build capacity… Last year, we have given some Cisco training locally, since like Certified Information Security Professional Training… but still, we don't believe that security is always countenance and different. We need to have continuous capacity building"

"Looking at the broader perspective… this takes a huge investment to go into cybersecurity as well as sort of bringing up our infrastructure, which is a big challenge. Like we, we've brought in digital identity, and MFA technology"

"As an organization and as an affiliate, we all require extra training in cyber and data security, so that all of this data that we collect and we share amongst each other and with our with our partners remains safe."

The previous participant story board from East Africa revealed a nuanced perspective of alignment on the dimension of Digital Protection, reflecting varying degrees of shared understanding among local practitioners. However, it is noteworthy that consensus exists on the sector's responsibility to address the potential risks that arise from digitally enabled business applications and client-facing services. This shared awareness of risks stems from extensive baseline assessments, direct encounters with cyber threats, and ongoing issues of data sharing and protection policies that transcend borders and involve international stakeholders. The risks are recognized to affect not only the staff responsible for program impact but also the communities that nonprofits aim to serve through their interventions.

Misalignment on Digital Protection becomes increasingly discernible as the focus shifts from strategy to the practicalities in the field. In austere contexts, such as crisis epicenter or in rural areas, practitioners are single-mindedly devoted to achieving results or positive impact for the communities they serve. The concept of Digital Protection, while acknowledged as vital, is currently relegated to the backdrop of technical advancements that support field work. Participants underscored that, given the emergency contexts in which they operate, data privacy and protection of personal identifying information (PII) are crucial, but local staff lack the necessary capacity and resources. Therefore, the immediate priority is to supply affected populations with timely information and program services. In this context, ensuring proper cyber security protocols or data sharing processes may potentially jeopardize such efforts, and is often a priority that arises post-program implementation. This cognitive dissonance between global and local humanitarians in mitigate risks of digitally enabled business applications and client facing services represents a perilous dynamic going forward.

One of the primary contributing factors to the varying degrees of alignment on Digital Protection lies in the headquarter willingness to delegate autonomy and provide local practitioners with allocated capabilities and resources to proactively address cyber security and data privacy risks. For instance, the emergence of government-led data protection policies, including the European Union's General Data Protection Regulation (GDPR), Uganda's Data Protection and Privacy Act (DPPA), and Kenya's Data Protection Act (DPA), has created a complex scenario for local humanitarian and development programs. These programs aim to foster community development in Uganda or Kenya but must report on their impact to global headquarters located in Europe. Practitioners are well-aware of possible discrepancies in compliance with data protection standards but are often not equipped with the necessary resources or capabilities to address potential issues across the enterprise or on the country level. This misalignment underscores a perilous dynamic, as it hinders efforts to effectively manage the risks associated with digitally enabled business applications and client-facing services.

While local capacity development for Digital Protection is deemed crucial, it has not been sufficiently invested in nor supported to keep pace with the rapidity of the sector or the agility of threat actors in the realm of cyber security and data privacy. The scarcity of expertise in this domain among local actors is largely confined to a few critical internal stakeholders, often outsourced or externally leveraged, at exorbitant costs, indicating a lack of democratization of essential Digital Skills in the arena of Digital Protection across the enterprise and at the local level. Furthermore, there is a palpable demand among local practitioners, including both program and IT staff, for continuous development and enhancement of capabilities in the Digital Protection space, underscoring another opportunity for the social sector to harness collective action to amplify program impact while staying true to the principles of "Do No Harm."

Digital Skills

With a 2022 global strategic frequency of 91% (Appendix Figure B), members are proactively establishing innovative ways of work dependent upon digital tools. Accordingly, the strategic pursuit of Digital Skills for staff and affected communities is a dimension that seeks to build on Connectivity and propel digital-enabled action toward the Sustainable Development Goals (SDGs). Moreover, Digital Skills act as a crucial enabler for other digital dimensions, including Applied Technologies, Information Certainty, and Peak Performance. These four dimensions have emerged from the strategic landscape of nonprofits as the primary digital pathways that are indispensable for action toward the SDGs.

Despite general consensus on the significance of Digital Skills from a global perspective, discrepancies arise when it comes to local implementation. This leads to uneven support from headquarters, with local demand for training surpassing the global capacity to deliver. Additionally, operationalizing Digital Skills becomes intricate, with complexities that are often overlooked in the digital strategies of global headquarters. While it is presumed that Digital Skills follow the establishment of reliable Connectivity and robust Digital Protection processes, in reality, Digital Skills programs are often implemented as provisional measures to pilot tools, instead of sustaining long-term usage and achieving impact through digitally enabled tools. As highlighted in the following participant story arc, there are certain factors that must be addressed to unlock the full potential of digital talent.

"The fact that country offices cannot fully engage themselves into big projects without the regional hub supporting and providing expertise is one of the key barriers"

"we've largely not had a very successful story in our digital endeavors. And so HQs shift from one to another, to in managing our sponsorship, for instance, we had something called the links. And when we transition to Salesforce. Technical skills are all different"

"Our major focus area would be, I think, if we can get, you know, capacity building support on especially on operationalizing [specific digital tools]"

"We get requests for training people on how to use Excel, or someone will make something in Excel. And then you can see there's no formulas in it. Like, it's just, they're not even beginning to scratch the surface of what the tools can offer."

"As you say, productivity is only as good as people, you're leveraging the tool. So, we do have the trainings we have… But it would be great if we can have a joint thing across NetHope"

"Sending an Excel sheet around to consolidate some information. And everyone downloads an attachment from an email fill in some information, gives it a new name, and sends another attachment back and at the end, the consultation is completely lost, because there's so many versions of the Excel file where all those users have access to a cloud-based Excel file"

"The awareness of the businesspeople towards technology is very limited. So, they don't usually engage it people into their program design and program implementation. a big challenge for us not to integrate technology into those operation areas."

"When we have the right candidate with the right set of skills, the cost is high, very high. So that was the limiting factor. So we have to go for the second or the third… But even with that he was not with us for more than six months, he left creating a gap."

"The reality is that our computer use of ICT is at a basic level that is one issue that we have identified. We have also observed gaps in data collection and analysis"

"So can I say soft skills training for East Africa, IT professionals so that they're able to talk better to HQ and be able to speak up with a with a big voice for Africa"

"We want to move away from using computers and basic statistics… to maybe to the next level… to get into those innovative spaces where… to use digital technology more than just as, like, I've got a laptop key and a few things there write a report"

"To ensure increased impact for the most vulnerable… we need agility around collaboration, innovation, and effectiveness in the digital workplace… to be able to steward resources and optimize them in different ways to reach the most children or at risk"

According to local participants in East Africa, there exists a pervasive need for capacity building, which has hitherto remained unaddressed by global headquarters and donors associated with the sector. Represented by the components of the Digital Nonprofit Skills (DNS) Assessment participants in this analysis highlighted barriers in the components of technical literacy, highly adaptive collaboration, and creativity and innovation. These barriers complicate digitally enabled progress toward the SDGs.

To satisfy the need for skill-building, programs in East Africa require logistical support from regional or global hubs that have established relationships with technology providers and determine the procurement of resources. Often, training initiatives offered to local staff are merely a product of global commitments towards leveraging specialized workplace tools such as teleconferencing, mobile data collection, and other business applications within humanitarian and development programs. Regrettably, the influence of these initiatives aimed at building capacity and providing training have only made negligible supported professional and digital talent in East Africa.

In East Africa, local programs are operating at a self-identified basic level of ICT utilization yet are poised to advance toward the next phase of digital innovation by drawing on inherent creativity and entrepreneurial spirit. The journey towards digital proficiency and innovative mindsets commences with the operationalization of technical literacy and ensuring that nonprofit staff are cognizant of, and proficient in, utilizing technology to access, manage and communicate information effectively. The process of digital enablement necessitates that nonprofit staff work together seamlessly and adaptively in a collaborative fashion within increasingly cross-cultural workplaces. This becomes particularly pertinent for program staff members who may lack the technical expertise required and face challenges in integrating new technologies into existing workflows and program methodologies. Needs for capacity building in these areas is widely recognized across the suit of digital skills.

The potential for greater social impact using ICT resources and digital enablement presents numerous benefits for communities served by nonprofits at both global and local levels. Digital Skills are widely recognized as a means for clients to obtain marketable skills that offer pathways to economic mobility. Furthermore, there is a clear need for digital leadership and soft skills in both IT and program functions to collaborate with senior management to foster support for digital development and training in East Africa. A holistic approach to Digital Skills development programs in the region would also alleviate the burden on IT functions that are often overtaxed with supporting programs at the expense of digital innovation. This issue is compounded by IT talent that is both expensive and difficult to retain, creating a staffing challenge in East Africa. However, simply providing training programs from global entities does not guarantee effective implementation of skills or increased social impact through digitally enabled programming. To ensure long-term capacity building and community familiarity with digital tools, nonprofits must implement continuous development cycles and effective change management practices, rather than relying solely on one-off interventions.

There are notable gaps in the current approach to digital skills development within nonprofits. A crucial aspect for long-term success in this domain is the prioritization of continuous development in digital mindsets and leadership capabilities for humanitarian and development staff. Without this focus on sustainable capacity building, the benefits of digital innovation will remain unrealized, and the sector risks falling behind. As such, it is critical that the nonprofit sector places a high priority on these strategic deviations to ensure that they can maximize the potential of digital tools and drive real change for the communities they serve.

Applied Technologies

Represented by a global strategic frequency of 92% (Appendix Figure B) NetHope Member nonprofits are committed to implementing the most promising business applications and digital solutions for humanitarian and development efforts by embedding ICT resources into program activities. Unlike Emerging Technologies, the digital solutions which nonprofits leverage through this dimension have crested and are represented by basic workplace essentials like networking equipment, laptops and tablets, as well as other workplace devices. The dimension of Applied Technologies emphasizes pairing hardware elements with applications and services designed for digital environments. Accordingly, common enterprise software (i.e., Microsoft Office), money transfer and banking solutions (i.e., M-Pesa), digitized client services (i.e., Afri-Scout) also become the focus of nonprofits through this dimension.

Despite widespread agreement on the importance of Applied Technologies, the lived reality of local practitioners in East Africa reveals a significant opportunity to achieve even greater returns on impact. Unfortunately, Partners and Donors of nonprofits often operate under the assumption that embedding ICT resources into humanitarian or social impact programs is a simple process that follows the establishment of underlying dimensions of Connectivity, Digital Protection, or Digital Skills. However, practitioner sentiment shows that the demand for Applied Technologies and the supporting dimensions is high, indicating that global support alone is insufficient for nonprofits to fully leverage ICT and achieve their potential as digital organizations. This sentiment is further underscored by the aggregation of participant views on the matter.

"All of that is handled by the head office and about a good number of our staff do not have access to computers and tablets, because we do not have the funding to make sure that everybody has access to a computer"

"The way that we are set up with institutional funding… our grants might be 6 months or 12 months. So quite often, a grant would be gone by the time you would be able to get all of the clearances and approvals… And you would then struggle to justify it to a donor."

"Offices may not have hardware that they need to have to work, because they have been damaged or looted, or destroyed."

"The supply chain process for me is where the real pain points are… in terms of restocking, timing of investments for equipment, so then it creates the gaps which then impact our operations."

"Quality laptops and tablets aren't necessarily available… And the customs for importing ICT is excessive, and takes forever."

"Resourcing those devices might be very, very expensive that you'll be taxed at 80% of the price of the device, as an excise tax."

"Even the basic equipment's like laptops or smartphones could be an issue of affordability… there will be also some bureaucratic or government related permission issues. So having for example, sat phones, when you with the normal convention and the connectivity down, you usually need permission with a government license."

"There are challenges around accessibility for mobile devices, basically inequities, is also one of the challenges... We mainly focus on internal use and for internal process, but not for beneficiaries... So we do not directly provide technology products… But that is one of the challenges for programs using M-PESA."

"It is not that it is overly expensive but more that we have funding gaps which make it hard to acquire all the tools that we need."

"The pastoral communities are trying to make decision to buy smartphones. At least we have one more household and one local communities. So this is we're doing some promotion to artists using this Afri-Scout technology… Our major limitation is mobile access for our beneficiaries for key groups, especially for women… that is one very important stakeholder to give devices."

"We are a sponsorship organization and children need to communicate to their sponsors. So we have introduced the use of tablets where they can use tablets to be able to communicate to their sponsors"

"We use SMS messages to simulate some of the climate change adaptation information. And that helped us a lot just to get a more feedback from the program participants as well."

Analysis of sentiments from East Africa reveals misalignment between global and local actors on Applied Technologies. Despite headquarter commitments to building digital workplaces and conducting business virtually, operational inequities emerge on the procurement and acquisition of critical hardware and devices. This gap, particularly during emergencies, leads to the inability to scale promising ICT4D initiatives exacerbating existing inequities and hindering the ability to effectively respond to crises with essential services. This gap in Applied Technologies stifles innovation and enterprise productivity creating missed opportunities for business resilience through digitally enabled client services. Consequently, nonprofits on the local level lose out on opportunities for impact amplification and increased enterprise resiliency with technology that is ubiquitous at the global level.

Participants highlighted an operating challenge in sourcing high-quality digital devices such as laptops, tablets, and smartphones, which are essential for work. These devices are often difficult to acquire due to nonprofit funding models and donor relationships, which make it challenging to obtain devices during fixed grant cycles, and donors may not prioritize device acquisition despite its importance. Applied Technologies, like Connectivity, is viewed as a critical dimension that is not always established before programs advance up the technology stack. As a result, the lack of direct funding for Applied Technologies at the local level deprives the core workplace, volunteers, and government partners of essential devices and digitally enabled solutions, which are critical amplifiers of impact in local level service delivery. In addition, organizations facing emergency situations, such as crises or violence, encounter difficulties sourcing equipment due to the high demand for devices and the challenging logistics of supply chains. Moreover, office locations may become targets during unrest, leading to the loss, theft, or damage of digital devices. Existing funding models are not conducive to efficient program recovery in these austere environments and may be ineffective during regular operations.

In situations where funding is readily available for local practitioners to acquire essential digital devices, there may still be challenges related to sustainability and integration of devices into programs which leverage digitally enabled programs. The slow development of local markets and technology vendors in East Africa has led to a general preference for globalized procurement processes rather than acquiring hardware in-country from local vendors. Purchasing devices in-country can result in subpar quality, lack of choice, and increased costs. However, using global procurement processes has alternative ramifications in the form of logistical delays, custom difficulties, and licensing issues with last mile solutions such as satellite phones (i.e., sat phones) and other alternative Connectivity solutions (i.e., VSAT). Furthermore, participants have reported that the importation of digital devices may be subject to excise taxes, which can make procurement excessively expensive. To address these issues, nonprofit organizations should collaborate with government agencies to reduce costs and time delays associated with the resourcing of Applied Technologies.

The barriers around device acquisition and Applied Technologies exist for clients and affected communities. Participants emphasized numerous digitally enabled client services that could be rapidly scaled through the increased availability of devices like laptops, tablets, and smartphones. However, current procurement processes focus on internal business applications rather than supplying digital devices for clients and affected communities. Acquisition for such purposes happens on a grant-by-grant basis thereby stifling opportunities for scaling digitally enabled services in the form of cash programming with M-Pesa, climate adaptation with Afri-Scout, as well as with child sponsorship activities that leverage instant communication and social media channels.

Information Certainty

With a global strategic frequency of 96% (Appendix Figure B), the top priority of the Membership since 2021, NetHope Member nonprofits are committed to achieving organizational efficiency and building confidence in managed information systems with single source of truth and pursuing data to the richest grain. As a result, the dimension of Information Certainty defines the modern nonprofit's commitment to harnessing information and data analytics to more effectively support evidence-based decision making, enhancing stakeholder and staff participation, as well as ensuring the maximum efficiency of information flows between stakeholders. Information Certainty acts as a keystone at the top of a masonry-arch, locking all the other digital dimensions into place. As a result, Information Certainty has the most potential for a force-amplifying effect on humanitarian and development programs.

The pursuit of Information Certainty is critical for the success of nonprofits in achieving their humanitarian and development goals. However, it is essential to recognize that this idealized digital destination cannot be reached without addressing the underlying implementation barriers that prevent its realization. These barriers include Connectivity, Applied Technologies, and Digital Skills, which must be established to enable practitioners to achieve efficiency through data on the local level. Once these supporting dimensions are established, it becomes possible to focus on higher-level data-driven capabilities that can enhance the impact of nonprofits on a global scale. Therefore, it is crucial for organizations like NetHope to prioritize and invest in addressing these foundational barriers to unlock the full potential of Information Certainty. Sentiments shown below capture this dynamic:

"In being data driven, we are doing more of data collection than the analysis and the utilization."

"We are collecting a lot of data. [But] it's scattered all over the place and not captured for analysis or learning across the organization."

"We are on the right track, on being dependent on the information that we gather, but given the hardware, and the technology that we are currently using, and definitely budget associated with the implication of budget… if the technology that we are currently is using is, can be improved, I think we will be in a better position to utilize all the information lives are supposed to."

"We need better connectivity at maybe an affordable price. And then we also want reliable power, we know that our colleagues can do their work with having to spend maybe a week or two without power. So they will not send their reports, when they don't send their reports in the office we can't report to headquarters, and donors wont even partner with their work."

"We operate in quite many offices and districts, and we are still having challenges on how to gather the information. Yes, we've tried to use the Power BI and all the systems but there's also still that lack of capacity, not only at country or but also the team themselves, cause people still used to the manual paper based and things get lost in there."

"People still do a lot of paper and manual based collection. And so even when the internet goes off we can do this offline, and then you can do an offline procurement, you get approval to do an offline procurement, etcetera. So yeah, people have adapted."

"[In Tigray] you might also ask, how do we really get the data, for instance, where we really don't have any connectivity. We normally get the raw data from the field maybe through Excel sheets. And then we will upload those on our SharePoint or in the cloud"

"We make assumptions about the time that it takes to do data entry... I often wish people would come and test systems here in South Sudan, or places where the internet is not good… because in your HQ it might be a click, but for us it's a click and wait"

"We are not in a position to deliver timely reports, we don't deliver the required information from the donors or from the partner national societies, because we don't have them in a proper channel and media or money platform that might really be useful for our day to day activity. Efficiency is one of the important thing that we should really consider in in terms of digitalization"

"We want to build CommCare, Azure, and its Power BI integration. We are really looking into it… You know, learn how to collect the data using CommCare. Clean that data with Azure. And then integrating into the Power BI visualizations after… we're starting with one of the programs to support but we want to scale…"

The sentiment among participants in East Africa revealed a shared understanding of the challenges posed by the increasing volume of data and information that nonprofits are facing globally. Moreover, it highlights significant barriers hindering the use of data and business intelligence for impact at the local level. The complexity of information sources and the lack of streamlined information supply chains were identified as major obstacles to efficient collection, analysis, and visualization. In this space there is a growing recognition of the need for innovative solutions and collaborative efforts to ensure that Nonprofits can harness the full potential of data for greater impact and effectiveness.

The current approach to data extraction, which places a disproportionate emphasis on data collection rather than the end goal of generating actionable insights or accessible information for the enterprise, has created a significant data disparity between global and local actors. While participants from the local level in East Africa recognize the value of data, they also face fundamental challenges that are not widely acknowledged by global headquarters. These challenges systematically hinder the ability of local affiliates to effectively utilize data for greater impact. As a result, the approach to data extraction is deemed ineffective for localized impact and represents a strategic obstacle that prevents nonprofits from realizing the full potential of data and digitalization on the local level.

Shifting focus from strategic challenges to implementation barriers, there exist additional factors that complicate the process of becoming data-driven organizations at the local level. Beginning with the foundational layer of technology, a lack of affordable or reliable connectivity, especially in remote or austere environments, poses a challenge. These connectivity issues can hinder data collection and transfer, making it challenging to gather accurate data sets and establish confidence in evidence-based decision making at regional or global levels. Additionally, participants noted significant barriers to sustainable electricity, which is vital for powering the devices used for data collection, reporting, and analysis, as well as for the computer systems that process and store the data. This can result in data loss, errors that affect the quality of analysis, or an overall lack of progress in becoming data-driven.

Participants highlighted Digital Skills as a crucial component for achieving Information Certainty, stressing the need for local staff to possess the necessary capabilities to scale data-driven solutions effectively. In the absence of such skills, employees may struggle to utilize the tools and technologies required for data collection and analysis, resulting in incomplete data sets and suboptimal insights for partners and donors in the sector. The challenges of using digital tools like Box or OneDrive, Power BI or Tableau, CommCare or Kobo are compounded by a lack of digital proficiency among team members who are accustomed to manual paper-based or on-premises systems. As data collection shifts towards management, barriers related to Digital Skills increase in magnitude. Participants emphasized the importance of proficiency in all aspects of data collection, management, and visualization for driving impact on the local level.

Barriers as highlighted in participant sentiments indicate a desire to achieve Information Certainty and a widely shared recognition around the potential for data driven business applications and digitally enabled services to open avenues for operational efficiency and impact towards global objectives such as the SDGs. However, the operational barriers discussed previously make it difficult for local nonprofits to fully realize this potential. These factors make it difficult for local nonprofits to establish a "single source of truth" through data thus limiting the potential for business applications and digitally enabled client services to have measured impact toward the SDGs.

Conclusion

In the context of poly crisis and proliferation of global needs amongst affected populations the use of business applications and digitally enabled client services represents an avenue for nonprofits at the global and local level to amplify progress toward objectives like the Sustainable Development Goals (SDGs). Supporting the idea that technology and effective use of digital resources provides a return on investment in the form of greater impact per dollar spent NetHope has been focusing on moving the community of global Member nonprofits beyond Connectivity and emphasizing Information Certainty for operational efficiency as the new strategic priority. However, operational complexities emerge when analyzing the use of digital enabled programs for impact on the local level in East Africa. These barriers to digitally enabled action indicate NetHope's original mission of "wiring the global village" (Granger-Happ, 2001) is not yet complete.

To be successful in this evolving context means aligning behind a strategic vision for digitally enabled and community driven collective action. The current realities of misalignment on the implementation of digital enabling strategies and supporting technology stacks represents a disparity created by divides on underlying digital dimensions such as Connectivity, Digital Protection, Applied Technologies, and Digital Skills. In each dimension the assumed technology stack from global actors does not match the reality of digital implementation on the local level. This misalignment is preventing amplified social impact towards the SDGs. To address this issue, NetHope will begin developing a focus on aligning the assumed technology stack from global actors with the reality of digital dimensions for humanitarian practitioners on the local level. Additionally, NetHope will prioritize digital skills training and capacity building for staff and affected populations to improve their ability to effectively use digital tools and technologies, leading to a more sustainable digital ecosystem that can achieve Information Certainty and meet the needs of affected populations.

Appendix

Figure A- Digital Dimension Definitions

Experimental	**Emerging Technologies**	▽▲ *New technologies or notable development of existing technologies within programs to achieve greater impact or internal efficiencies.*
	Platform Solutions	▽▲ *Use of software and digital solutions to establish a digital ecosystem for work.*
	Information Certainty	▽ *Gaining coherence of collected information and pursuing data to the richest grain to get to "one single source of truth" and become data driven in decision making*
	Applied Technologies	▽▲ *Use of embedded technology in programs that provide increased efficiency, access, and impact from humanitarian and development services.*
	Peak Performance	▽ *Optimization of processes based on data to reduce effort, resource expenditures, and to increase engagement on the community level.*
Core	**Digital Protection**	▽▲ *Cyber security, data privacy, compliance, ethical & responsible use of technology.*
	Digital Culture	▽▲ *Adaptation of ways of living and working to technology and information abundance.*
	Digital Skills	▽▲ *Range of abilities to use technologies to gather, manage and communicate in a digital workplace*
	Operating Models	▽▲ *How non-profits deliver value to stakeholders and operate in the digital age.*
	Connectivity	▽▲ *Capacity for the interconnection of people, systems, information and places.*

Figure B- Collective Breakdown of Digital Dimensions

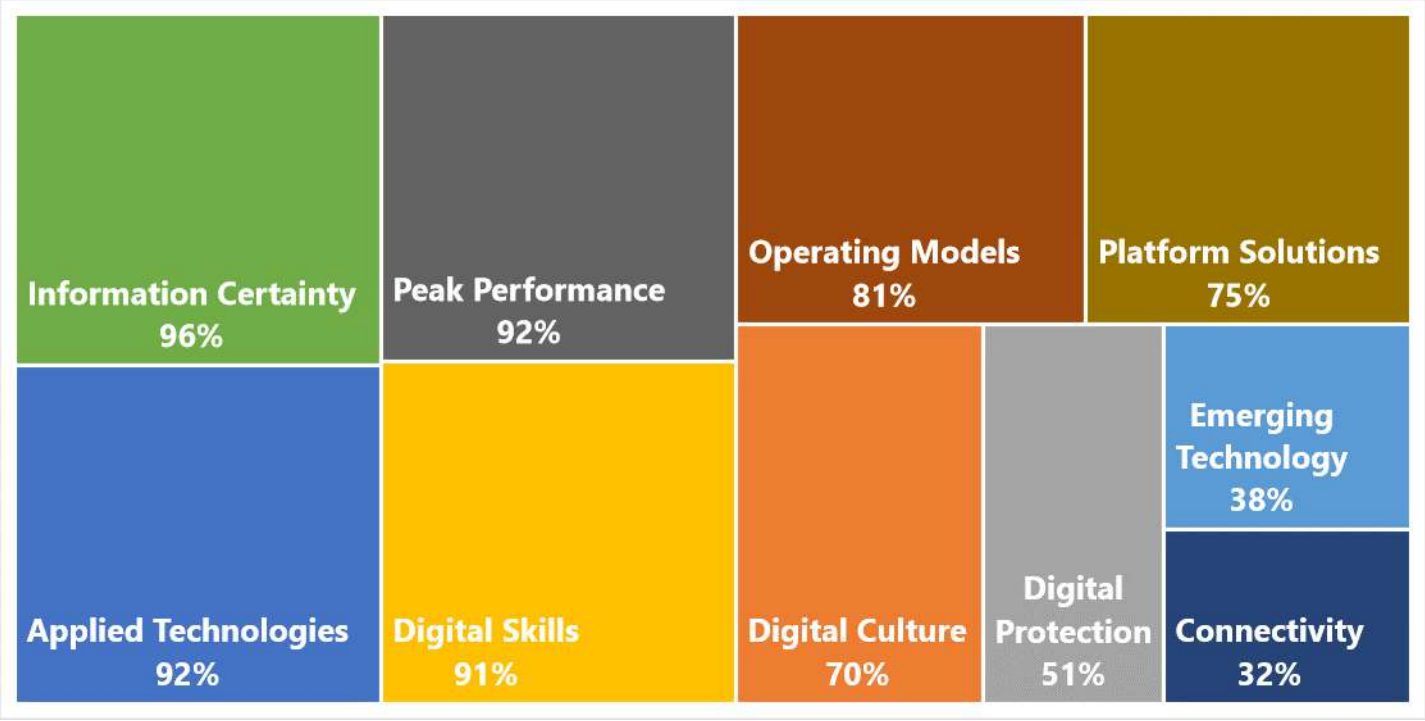
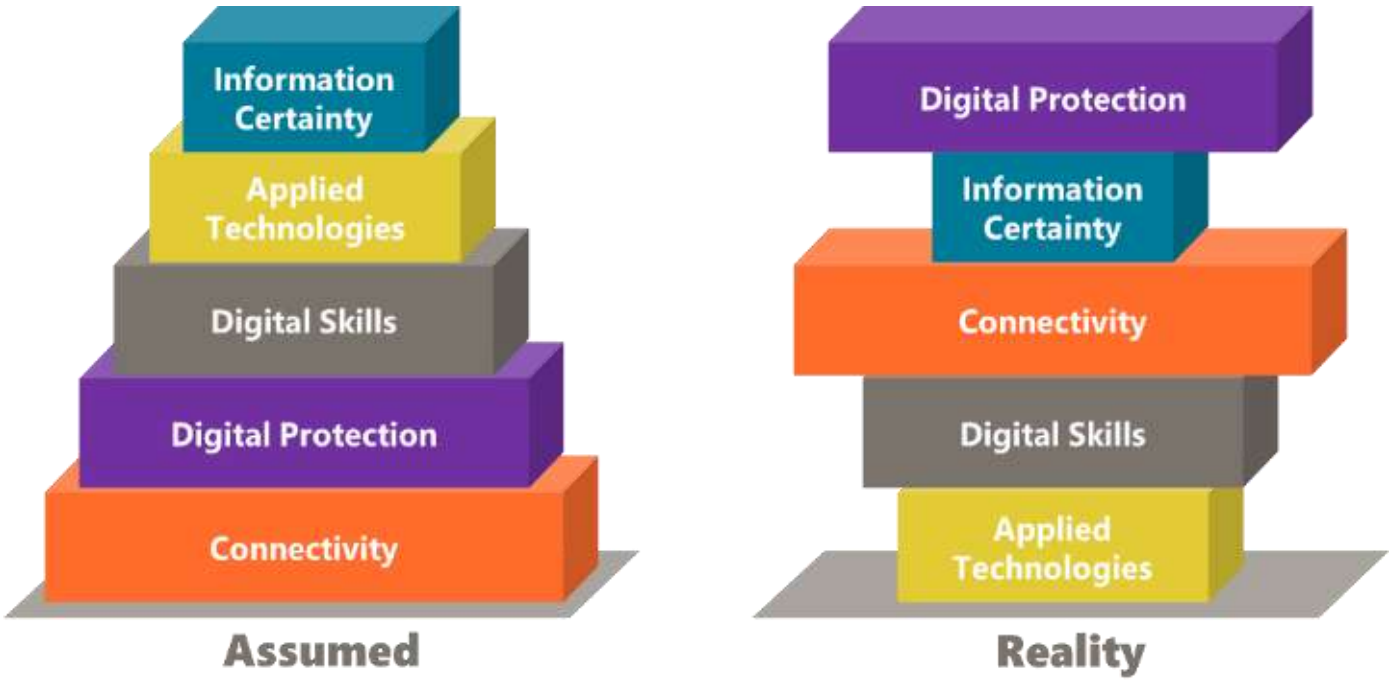


Figure C- Assumed vs Reality of Local Technology Stacks for Impact



Works Cited

European Civil Protection (2022). *Ethiopia*. European Civil Protection and Humanitarian Aid Operations. Retrieved December 6, 2022, from https://civil-protection-humanitarian-aid.ec.europa.eu/where/africa/ethiopia_en#:~:text=Nearly%2017%20million%20people%20are,to%20meet%20their%20basic%20needs.

Granger-Happ, E. (2001). *Wiring the Global Village* (thesis). Save the Children.

Green, M. (2022, October 25). *Ukraine understandably in focus, but Ethiopia's Tigray Conflict is world's largest*. Wilson Center. Retrieved December 8, 2022, from https://www.wilsoncenter.org/blog-post/ukraine-understandably-focus-ethiopias-tigray-conflict-worlds-largest

Gbadamosi, N. (2022, May 11). *War in Ukraine is worsening East Africa's food crisis*. Foreign Policy. Retrieved December 22, 2022, from https://foreignpolicy.com/2022/05/11/ukraine-russia-war-agriculture-food-hunger-crisis-east-africa/

OCHA. (2022, March 7). *About OCHA DRC*. OCHA. Retrieved December 6, 2022, from https://www.unocha.org/democratic-republic-congo-drc/about-ocha-drc

OECD. (2020). Global Outlook on Financing for Sustainable Development 2021: A New Way to Invest for People and Planet, OECD Publishing, Paris, https://doi.org/10.1787/e3c30a9a-en.

ReliefWeb. (2022, April 1). *The Democratic Republic of Congo Regional Refugee Response Plan (January - December 2022) - democratic republic of the Congo*. ReliefWeb - Informing humanitarians worldwide 24/7 — a service provided by UN OCHA. Retrieved December 6, 2022, from https://reliefweb.int/report/democratic-republic-congo/democratic-republic-congo-regional-refugee-response-plan-january-3

ReliefWeb (2022, August 30). *Severe droughts leave 4.1 million people in Kenya without adequate access to food and water - kenya*. ReliefWeb Informing humanitarians worldwide 24/7 — a service provided by UN OCHA. Retrieved December 6, 2022, from https://reliefweb.int/report/kenya/severe-droughts-leave-41-million-people-kenya-without-adequate-access-food-and-water#:~:text=Currently%20around%204.1%20million%20people,since%20May%20of%20this%20year.

ReliefWeb (2022, January 12). *Millions are at risk of famine as Ethiopia crisis escalates - Ethiopia*. ReliefWeb - Informing humanitarians worldwide 24/7 — a service provided by UN OCHA. Retrieved December 6, 2022, from https://reliefweb.int/report/ethiopia/millions-are-risk-famine-ethiopia-crisis-escalates

ReliefWeb. (2022, November 7). *Achieving long-term food security in DRC is all about building resilience - democratic republic of the Congo*. ReliefWeb - Informing humanitarians worldwide 24/7 — a service provided by UN OCHA. Retrieved December 6, 2022, from

https://reliefweb.int/report/democratic-republic-congo/achieving-long-term-food-security-drc-all-about-building-resilience

UNCTAD. (2020). SDG Pulse 2020. Trade and Development Report Update. Geneva: United Nations Conference on Trade and Development. https://sdgpulse.unctad.org/wp-content/uploads/Unctad_SdgPulse_2020.pdf

UNHCR (2022, August). *Key figures in Kenya*. UNHCR Kenya. Retrieved December 6, 2022, from https://www.unhcr.org/ke/figures-at-a-glance

UNHCR. (2020). *South Sudan Refugee Crisis*. South Sudan Refugee Crisis: Aid, Statistics and News | USA for UNHCR. Retrieved December 8, 2022, from https://www.unrefugees.org/emergencies/south-sudan/

UNHCR. (2022). *UNHCR - DR congo emergency*. DR Congo emergency. Retrieved December 7, 2022, from https://www.unhcr.org/dr-congo-emergency.html

UNICEF (2022, February 9). *Uganda Appeal - Humanitarian Action for Children*. UNICEF. Retrieved December 8, 2022, from https://www.unicef.org/appeals/uganda

UN Population Fund (2022, November). *Ethiopia: From conflict to climate shocks, women and girls are disproportionately affected*. United Nations Population Fund. Retrieved December 6, 2022, from https://www.unfpa.org/ethiopia-conflict-climate-shocks-women-and-girls-are-disproportionately-affected#:~:text=In%20northern%20Ethiopia%2C%20a%20full,thousands%20fleeing%20to%20surrounding%20countries.

United National Development Programme: Africa. (2021). Background of the sustainable development goals. UNDP Africa. Retrieved October 21, 2021, from https://www.africa.undp.org/content/rba/en/home/sustainable-development-goals/background.html.

United Nations High Commissioner for Refugees. (2021). *South Sudan Emergency*. UNHCR. Retrieved December 8, 2022, from https://www.unhcr.org/en-us/south-sudan-emergency.html

United Nations High Commissioner for Refugees. (2022, September). *Nearly 100,000 refugee arrivals in Uganda face a silent emergency, enormous needs*. UNHCR. Retrieved December 8, 2022, from https://www.unhcr.org/en-us/news/briefing/2022/9/631afd284/nearly-100000-refugee-arrivals-uganda-face-silent-emergency-enormous-needs.html

WFP (2022). *Ethiopia: World Food Programme*. UN World Food Programme. Retrieved December 6, 2022, from https://www.wfp.org/countries/ethiopia