

Local knowledge in humanitarian response

Humanitarian Leadership Academy

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1. Introduction

The Humanitarian Leadership Academy has identified engagement with local knowledge as a strategic priority underpinning its aim to support people to prepare for and respond to crises in their own countries. Local knowledge helps organisations and governments to strengthen their programmes and adapt humanitarian practices to local contexts. However, the sector lacks the ability to systematically identify, nurture and share local knowledge within and between emergencies. The Academy commissioned this report to inform its approach to accessing and sharing local knowledge in a way that is effective, equitable, and that supports the priorities of crisis-affected people.

1.1 Localisation and local knowledge in the humanitarian sector

The Grand Bargain, launched at the 2016 World Humanitarian Summit, committed to ‘more support and funding tools for local and national responders.’ The bargain arose because of increasing pressure on donors, international organisations, and UN agencies to share resources and decision-making powers with local and national organisations operating in countries affected by humanitarian emergencies. Signatories committed to an aggregate target of ‘at least 25% of humanitarian funding to local and national responders as directly as possible.’

The Humanitarian Leadership Academy was established in order to provide training to humanitarian leaders and responders located in vulnerable, crisis-affected countries and communities. This study explores how the Academy can integrate local knowledge into learning in a way that furthers the localisation agenda, and affords greater recognition and influence to local actors. Integrating local knowledge would also allow the Academy to contextualise its learning and to be more responsive to the needs of disaster-affected populations.

This is significant because explicit discourses relating to local knowledge are largely missing in the humanitarian sector. In part, this can be attributed to the sector being comparatively slow to adopt participatory approaches that help marginalised groups develop their own solutions to the problems they face. Instead, the sector has evolved as a hierarchical system in which major international humanitarian organisations have prioritised life-saving operations while often neglecting to invest in understanding local realities (Belloni 2007). Knowledge of local culture, history, or survival strategies is seen as having limited operational relevance, or difficult to fit into the bureaucratic frameworks for dealing with humanitarian information (Comes, Vybornova, and Van de Walle 2015).

One exception is the field of resilience, which has gained prominence in the past decade. The 2015 Third World Conference on Disaster Risk Reduction led to the adoption of the Sendai Framework for Disaster Risk Reduction 2015-2030 which explicitly acknowledges the importance of traditional knowledge in disaster risk reduction (DRR): “*Indigenous peoples through their experience and traditional knowledge, provide an important contribution to the development and implementation of plans and mechanisms, including for early warning.*” At the same time, there has been an increased reliance on local actors to deliver the

humanitarian response within protracted conflicts such as Somalia and Syria. In these areas, researchers and humanitarian organisations are recognising and documenting the roles that local knowledge can play in increasing the relevance and effectiveness of local humanitarian action. This report draws upon such engagements.

1.2 What is local knowledge?

Humanitarian emergencies are complex events characterised by a diverse array of social, political, economic, and environmental factors. Anticipating, adapting, and responding to an emergency requires a diverse set of knowledge, that depends on the type of disaster, available resources and actors, and socio-political contexts. Much of the literature on local knowledge¹ has focused on either attempting to conceptualise what 'kind' of knowledge it is (such as 'scientific', 'expert' or 'global' knowledge) or arguing for the value of local over scientific knowledge. For instance many authors assert that local knowledge is predominantly tacit (Huntington 2000), that local knowledge pertaining to agriculture is often sustainable in a holistic way that its scientific counterpart is not (Berkes 2009), or that it is too complex to be understood without long-term academic study (Sillitoe and Marzano 2009).

This report does not attempt to classify different forms of local knowledge but instead treats local knowledge as all the information and practices considered important by people directly affected by crises. This may include the varied self-protection strategies of civilians affected by conflict, for instance, or the signs used to anticipate flooding or drought, but will also incorporate the combinations of political, social and economic understandings of a context that make these strategies effective. Collectively, affected populations are more aware of the full range of knowledge that is useful for their preservation, and so external actors should avoid imposing their own delineations of what is important.

Local humanitarian action relies on both simple and complex knowledge systems (Ramalingam 2013). The first system is a linear, 'knowable' and changes in predictable ways. By contrast, complex knowledge is non-linear and unpredictable. It changes with the context and circumstances and is susceptible to unpredictable forces such as the social and political relations between individual actors and groups. This paper is primarily concerned with nurturing and sharing local knowledge within complex systems.

In order to document or share local knowledge, most external organisations have tended to treat local knowledge as an object, or at least as something that can be translated into an object (Agrawal 2002). This has allowed 'best practices' to be captured and transferred into digital knowledge management systems (Ferguson, Huysman, and Soekijad 2010). Unfortunately, these systems have suffered from low usage, particularly by frontline responders. By contrast, many community-based organisations (CBOs) have treated knowledge as something that emerges through communicative relationships and practices, using these processes to establish their own intervention strategies (ibid). Such approaches to knowledge and its management are termed 'emergent', meaning that the reproduction and contextualisation of knowledge occurs through social interactions (van den Hooff and Huysman 2009). This report looks at how such an engagement with knowledge can be developed at the local level, before discussing how the process can be scaled up to the regional and international levels.

¹ While noting that there are some important differences in terms of connotations, 'local knowledge' is used here interchangeably with 'indigenous knowledge' or 'traditional knowledge' as a means of conversing with a field of literature that lacks uniform terminology. The Academy's Indigenous Knowledge report contains further discussion of the literature.

1.3 Objectives and methods

The research seeks to answer five key questions:

- In what ways do frontline actors already engage in knowledge sharing processes?
- What forms of knowledge do they exchange?
- What organisations and networks exist at the national, regional and global levels to facilitate humanitarian knowledge sharing?
- How can local knowledge be brokered, translated and managed? Which of these approaches do humanitarian actors currently use?
- How can the Academy partner with local knowledge brokers to operationalise its localisation agenda?

It draws upon a systematic literature review of 59 peer-reviewed papers and organisational reports on local, traditional and indigenous knowledge in DRR, preparedness for conflict, and response.² It is supplemented by a stakeholder analysis of 47 organisations and interviews with 17 key informants who span the local, national and international level. An important limitation of the study is that it was desk-based and therefore did not include interviews with people from crisis-affected communities or community-based groups. Additionally, the stakeholder analysis relied on extracting information on organisations' websites, some of which were not updated or sufficiently detailed.

1.4 Outline of report

The report explores the ways in which local knowledge is currently employed by local responders and the ways it can be nurtured and shared by external actors. The next section provides an overview of the actors that have engaged local knowledge systems, from CBOs to institutional donors. Section 3 discusses the conditions for creating and nurturing local knowledge in crisis-affected communities and explores practical examples from different phases of the disaster response cycle. Section 4 considers modalities and conditions for disseminating local knowledge across multiple contexts through networks. Section 5 sets out the ways in which academics, NGOs and community groups have documented local knowledge. Finally, section 6 concludes with recommendations for the Academy's partnerships and approach to local knowledge engagement.

2. Local knowledge actors

This section addresses five types of actors that are currently supporting, accessing, using or sharing local

² These were located through a keyword search of terms including but not limited to: local/indigenous knowledge and humanitarianism, local/indigenous knowledge and disaster risk reduction, local/indigenous knowledge and climate adaptation, local/indigenous knowledge and resilience, local/indigenous knowledge and management, local/indigenous knowledge and contextualisation, and local/indigenous knowledge and platforms. In the case of highly cited items, a citation search was also used to find additional literature. Documents were discriminated using an inclusion criteria that required literature to demonstrate sufficient relevance to the topic, with a preference for that relating to academy target geographies which were written in the past decade or so. Sufficient relevance here was determined by the ability of literature to contribute towards programmatic discussions on the areas of disaster and conflict.

knowledge: donors, international organisations (including research institutions), networks, and national and local organisations. Our analysis is built on a stakeholder mapping of 47 international, national and local humanitarian actors. Specific attention has been given to Academy target geographies.

2.1 Overview

Access to knowledge is important because it informs actors' capabilities and the patterns of relationships between them. When knowledge sharing happens locally, it enables particular strategies for assessing and managing crises to be adopted. When that knowledge is also shared with international actors, it can allow for better contextualisation, negotiation, and adaption of intervention strategies.

The humanitarian sector as a whole has been slow to develop its engagement with local knowledge beyond a small number of isolated examples. Nevertheless, the stakeholder mapping revealed a growing awareness of the value of local knowledge and its contribution to DRR and effective response.

Donor funding appears to focus on three areas:

1. Research on local approaches to DRR
2. Research on local knowledge for early-warning and environmental adaptation strategies in slow-onset disasters
3. Research on historical and political causes of conflict

Broadly speaking, local knowledge actors can be categorised into two groups. First are those that foster and build upon knowledge capacities among local communities as a means of developing their own strategies. These activities happen primarily at the grassroots level with limited documentation. Generally, their examples can be found in smaller networks and community-based organisations that operate at the sub-national level, although a small number of larger networks also support this work. Second are those organisations and institutions interested in documenting local knowledge as a means of influencing organisational and sectoral policy. These actors form the vast majority, made up of internationally-oriented organisations and institutions who typically use formal research methodologies to record the knowledge and practices of affected populations to argue for their importance.

2.2 Bilateral and multilateral donors

It is difficult to gain accurate information on the availability of funding for local knowledge projects and programmes. Donors with an interest in local humanitarian knowledge include the Rockefeller Foundation, the World Bank and Canada's International Development Research Centre (IDRC). Funding for academic work flows through social science research funds, including the ESRC in the UK.

The majority of funding for supporting the creation or sharing of local knowledge is granted as a small component of larger humanitarian programmes, which may span multiple geographies, sectors, and knowledge types. Nevertheless, four funds with a specific focus on local knowledge programming were identified, all of which focus on resilience and DRR. The largest is Disaster Preparedness ECHO (DIPECHO), established in 1996 to improve the capacities of communities at risk to better prepare and protect themselves. Since the inception, ECHO has invested more than €180 million in disaster preparedness through DIPECHO Action Plans.

Other funds focus on research and partnerships. The Global Resilience Partnership at the Rockefeller Foundation, for example, has funded the ODI Resilience Scan research project. Similarly, the IDRC issues funding calls for proposals that help communities guard against climate impacts. Their work has included papers on integrating indigenous knowledge with seasonal climate forecasts developed by national meteorological services.

Lastly, there are some efforts to engage communities in the creation of accurate and timely situational data. Working with national governments, the World Bank's (OpenDRI), uses crowdsourcing mapping tools such as OpenStreetMap (OSM) to create maps with local information on regions affected by floods or drought. The maps are available online and can be used by local governments during a response.

Outside of DRR, there is a system-wide lack of funding for locally led knowledge practices. The majority of what limited funding there is goes towards research.

2.3 Research institutions

A desk-based review of actors generates many examples of attempts to transcribe and document local knowledge. The stakeholder analysis identified two categories of research institutes engaging in this process: academic institutions and research-oriented NGOs.

Academic researchers with an interest in local knowledge are distributed across a wide range of institutions and a broad range of disciplines and perspectives, including anthropology, geography, development, and sociology. Several universities have developed long-standing expertise regarding specific humanitarian contexts, such as Durham University's Sudan archive which includes a wide variety of documents, maps, photographs, and video from missionaries, doctors, agriculturalists, teachers and others.

In addition, several institutions with a notable interest in local forms of knowledge were identified. Most significant is the Indigenous Knowledge and DRR Network, an international group of indigenous and non-indigenous scholars and practitioners, focusing on the role that indigenous peoples and their knowledge systems may play in informing understanding, decision-making, and management of natural and human-made disasters.

The Institute of Development Studies (IDS) - an existing Academy partner - also produces research that draws on local knowledge in poverty alleviation and social justice. IDS published a brief on practices of local people in Kenya and Namibia regarding climate change and adaptation (Newsham, Naess, and Guthiga 2011).

2.4 International NGOs

A variety of UN agencies and international NGOs (INGOs) have undertaken thematic research that draws upon local knowledge from disaster-affected regions. This is normally sector-specific and intended to contextualise large international humanitarian programmes or, in a smaller number of cases, argues for sensitivity towards local strategies without necessarily providing an indication of how this sensitivity can be operationalized.

In areas of conflict, research has focussed on the history and drivers of conflict, as well as (more rarely) local protection and survival strategies. Some of the most interesting work in this area comes from the Local to Global Protection (L2GP) initiative, which has conducted research on how communities in South Sudan, Sudan, Syria, the Occupied Palestinian territories, Burma/Myanmar and Zimbabwe protect themselves from armed conflict and socio-political crises.

In locations prone to slow-onset disasters, such as drought, food insecurity or winterisation, international agencies have conducted research on local agricultural and livestock practices. The majority of these are one-off studies: for example, the United Nations Environmental Programme (UNEP) commissioned a study on indigenous knowledge in disaster management in Kenya, South Africa, and Swaziland (UNEP 2013). However, there are a small number of more established initiatives. *Vétérinaires Sans Frontières*, for example, supports the study and application of non-conventional veterinary medicine techniques and assists in reintroducing traditional grazing practices in emergency-prone locations in Africa and Asia.

In locations prone to climate-related emergencies, such as flooding or cyclones, INGOs have conducted research to support the Sendai Framework for Disaster Risk Reduction 2015-2030. One of the priority areas of the Framework is to understand disaster risk by using local knowledge and practices to complement scientific knowledge in disaster risk assessment.

2.5 Networks

There are no global networks with a primary focus on nurturing or sharing local knowledge. However several international networks have shared examples of local practices for humanitarian action. The Communicating with Disaster Affected Communities (CDAC) network and the Disasters and Emergencies Preparedness Programme (DEPP) have both shared examples of local peace-building, conflict prevention, and early warning techniques.

Thematic networks and working groups exist in many of the most disaster-prone countries. For example, Sphere India is a network of multilateral, international and national organisations that promote Sphere standards and accountability to affected populations. Its Information, Learning, and Management group identifies indigenous/traditional risk reduction mechanisms that can potentially be replicated in similar communities that face cyclones, droughts, earthquakes and floods.

In addition to these, networks of local and national actors exist at the national level in many disaster-prone countries, which incorporate various forms of local knowledge into their activities through a variety of CBOs. Furthermore, there are a number of regional networks predominantly located in South and South-East Asia that engage local knowledge in relation to climate change adaptation or DRR.

2.6 National and local humanitarian actors

The research identified examples of NGOs that have engaged in local knowledge processes in each of the Academy target countries. For example, SIBAT in the Philippines has worked with communities to identify traditionally used seeds that are well adapted to changing climatic conditions. Meanwhile, NIRAPAD in Bangladesh has published 'Local Wisdom: Indigenous Practices for Mitigating Disaster Loss', to showcase practices employed by indigenous people to mitigate disaster through early warning and preparedness practices (Cadrin et al., n.d.). Degan Ali, Executive Director of ADESO and a member of the NEAR network, suggests that local actors do not see local knowledge as something to be studied, but instead as an intrinsic part of their day-to-day work (ID 13).

Nevertheless, larger national actors recruit educated, technical staff that may originate from different parts of a country prone to disasters (see for example Tanner and Moro 2016). Their understanding of local knowledge practices will therefore vary. In Uganda, a national NGO recognised that while most staff were personally aware of early warning systems for drought in remote northern communities, there was limited opportunity to incorporate this knowledge into funded projects (ID 6).

There are a handful of examples of governments enshrining the use of local knowledge in their legislation. In the Philippines for example, the Republic Act 10121, under section 2 (j), provides that DRR and climate change measures should be sensitive to indigenous knowledge systems. Additionally, in Kenya, the Protection of Traditional Knowledge and Cultural Expressions Act was assented to by the Kenyan President in August 2016 to provide a legal framework for the protection and promotion of local knowledge and traditional cultural expressions.

Finally, diaspora groups are increasingly seen to play an important role within development and humanitarianism (Faist 2009; Horst 2013; Wall and Hedlund 2016). In policy literature, diaspora groups are recognised as having "an advantage over western experts because they know the language, culture and 'mentality' of the beneficiaries." Volunteers from diaspora groups have been noted to settle in with local

communities more effectively than others (Wall and Hedlund 2016). The role of diasporas in knowledge exchange is usually seen in terms of sharing expertise that has been learned in overseas professions and education (Meyer and Wattiaux 2006). They may also support translation of complex ideas between ideas and communities in a way that supports local knowledge systems (Wall and Hedlund 2016).

3. Nurturing local knowledge

This section discusses participatory processes for recreating and nurturing local knowledge in crisis-affected communities. It provides examples of how local knowledge systems can be supported during different phases of the disaster response cycle and within different types of emergency.

3.1 Supporting local knowledge systems

Individuals, families, and groups use local knowledge in myriad ways to protect themselves before, during and after a crisis. Their understanding of the environment, crisis and solutions will both overlap with, and vary from, that of external organisations (Wall and Hedlund 2016).

Local knowledge is most effective when it can be used to inform interventions that local people can influence and take ownership of (Robinson and Berkes 2011; Nyong, Adesina, and Elasha 2007; Byg and Salick 2009; Mercer et al. 2010). For example, in 2016, a DEPP commissioned study surveyed 327 crisis survivors and first responders to understand how the knowledge held by these groups could be incorporated into decision-making. It identified six core principles that included enabling the community to co-run the response, establishing two-way communication channels, and coordinating with local government. L2GP has also drawn links between local knowledge and what they term as 'locally-led' responses. Their work identifies four requirements including (Wall and Hedlund 2016):

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

There are several reasons why it is often necessary for local organisations or others to help facilitate the exchange and development of local knowledge for disaster management (Berkes 2009). First, although there are many examples of local people adapting to changing environmental crises (see for example (McMillen et al. 2014; Nyong, Adesina, and Elasha 2007; Agrawal 2010; Berkes and Jolly 2001), some communities are unable to cope with the frequency of new or unexpected shocks related to climatic changes (ID 4). New local knowledge must, therefore, be generated to meet new challenges of displacement, urbanisation and climate change. Second, local strategies for managing historical crises may also be forgotten if they do not occur frequently as part of daily life (see for example Corbett 2011). Third, social and political issues such as displacement and migration can lead to older forms of knowledge quickly losing their relevance. And finally, knowledge is not uniformly held by all members of a community, but rather is unevenly distributed according to age, gender and other social determinates (Dekens 2007).

In their guidance on disaster preparedness, the International Committee of the Red Cross (ICRC) identifies two ways that local knowledge systems are nurtured for a more effective local response. The first is knowledge transmitted from person-to-person, normally through oral histories or recorded memories of previous disasters. The second is knowledge built through direct experience or exposure to disaster (for example through simulation). So far, there has been very little research on how to foster local knowledge

through experience.

This chapter, therefore, explores the ways that local knowledge can be nurtured through person-to-person transmission. There are many examples of local knowledge being transmitted between individuals within the humanitarian sectors. For example, health professionals will combine scientific knowledge of diagnosis and treatment with local knowledge of risk factors and vectors. Similarly, WASH teams will combine external knowledge of borehole drilling and the Sphere Standards with the local knowledge of seasonal changes in the water table height.

However, in this paper, we look at four examples of local knowledge being nurtured or used in a more systematic way: disaster risk reduction, early warning systems, coping mechanisms, and civilian self-protection. In all four cases, support for local knowledge systems is provided through community-led participatory engagement facilitated by local organisations or other individuals.

3.2 Local knowledge and humanitarian response



Figure 1: Participatory processes for sharing local knowledge have been documented and examined for DRR, early warning, coping mechanisms, and protection

Disaster risk reduction

The majority of work done to support management of local knowledge takes place during the ‘disaster risk reduction’ phase of the disaster response cycle (Figure 2). Such processes use local knowledge to construct earthquake resistant buildings, to use local materials that do not rot during flooding, or to support practices for countering the effects of droughts, food insecurity or flash flooding (Shaw, Uy, and Baumwoll 2008).



Figure 2 Disaster management cycle

In many cases, local DRR processes have emerged organically. In Kenya, South Africa, and Swaziland, for example, communities have adopted DRR techniques that include growing drought resistant and early-maturing indigenous crop varieties, and livestock diversifying and splitting (UNEP 2008, P8-9). The Banyala community in Budalang’i required each homestead to dig trenches around it to control water and to be equipped with a dugout canoe for transport if floods hit, and expected people living in the highlands to accommodate the most affected i.e. those living in the lowlands. In Swaziland, communities predicted rain from the cry of particular birds and famine from the yields of certain plants (ibid).

In other cases, these processes have benefited from structured support. The Red Cross and Red Crescent Movement (RCRC), for example, have developed a programme for Community-Based Disaster Risk Reduction (CBDRR). In 2011, ARUP International Development published findings on key determinants for a successful CBDRR programme. The nine factors included motivation of community leadership, the strength of partnerships between RCRC partners, availability of sufficient time and funding and ‘an appropriate balance between standardisation and flexibility in programme design’.

The processes for incorporating local knowledge into DRR are well developed compared to those for incorporating local knowledge into other parts of the response cycle. In fact, participatory community-led DRR processes have been attempted by many organisations in many different crisis-affected regions. The agencies use techniques such as community situation analysis and community mapping (van Aalst, Cannon, and Burton 2008). Proponents of community-led DRR state that it is most effective when it is integrated into decision-making processes related to community resilience (Visman 2016).

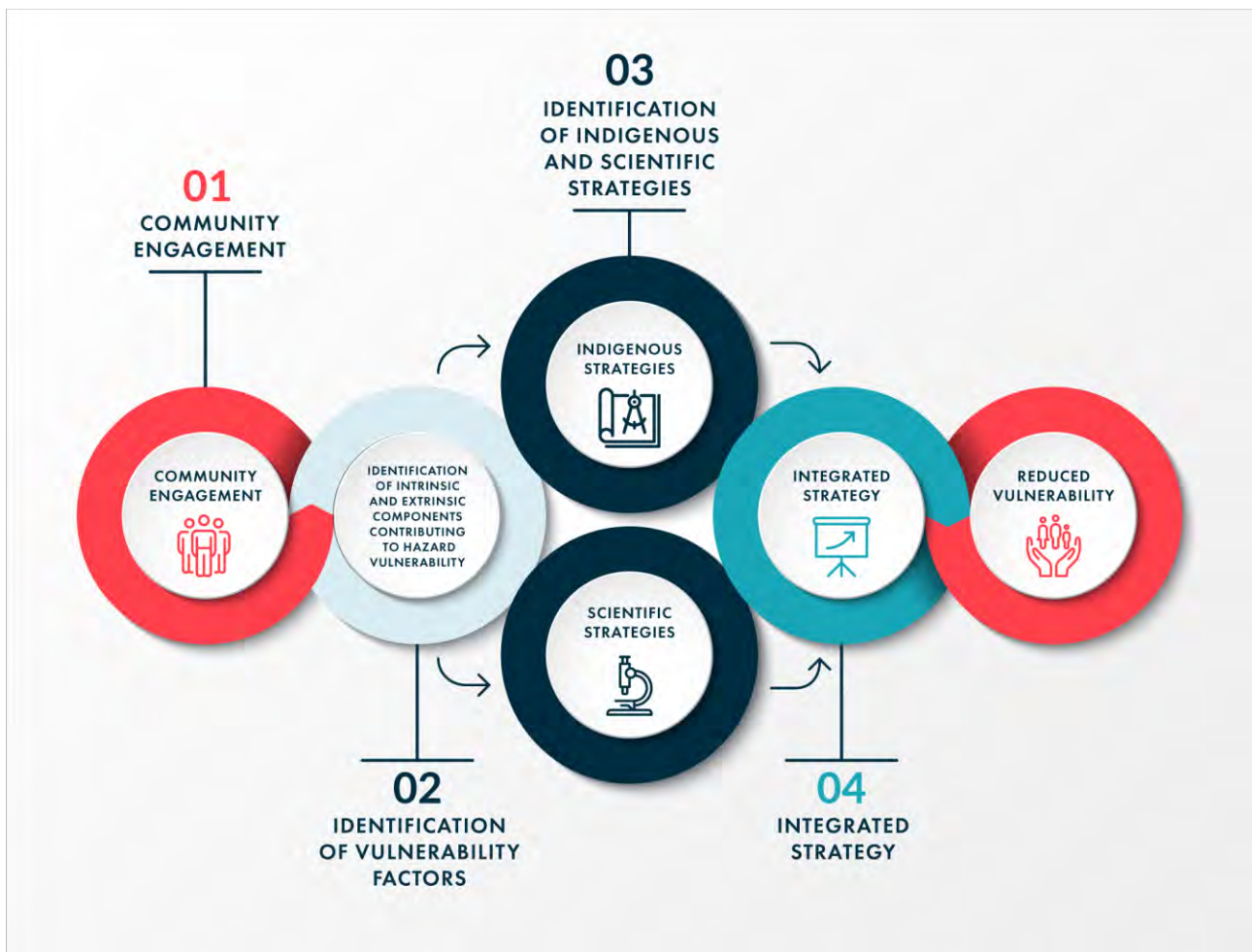


Figure 3: Process for integrating local knowledge into DRR adapted from Mercer et al. (2010).

In 2010, Mercer et al. published a detailed framework (figure 3) for participatory DRR processes (the lead author also provides consultancy services through her organisation Secure Futures). The framework is made up of four stages, which are not discrete, but can happen in sequence or concurrently.

Stage 1: the crucial first stage is for the facilitators to conduct in-depth discussions with the community to build a sense of trust. Ideally, local CBOs, faith-based organisations or other local groups should facilitate the process. If external organisations are included, they must be transparent about the support they are providing and work with the community to identify what it would like to achieve.

Stage 2: facilitate a collective assessment of the intrinsic and extrinsic factors that contribute to disaster vulnerability, including both environmental and social factors. This step should involve a wide range of local actors so that priority factors can be agreed. The authors recommend using a community situation analysis methodology.

Stage 3: facilitate a discussion of past and present intervention strategies. Intervention strategies may be indigenous or external. Indigenous strategies might include approaches to land use planning, building methods, food strategies, and social coping, for example by forming working groups. Similarly, external strategies may include construction methods, or food and environmental strategies. This stage may involve local knowledge being collectively re-created based on previous experiences. It also allows the community

to identify its capabilities while offering an insight into the external knowledge they might find useful for meeting their needs.

Stage 4: the final step is to integrate the vulnerability factors participants wish to address with the means identified. During this step, the participants identify the most effective strategies to address each of the identified hazards. The task of the facilitator during this stage is to make sure that local understandings are not lost in translation and to negotiate conflicting values and ideas that will invariably occur. Mercer et al. emphasise that the ultimate power of mediation should remain with local people, who retain ownership of their knowledge and the decision as to how it should be utilised in conjunction with other forms of expertise.

This step is mirrored in the CBDRR approach published by the IDRC, which is designed to facilitate greater local decision-making, rather than attempting to extract knowledge to a place where decisions can be made remotely (ARUP International Development 2011). Local knowledge is produced through discussion and used to decide what additional support is required.

Robinson and Berkes (2011) caution against participatory processes that work exclusively at the community level. They argue that 'local' participation should occur at multiple levels of the system, to allow a greater number of voices and 'knowledges' to be included. The authors use a case in northern Kenya, where staff in a project supporting pastoralists attended traditional large-scale council meetings. The meeting incorporated a large number of pastoralist communities who shared news and discussed rainfall, livestock, and security. Project staff attended as ordinary members. The authors reported that the wide range of stakeholders from beyond the immediate locale meant the attendees benefited from integrating knowledge from different levels of the community (ward, district, national and international), and resulted in more innovative strategies for building resilience.

A second important consideration for inclusion of local knowledge within DRR planning is that efforts should not occur as one-off processes. In 'Aid on the Edge of Chaos,' Ramalingam describes approaches taken to reduce the effects of drought on food insecurity by the African Centre for Holistic Management (Ramalingam 2013). Its 'Operation Hope' tried to develop a method for holistic management of arid grasslands. The team describes it as a 100-year project that incorporates local understanding with scientific knowledge of ecosystems. Goals change continuously and 'conversations are more important than plans'. He notes 'in a healthy community, discussion of overarching goals never ends, a healthy community does not aspire to create the perfect plan and then implement it, but grows and develop goals over time'. In this way, local knowledge grows through long-term engagements built on established relationships.

Early warning

Many natural disasters are now forecasted in advance using meteorological or seismic data. In disaster-affected areas, however, many communities have also developed the capacity to predict disasters. This may include transmitted knowledge passed down through the generations or experimental knowledge gained through observations of recent disasters.

One well-reported example is from the Simeulue Island near Indonesia. Here, a story which was frequently told within community life offered a means of recognising the early signs of tsunamis, based upon an experience in 1907 which killed around 70% of the Islanders (Syafwina 2014; McAdoo et al. 2006). When the 2004 tsunami occurred and devastated large swathes of South-East Asia, the Islanders - for whom, being closest to the preceding earthquake's epicentre, seismological technology would have been useless - knew to retreat to higher ground, and they suffered only seven casualties out of a population of nearly 80,000 (ibid).

Similarly, a study in Kenya identified 25 indicators used to predict rainfall in the Kamba community in

Makueni County, including plant indicators, changing cloud patterns and insect behaviour (Musembi and Cheruiyot 2016). In Baringo County, indigenous forecasters used the intestines of goats to predict early warning information (Liang 2017). Drought risks were shared among the community and with local government.

Supporting timely early warning systems such as these can help greatly reduce the loss of life and can assist communities in preparing to reduce damage to their homes and assets. However, while many local and national organisations are aware of local early warning indicators, they also query how to make use of local knowledge alongside the meteorological data provided by other humanitarians (ID 6). Powell responds that rather than asking 'how to deal with local knowledge?' a better question would be: 'how can we act in an environment of multiple knowledges?' (2006).

The International Federation of Red Cross and Red Crescent Societies (IFRC) has produced a set of guidelines for creating community early warning systems. The guide argues that the strongest early warning systems will 'capitalize on as many knowledge systems as can be tapped' (IFRC 2012, p34). The integration of local knowledge with scientific early warning systems, when communities demand them, can increase local ownership of early warning and enhance their ability to reduce risk to disasters, when disasters occur beyond that which people are used to experiencing.

At least five of the stakeholders included in the mapping have also attempted to incorporate local knowledge into early warning in this way. Among them, the Adventist Development and Relief Agency (ADRA) India is an organisation based in India that has supported the development of early warning systems in several districts in India. The Community Based Participatory Flood Early Warning and Response System (CBPFEWRS) was developed during five-day workshops with participants from ADRA, local government, and community representatives. The proposed model incorporated traditional and scientific weather monitoring. Traditional signs, including cats shifting their kittens to uplands and ants carrying eggs moving uphill, were incorporated into the early warning system. Community members who observed these signs were expected to pass on the information to the Early Warning group.

An evaluation workshop with community members identified five shortcomings in the system, all linked to community-government relations and the poor dissemination of warnings (Singh, n.d.). However, the incorporation of traditional knowledge system was seen to have made the meteorological system more effective. Villages used the system to develop their own simple early warning system codes with local drums and bells used to disseminate messages across the community: standby; prepare to evacuate; or evacuate.

Traditional knowledge tends to be based on experience and may fail to predict the time and intensity of a disaster. The inclusion of scientific knowledge is therefore a vital component of early warning. Emma Visman has studied how to build resilient systems that can respond to shocks and adapt to changing climate risks. Visman notes that:

'Scientific and local knowledge encompass important understanding about risk and resilience. Sometimes this is complementary and shared, and sometimes it is different and conflicting.'

In a report for the Humanitarian Practice Network (HPN), Visman outlines NGO methods that have been used to combine local and scientific information. For example, CARE International developed Participatory Scenario Planning (PSP) to bring together seasonal forecasting information³. Christian Aid uses a Blending

³ King's College London also has a current research project looking at coupling local and scientific weather forecasts through participatory scenario planning in Burkina Faso.

Approach to combine scientific forecasts with local indicators and community-managed rain gauges and log books. Case studies of different methodologies to support effective communication between scientists and local decision makers, designed to support an online community of practice, are available at: <http://dialoguesforresilience-blog.tumblr.com/>.

Visman and Kniveton (2016) outline practical steps for initiating and sustaining the co-production process required to develop and support the use of risk information relevant to local decision making. The first step is to establish common ground, since the local decision-makers and scientists come from different backgrounds with different strengths, weaknesses and perceptions. Building trust that entails the recognition of different work methods, knowledge and value systems and agreement on aims and principles of working together. The paper provides mechanisms for co-production, including knowledge exchanges, cross-organisational placements, and secondments, so that local decision makers and scientists can learn from each other.

These ideas have shaped a recent training programme designed by the Adaptation Consortium in Kenya for Climate Information Service Intermediaries. The curriculum includes 14 modules covering foundational scientific literacy, use of climate information for planning at different timescales, for different livelihoods, and different levels of decisions making, and engaging with local module (ID 17).

There is an emerging set of principles for co-producing knowledge for climate services like early warning systems. For example, the Climate Services Partnership (2015) has published a set of values and principles for ethical climate services. The values, which are expanded in the report include integrity, transparency, humility and collaboration. There are also eight principles of practice

UNESCO has also identified this challenge and begun funding work on the combination of 'multiple knowledge systems.' Its work includes establishing a new organisation, the Intergovernmental Science Policy Platform and Biodiversity and Ecosystem Services (IPBES), to explore how multiple knowledge systems can complement each other and interact synergistically. IPBES has a task force that facilitates networking and dialogue workshops on indigenous/local knowledge and attempts to interlink these forms of knowledge with emerging technologies.

Coping mechanisms

Local knowledge on coping mechanisms plays an important role in securing survival for disaster-affected communities. Subsistence agriculture and foraging have saved the lives of millions during emergencies. In Niger, for example, communities respond to food insecurity using knowledge of wild plants. Mbororo herders in West and Central Africa survive droughts by taking strong animals on long migrations and raising different types of livestock. Turkana pastoralists in Kenya have developed adaptation strategies that include livelihood diversification, increased livestock mobility, diversification of herd composition, and education (Opiyo et al. 2015).

The enthusiasm for sophisticated technological methods of overcoming disasters has often led specialists to overlook and undervalue the effectiveness of local coping strategies and technologies, and they are under-utilised by formal agencies. However, the growing interest in climate adaptation has led international agencies to become more aware of the need to understand local coping mechanisms, particularly during slow onset emergencies such as drought, food insecurity, and winterisation.

The Good Practice Review on DRR included a chapter on how indigenous and local coping mechanisms have been used in disaster response (Twigg 2004). The report outlines local approaches for:

- economic and material diversification, such as crop rotation or selling assets
- local technologies, such as land management systems and construction methods

- social coping mechanisms that include relying on networks for psychosocial support, sharing food or shelter,
- and cultural understandings of risk factors

The review notes that these strategies are not stand-alone but can be used together or more often in sequence. For example, when drought hit agricultural and agro-pastoral districts in Tanzania in 2008, communities employed a wide range of strategies including: buying food; looking for employment; taking livestock to other areas to feed; selling items such as wood, handicrafts and manure; and illegally making and selling charcoal. When the drought worsened, the disaster affected people sold their livestock.

The Good Practice Review author argues that external organisations should work with communities to assess local coping strategies on the basis of their effectiveness. The most appropriate mix – between local and external systems - should be identified for each situation. This is a difficult process because coping mechanisms are often invisible to outsiders. Considerable effort must be taken to identify and understand them. This can be difficult for humanitarian staff whose upbringing and education has taught them to distrust traditional knowledge.

Experiences of dealing with earlier crises can improve a local communities' understanding of where future crises may exceed existing coping mechanisms. In these cases, there are many examples of local actors working together to create crisis calendars to identify optimal time for particular interventions (i.e. 'windows of opportunity').

Protection

Casey Barrs, who documents examples of civilian self-protection strategies, notes that we are unlikely to know the extent of local knowledge on protection (ID 9). People may not announce, record, or share their use of local practices if they were unorthodox or carried a degree of self-inflicted harm. Moreover, the strategies might be illicit, sensitive or proprietary.

Jessica Lenz, InterAction Senior Program Manager for Protection states:

“While humanitarian actors recognize the importance of community-based protection or self-protection, they struggle to tap into these solutions. Too often, their programs neglect to identify and build on existing protective strategies, and may undermine what is keeping people alive and safe.” (Lenz 2016)

Nevertheless, there is a growing body of academic work documenting civilian self-protection strategies in conflict settings. This literature consists largely of qualitative case studies, and provides descriptions of self-protection strategies, but also offers explanations on why civilians adopt certain strategies, and what the conditions are in which they can successfully provide protection from violence (Jose and Medie 2015).

Building upon this literature, the Local to Global Protection project (L2GP) was initiated in 2009 in order to learn more from populations that have lived through protracted periods of conflict with only limited access to outside assistance. Over the past eight years, the consortium has conducted in-depth research on how communities in South Sudan, Sudan, Syria, Burma (Myanmar) and Zimbabwe traditionally protect themselves from armed conflict and socio-political crises. One of their key findings was that external interventions did not have as great an impact on the protection of civilians as the strategies that were employed by local people themselves. In cases of political violence, some of the coping strategies included political neutrality, threat avoidance, and bribery, and for economic deprivation, people employed subsistence strategies such as subsistence farming, barter trade and selling illicit goods (Horsey 2011).

In the Nuba Mountains of Sudan, Corbett found a wealth of such protection experiences and knowledge existing within threatened communities. However, his research noted that lives could have been saved if

the knowledge had been shared more evenly throughout the community. Moreover, community members had alluded to the fact that protection assets and knowledge were quickly lost after the conflict ended. Most importantly, people had valued efforts to facilitate reflection on the experiences of war and "*did not think that such 'experiential' learning would happen spontaneously without proactive facilitation*" (ibid).

New technology such as mobile phones and platforms such as Twitter have enhanced the generation and dissemination of such information (Jose and Medie 2015). However, any ICT platform intended to aid local warning must be plugged into a willing and organized local response (Barrs 2010). For example, peacekeeping missions can contribute to these efforts by helping civilians spread existing information produced by local warning systems.

Barrs (2010) presents an inventory of local knowledge and strategies that demonstrate the commonalities of local knowledge-approaches to responding to conflict. He argues that outsiders can save lives by listening to civilians in conflict, then by sharing advice and experience (often based on lessons learned by other civilians in other conflicts.). He writes: "*Outsiders may help bolster local information strategies and structures.—and if deemed risky, STOP THERE, leaving locals to draw their own conclusions and take their own actions.*" In protracted conflicts, external organisations can contribute to local efforts by helping civilians spread existing information produced by local warning systems.

A clear example of the role played by local organisations in facilitating and supporting locally-led protection efforts can be found in Sudan's South Kordofan and Blue Nile states, as described by Konda, Kodi, and Carstensen (2016). Since the outbreak of civil war, international humanitarian actors have not been allowed to access opposition controlled areas. In their absence, local NGOs and a women's organisation have supported up to 400,000 people with basic survival and self-protection guidance (Konda, Kodi, and Carstensen 2016). This included training and awareness on reducing risk of injury or death from aerial bombardment, surviving threats posed by lack of food, clean water and basic services, and dealing with trauma.

4. Social learning and local knowledge

The previous section explored how local knowledge production can be facilitated among communities. This section turns to the opportunities and pitfalls for international actors attempting to extend this process to multiple disaster-affected communities. It outlines criteria for knowledge exchange, including that it is demand-based and built on relevant local communications platforms. Examples of relevant processes are examined.

4.1 Overview of social learning

The Academy's Knowledge Landscape Report found that knowledge relevant to humanitarian response moves between a myriad of actors, across multiple informal communication channels, and via feedback loops that are fluid and unpredictable. These information-sharing pathways tend to be clustered between individuals and organisations that are culturally or geographically similar and coordinate amongst themselves. Exchange of local knowledge within the formal humanitarian system is relatively limited.

The complex factors that lead to humanitarian emergencies mean that local information is often communicated through small, weak and spontaneous networks with limited access to communication technology. During humanitarian emergencies, for example, first responders use word-of-mouth and (increasingly) social media to share local information on safe access routes, needs, and protection and survival strategies.

In the development sector, researchers and practitioners have attempted to communicate local knowledge

between communities through standardised documentation in databases (Sillitoe 1998; Agrawal 2002). Local strategies are documented as examples of local best practice in a way that does not adequately account for context (Agrawal 2002). While the documentation of local knowledge has important uses (see section 5), as an approach for helping other actors learn and enhance their ability to carry out interventions it has been largely ineffective⁴.

Ferguson, Huysman, and Soekijad (2010) argue that databases are seen to contain 'useless' knowledge because external actors are unable to discuss how local strategies from elsewhere might be used in their context (see also Powell 2006, Sillitoe 2010).

The primary requirement of any local knowledge sharing is therefore that it is tailored to the needs and demands of the affected individuals, groups or communities. Corbett suggests that learning should be demand-led, short, and focused on "capacities" that are relatively easy to acquire and have immediate relevance (such as identification and preparation of wild foods) (Corbett 2011). Establishing the learning needs and preferences of those involved can be achieved through a participatory approach (such as that described in Section 3.2), which offers insights into the external expertise required (Mercer et al. 2010; Nyong, Adesina, and Elasha 2007; Powell 2006; Robinson and Berkes 2011; Sillitoe and Marzano 2009).

The second requirement is that the knowledge sharing must use communication mechanisms appropriate to the needs of the particular community. Sarah Mace at the CDAC network suggests that the communication style should respond to local preferences, culture, and context:

"it might be that they want to dial into a radio show, or it might be that they want to have a meeting, or it might be that they've had so many meetings that no one ever wants to have a meeting. They might want us to talk to their community leader, who they've voted in and who they trust with their knowledge. Or it might be that a particular women's group is particularly vocal." (ID 3)

These requirements suggest that a more effective means of sharing knowledge is through latent networks that connect local actors with one another and that allow those actors to contact individuals or groups who have expertise that they require.

Latent networks may allow local actors who have developed their own strategies for managing crises to discuss them with others who are undergoing similar issues. For example, Ferguson, Huysman, and Soekijad (2010) describe how latent networks allow people to engage in *situated-mutual learning*, which involves local knowledge being re-created through discussions between actors who come from different places. The actors engage in learning together to produce new knowledge that is contextualised to a new setting.

Similarly, latent networks may also allow facilitating organisations to identify gaps in local knowledge that can be filled by external knowledge (a similar process is described for supporting local DRR strategies in Section 3.2). This would allow facilitators to connect one community and their expertise to another so that social learning can occur (Berkes 2009).

This section builds on Section 3 to suggest how organisations can facilitate demand-led local knowledge sharing by connecting local actors. It gives examples of four different mechanisms for social exchange: brokering, learning exchanges, local experts, and technology.

⁴ As an example of this, in 2007, the major proponents of this strategy, the World Bank, discontinued their database (World Bank n.d.). Similarly, the Indigenous Knowledge Development Monitor (IKDM), the journal that published UNESCO's indigenous knowledge database, ceased its activities in 2001 (Indigenous Knowledge Development Monitor n.d.).

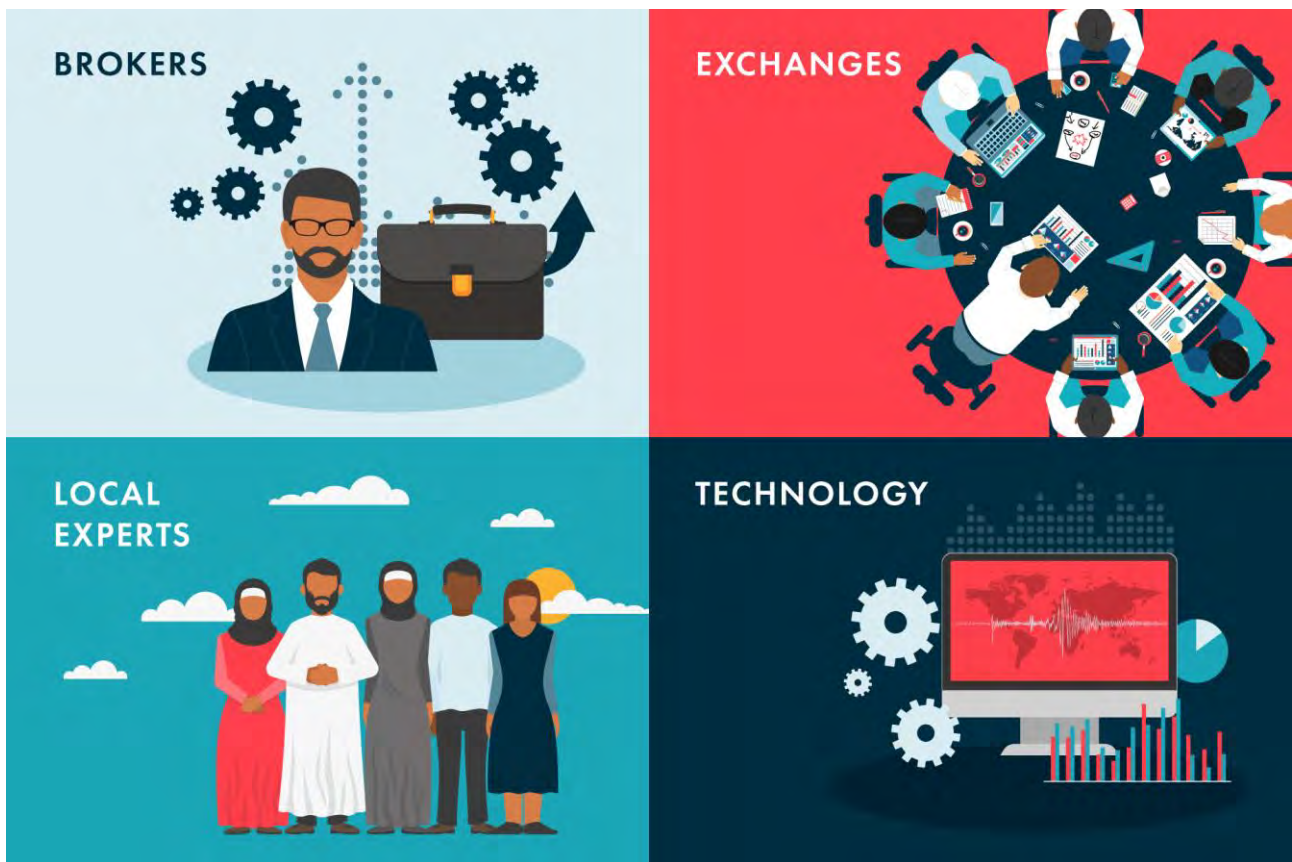


Figure 4: Mechanisms for exchange of local knowledge

4.2 Mechanisms for social learning

Brokered knowledge sharing

The stakeholder analysis only identified a handful of examples of agencies facilitating knowledge sharing between disaster-affected communities. One such example is Asia Indigenous Peoples Pact (AIPP), which aims to support the needs and priorities that indigenous groups have identified for themselves (ID 2).

This includes traditional knowledge, as well as broader concerns associated with human rights, development, and climate change adaptation. This approach allows them to gain consent with regards to what members do and do not want to be published, which is further reinforced through their attempts at building capacity so that local people can document their own knowledge as it meets their aims. When there is a gap in capacities that their members have identified, they seek out other external organisations that can meet these demands.

One approach to ensuring knowledge sharing is needs based is to use local ‘innovation brokers’, which are growing in the Kenyan agricultural sector (Kilelu et al. 2011). In this manner, the Arid Lands Information Network’s (ALIN) databases are collected at physical sites called Maarifa Centers. These are places where arid land farmers can access digital and physical publications. The knowledge contents of these centres are at least partially determined by community representatives. Collectively known as focal groups, they communicate with the wider farming communities and detail their information requirements. The focal group may request information on local and national markets, as well as knowledge about agricultural

innovations and experiments in climate change.

Bob Aston, the knowledge management officer for ALIN, notes that the degree to which information is uploaded at the Marifaa Centres depends upon whether there are capacity building projects occurring at the same time (ID 1). In addition, farmers are most likely to access and use the knowledge sharing facilities when they are planning and preparing their land (and so the knowledge can be enacted) compared with other times of the year. The focal groups offer a means of communicating what kinds of information are relevant and needed during these periods, so that they can be incorporated into local adaptation strategies to cope with drought and famine.

Knowledge exchange

AIPP, ALIN, and the South-South Experience Exchange Facility have used exchange visits to allow local knowledge to be shared orally at the regional and national levels. This is a form of experiential knowledge sharing that offers visitors the chance to observe local practices in their context. These visits help the visitors to see why the practice is important and how it might be adapted to their own environment.

Similarly, in South Sudan, the DEPP initiated a project that attempts to capitalise on the traditional peacebuilding, conflict prevention and early warning techniques used by youth to evade or negate violence. Lessons learned from one community were transferred to others using peer-to-peer dialogue and interactive/narrative communication such as theatrical performances and storytelling. The project aimed to explain these practices to other youth communities struggling to cope with cattle raiding.

Finally, at the international level, Evidence and Lessons from Latin America (ELLA) has paired researchers and policymakers in Latin America and Africa. Study tours are used as a means of sending policymakers to visit local areas so that they can learn about their experiences first-hand. One such trip saw 12 professionals involved in governmental, research, and civil society groups from Africa and South Asia travel to a semi-arid region in the North-East of Brazil. This enabled visitors to see and discuss how multi-level government collaborated with farming communities to build resilience in the face of climate change. These trips are subsequently documented in the form of reports, photo and/or video, available on their website and, in the last case, their YouTube channel.

Local experts

Another means of engaging in face-to-face knowledge sharing, proposed by L2GP, inverts this process. Here communities that have developed their own protection strategies (Section 3), would send representatives to other conflict-threatened people to act as protection consultants (Corbett 2011). These 'cross visits' would be facilitated by international agencies that could provide logistical and financial support as well as assistance with translation (ibid). Such a strategy could fit well within larger networks, and mirrors a form of knowledge management practice, based upon sourcing people with particular competencies who can be consulted for practice-based assistance (Ferguson, Huysman, and Soekijad 2010).

Organisations such as Humanitarian Aid International in India are already considering how to create regional rosters for disaster surge capacity (ID 4). Local consultants with specific expert local knowledge might be added to these rosters to support disaster response in other affected areas.

Using technology

The primary use of information and communication technologies in relation to local knowledge sharing has been for the dissemination of situational knowledge among populations during disasters. At an individual level, mobile phones, radio and social media are used to communicate information about the location and wellbeing of family members, and about access routes and available services. For example, information and

communication technologies and social media are used by migrants and refugees to share information about acquiring legal documents, routes and destinations, the cost of migration routes, warnings about scams, safety advice and GPS coordinates, amongst other issues (Frouws et al. 2016).

Radio, mobile phones and social media are also used to facilitate the exchange of agricultural knowledge (Lwoga, Ngulube, and Stilwell 2010) and security information (Baines and Paddon 2012; Barrs 2010; Corbett 2011; Jose and Medie 2015) between disaster-affected communities.

Facebook and WhatsApp are often identified as the social media platforms most commonly used by disaster-affected people, though the popularity of different applications varies in different contexts (ICRC, The Engine Room and Block Party 2017; UNHCR 2015). A report by the ICRC, The Engine Room and Block Party (2017) documents examples of how people and organisations affected by armed conflicts around the world are using messaging apps such as Facebook Messenger, WhatsApp, and Snapchat. The report provides general principles for organisations considering using messaging apps. These principles include conducting detailed, locally focused research into factors affecting how crisis-affected groups use and share information, and considering who will not be reached via messaging apps.

It is important to remember that access to technology is not distributed equally across members of affected communities, and that there are numerous barriers limiting access to technology and, thus, to information shared through it. For example, key obstacles hindering refugees' connectivity, as identified by UNHCR (2015), include the cost associated with buying smart phones and buying data, lack of coverage by service providers in rural or hard to reach areas, limitations in terms of literacy, and a language barrier, with most applications developed in English. Furthermore, as emphasised by Wall and Hedlund (2016), digital divides are forming along established fault lines, such as gender.

Wall and Hedlund (2016) highlight the ability of technology to facilitate a "many-to-many", or networked, response. They provide the example of the JalinMerapi project in Indonesia, which demonstrates the possibilities for technology-facilitated information sharing through a network model. As they explain (Wall and Hedlund 2016, p. 35):

"JalinMerapi was founded in 2009 by a group of journalists and local activist living by the Merapi volcano in central Java, after locals felt that the government had been slow and obstructive in providing information about a major eruption and the government's response. Using local radio stations and digital platforms, the project's founders developed a multi-platform way to share information about volcanic activity in real time. When the next eruption happened, they found that locals were using the platforms to ask for help, report impact and make specific requests for resources such as food or shelter. Others were using the same platforms to respond directly. With the help of local authorities and a nearby university, the project has now expanded to run a permanent online platform sharing information, facilitating preparedness and supporting response (Wall 2012 p12)."

The research found limited evidence of disaster-affected communities utilising technology to communicate with aid agencies. Nonetheless, in some circumstances, communities affected by crises have contacted humanitarian agencies through social media platforms, including to share their location for assistance and provide information on a certain crisis. For example, during the Ebola crisis in West Africa, affected people used WhatsApp to voice their concerns, access accurate information, ask questions about their situation, share quotes from press releases and news briefings, share updates on aid facilities throughout the country, and report incidents (ICRC, The Engine Room and Block Party 2017).

5. Documenting and recording local knowledge

This section explores some of the uses of documentation for sharing local knowledge with different actors. This is done through providing examples of where organisations have attempted various processes to share knowledge with different actors, with some formats being more suited to particular goals and audiences.

5.1 Uses of documentation

Our stakeholder analysis indicates that the majority of attempts at sharing local knowledge relevant to humanitarian response involve written documentation of local information, skills or practices. This includes academic publications, NGO reports, case study databases, and participatory research. While in some cases, documentation has been produced with the intention of creating learning products (case study databases), the knowledge documented within them is often seen as irrelevant (section 4). The predominant aims of documentation has been for the purposes of advocating the value of local knowledge, and this theme seemingly runs throughout the overwhelming majority of reports (including this one) as they attempt to push local knowledge into policy mainstream.

Agencies involved in documenting local knowledge must consider who owns these knowledge products. The loss of valuable intellectual property has led some communities to fear sharing their knowledge with outsiders. AIPP, for example, sees its work to document traditional plant knowledge as a means of protecting it from external private interests. However, by contrast, ALIN has found that some farmers are afraid of sharing their experiences on video because they are concerned that innovations that are not protected might be stolen (ID 1).

The World Intellectual Property Organisation (WIPO) hosts a variety of forums and workshops that bring together traditional knowledge stakeholders for discussion and information. In November 2017, for example, the WIPO will bring together Government Intellectual Property officials from several countries, alongside AIPP and other like-minded organisations to discuss approaches to the rights to knowledge on traditional practices (ID 2). The WIPO has also begun a process of negotiating an international legal instrument to address intellectual property issues for traditional knowledge.

This section outlines four ways that local knowledge can be documented: in academic publications, NGO reports, case studies and through participatory documentation processes.



Figure 5: Documentation of local knowledge occurs in academic publications, NGO reports, case study databases and through participatory documentation processes.

5.2 Mechanisms for documentation

Academic publications

Academic researchers have been most prolific at documenting local knowledge relating to disaster response or conflict. A search on Google Scholar for “local knowledge” and “humanitarian” yields over 16,000 results. These papers are most often written in specialist language and formats to meet strict academic publishing criteria. They often aim to demonstrate the value of local knowledge and to show differences to other forms of scientific or ‘global’ knowledge, for instance emphasising the holism of the former, and the reductionism of the latter. The research has led many academics to engage in policy discussions on behalf of local people, for instance challenging prevalent notions that indigenous agricultural practices cause environmental degradation (cf. Leach and Mearns 1996). The authors of this report did not find any examples of academic documents produced for learning either in relation to the local level or local knowledge.

NGO research reports

A variety of international and national NGOs have also documented local knowledge, most frequently where it relates to climate change and DRR. Over half of the organisations included in the stakeholder analysis have documented local knowledge online and in reports, magazines, newspapers, websites or databases. External researchers, using methods such as interviews, and community observations, normally author the reports.

The Bangladesh Resource Centre for Indigenous Knowledge (BRCIK) typifies this approach. It aims to produce research publications that can be shared with similar organisations and policymakers as a means of promoting the incorporation of local knowledge into development and disaster programmes. One such research report engaged with how coastal people in Bangladesh countered problems with waterlogging and salinity by planting trees, re-excavating canals and conserving uncultivated plants. The same report documented how people living in the Char area dealt with riverbank erosion and drought by conserving and planting foods that could survive in the drought-stricken areas, exchanging resources, and using eco-friendly fertilizers.

There are several repositories that include NGO reports on local knowledge. The largest is Prevention Web,⁵ a site that collates information on disaster prevention. It includes a sub-category on 'indigenous knowledge' that contains 264 organisational entries (the majority of which are in Europe) and 159 documents, publications and conference proceedings. These documents were produced by national or international NGOs and academics and provide examples of local practices and policy recommendations.

A second example is the Pastoralist Knowledge Hub⁶ run by the UN Food and Agriculture Organisation (FAO). The website hosts an online knowledge repository of publications from INGOs, research organisations, and academics. The repository can be searched for themes including indigenous knowledge, resilience, and participation. The Hub has partnered with 26 established INGOs and networks including VSO and the International Institute for Environment and Development (IIED) and the World Alliance of Mobile Indigenous People (WAMIP). Pastoralist networks have been established in seven regions with the aim of promoting discussion between pastoralists and the main actors working with them.

Like academic publications, NGO reports are designed to demonstrate local practices and leverage policymakers. However, their length and style make them ill-suited to learning exchanges between disaster-affected communities.

Local knowledge case study databases

During the 1990s and 2000s, several research-oriented development organisations sought to create databases of local knowledge case studies. These were intended to provide examples of 'best practices' or to preserve knowledge that was being lost in the face of social change (Agrawal 2002). Database creators believed that by abstracting technical knowledge it could be scientifically corroborated and then used elsewhere (Agrawal 1995, 2002; Sillitoe 1998). UNESCO's indigenous knowledge database was an example of this, containing 27 local best practice examples of poverty alleviations strategies that were curated from recommendations provided by development research experts and PhD students (UNESCO n.d.). These were deliberately dislocated from the local and cultural context, externally reviewed for 'quality control,' and intended to be low-cost solutions replicable elsewhere (ibid). Like the World Bank's Indigenous Knowledge database, the project was discontinued over a decade ago (section 4).

Participatory documentation

A smaller number of organisations use action research and other participatory processes to document knowledge for exchange. These organisations also host networks of community representatives, CBOs or NGOs and share the knowledge across members.

ALIN, for instance, operates a network of arid land farmers, predominantly in Kenya but also nominally in

⁵ <http://www.preventionweb.net/>

⁶ <http://www.fao.org/pastoralist-knowledge-hub/partners/our-partners/en/>

Uganda and Tanzania. They have partnered with other NGOs in order to provide training in a variety of journalistic skills including feature writing and film. The training is intended to allow people to exchange local agricultural knowledge in a manner that can be readily understood by other farmers across their network. Information is posted on locally run blogs and social media channels such as YouTube.

AIPP help indigenous groups to create written documentation such as books and teaching resources, as well as videos and other media. The resources relate to traditional crafts, plant knowledge, and language. The aim for this capacity building is to enable 'bottom-up' documentation, so that smaller CBOs can advocate for their objectives and rights and protect their intellectual property.

Both ALIN and AIPP emphasise the need to provide alternative forms of documentation, such as stories, comics or videos, which can be accessed and used by different audiences (ID 1,2). These mediums offer some solutions to discrepancies in literacy, language, and education between the different actors. They also allow local actors to take ownership and authorship of their own knowledge and to pursue their own agendas (ID 2). In both these cases, and others such as CDAC, where communication occurs through networks, facilitators partner with external actors with skills in translation, research assistance, or visual media production (ID 1,2,3).

6. Conclusions

1. Local knowledge is complex

Local knowledge is a complex part of people's lives. 'Knowledge' tends to be seen as something that exists in the way that an object does. With local knowledge being a form of social knowledge however, rather it emerges through people's interactions and practices. Through this, people continually develop an ability to live in their own personal social and environmental context as it changes around them. What *is* local knowledge and what is not local knowledge tends to be delineated by outsiders interested in different systems of knowledge, however it should be up to local people to decide what counts as knowledge that is relevant to their ways of living.

2. Local knowledge changes as risks and vulnerabilities change

With local knowledge being something that is learned through interactions with people and their surroundings, when the challenges that they face change, so too will their knowledge. While in some cases people are able to successfully adapt to changing patterns of disasters, as they are brought on by climate change for instance, in other instances this will not be the case. As people become displaced, or experience unexpected shocks, or have their ways of life threatened or disrupted by others, their ability to adapt may be limited.

3. Agencies can facilitate processes that support local knowledge systems

Research from the Local 2 Global Protection group has demonstrated many reasons why local communities might benefit from support to facilitate processes that create or share local skills, practices or information among themselves. These include the changing nature of emergencies, and the loss of knowledge between crises.

4. Local knowledge processes must be demand-driven

The primary requirement for any knowledge process is that it is demand drive. There is little value in acquiring knowledge for its own sake; local actors, such as first responders, CBO or NGO staff, or local Government must know what it is needed for. It is particularly vital that any knowledge processes during the response phase has realistic and clearly defined outcomes.

5. Where local knowledge is shared, social learning allows for differences in the contexts to be understood more effectively

So far, external engagement with local knowledge in the humanitarian sector has primarily involved documentation by NGOs and researchers. This is a useful way of engaging in policy discussions but is less suited to learning, because it produces a form of knowledge that is static and limited to one context. Learning which includes a social component, however, allows for differences in local contexts to be discussed and addressed so that knowledge can be re-produced and re-contextualised with greater relevance. Attempts to share local knowledge for the purposes of learning should therefore use social means.

6. Local knowledge processes should not be extractive but should lead to co-management of response

The goal of local knowledge processes should be to support local actors and organisations to deliver a more effective response. These processes should not extract knowledge for use by external actors. Instead, learning, sharing and networks should facilitate co-management of the humanitarian response (Berkes 2009).

7. Recommendations

The recommendations listed below attempt to explore how the Humanitarian Leadership Academy might engage with nurturing, sharing and supporting local knowledge utilisation through its learning and knowledge-sharing streams. The Academy sees value in engaging with the richness and relevance of local knowledge(s) to inform its learning experience, to enable knowledge sharing on established practices, and to address humanitarian needs in response, recovery and/or resilience. The Academy plans to use the recommendations arising in this report to begin work in engaging existing initiatives, networks and practitioners working on local knowledge to strengthen the local relevance of its localisation work through learning.

7.1. Develop a knowledge-based theory of change

The first step is for the Academy to consider its niche in nurturing and sharing local knowledge. This can be achieved by developing a knowledge-based theory of change that illustrates how specific thematic areas of local knowledge contribute to a better response at a specific level (i.e. volunteer first responder, CBO, NGO).

The Academy's theory of change should address five key questions:



Answering these questions would likely involve some primary research within a pilot context.

The theory of change would be developed in a workshop format at the Academy Centre level, which should include Academy staff as well as local partners and researchers. The workshop’s outputs should include a document summarizing initial answers to (1) – (5) above, as well as a plan for next steps to be taken to validate the theory of change and pilot engagements.

7.2 Pilot approach with first responders in an Academy country

To illustrate, we have suggested how the questions in 7.1 might be answered if a Centre identified a need to provide better access to local knowledge for first responders in an Academy country such as Bangladesh or Kenya. Note that action research would be required to gain more detailed responses to key questions:

1. Which groups need better access to which forms of local knowledge?

This example assumes that the Academy Centre and its local partners have identified that first responders need better access to local knowledge on DRR, early warning, and coping strategies. There is one argument that states that first responders are embedded in local communities and that their work is therefore built on an understanding of local context and, by extension, a grasp of local knowledge. However, empirical research also suggests asymmetries amongst communities in knowledge on coping, survival and protection strategies.

2. What is preventing the group from accessing local knowledge today?

To answer this question the Academy would work with local agencies to conduct a barrier analysis on what prevents information sharing, and to develop strategies for facilitating discussion and dissemination of local information or practices.

At this stage, the partners should also identify how first responders might engage with new local knowledge. This report has highlighted the importance of social learning, which may occur face-to-face or via mobile or web-based social learning modalities.

3. What are feasible interventions for increasing local knowledge to this group?

We recommend that pilot interventions start small and use action research to continuously adapt the intervention through regular feedback loops.

The Academy Centre's chosen approach should draw on the practices developed for participatory DRR and Early Warning, which point to the importance of demand-driven, participatory, and non-extractive processes. This approach requires the Academy to identify agencies that have active relationships with (in this example) volunteer networks, such as the Red Cross and Red Crescent Societies, or other local agencies that have active relationships with volunteer networks.

Specifically, a learning process could be developed in-line with the process described by Mercer *et al.* (2010) for community-oriented DRR. Our suggested approach is outlined in Figure 6 (note stages are not discrete but may be conducted concurrently):

- **Stage 1:** Identify local or national research organisations and networks that could be engaged to scope-out and support the local knowledge system. These organisations would identify the ways that the local knowledge system might be enhanced to inform the practices of local responders.
- **Stage 2:** Local agencies facilitate discussion of local hazards and vulnerabilities. Workshop guidelines are developed in partnership with local organisations experienced in community-led DRR or protection.
- **Stage 3:** Academy facilitates technical learning alongside discussions on local approaches to preparedness and response. These discussions should include wider community representatives such as cultural leaders, elders and women's representatives with access to a broad spectrum of local knowledge. Again, workshop guidelines are developed in partnership with organisations experienced in community-led DRR or protection. Discussions could cover thematic areas including:
 - a. Experiences and challenges during previous disasters
 - b. Local early warning systems
 - c. Local coping mechanisms and (when appropriate) self-protection strategies

In some cases, it may be necessary for local experts to verify or triangulate the local strategies. For example, on local survival strategies, local health workers can support identification and appropriate use of plant products. On early warning, local experts can support the integration of traditional and scientific forecasting.

4. What changes would result within a response from the group having better access to that form of local knowledge? What are the potential benchmarks or indicators of the change?

By tracking the experience of these volunteers, the Academy can generate evidence of how facilitating local knowledge processes among first responders can lead to changes in the response. Feedback will allow the Academy to adapt its approaches for future groups.

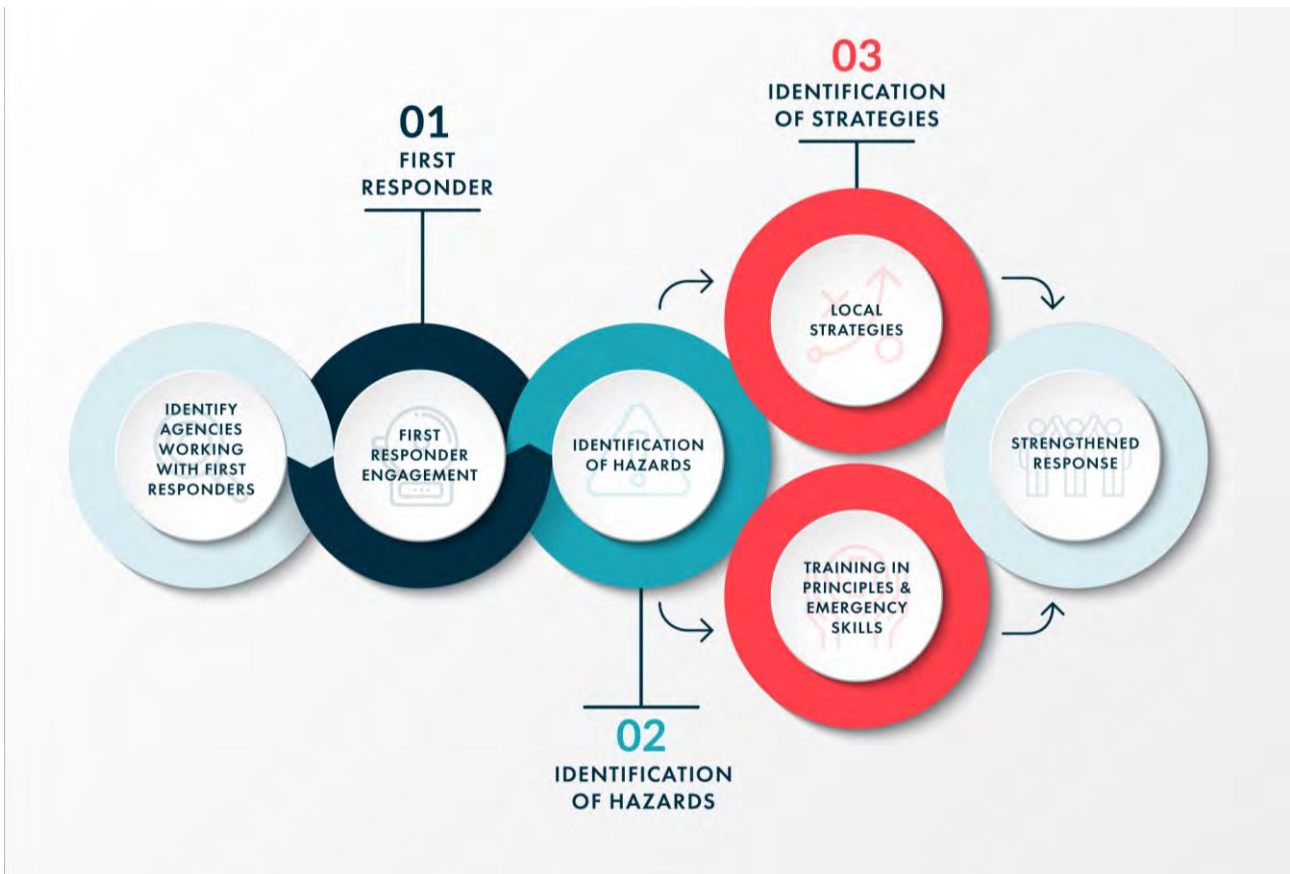


Figure 6: Example volunteer first responder training scheme

7.3 Collect evidence of the conditions for sharing local protection knowledge

The Academy should explore active engagement with research organisations that identify and share local knowledge (both locally and across the Academy Network countries). A list of research agencies identified during this study is provided in Annex 2.

There are specific opportunities to consider how civilian self-protection strategies might be shared with other newly vulnerable groups. Research from the L2GP group and Prof Barrs suggests that a wealth of protection experiences exists among communities affected by conflict and that lives can be saved if that knowledge is shared more evenly across threatened communities.

Given the security implications of sharing illicit or sensitive protection information we recommend that the Humanitarian Leadership Academy partner with experienced protection researchers such as the L2GP group to conduct work in this area.

We recommend that the Humanitarian Leadership Academy work with the L2GP group to generate evidence on how local or international organisations and networks can facilitate information sharing within and between conflict-affected communities.

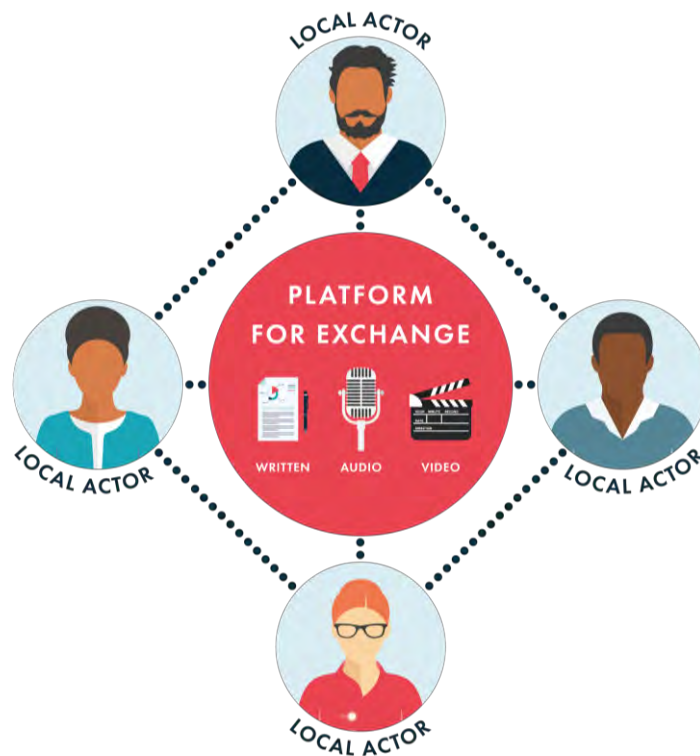
The organisations would document principles, ethics, conditions and approaches for effective local knowledge sharing.

7.4 Pilot learning exchanges between local and national humanitarian practitioners

To explore the dissemination of local knowledge beyond the immediate locale, the Academy should convene periodic forums that promote and discuss local knowledge within humanitarian response and that speak of its value within the broader localisation agenda.

In addition, the Academy can explore how local knowledge might be incorporated into its online knowledge base for local humanitarians. The majority of users of this system are anticipated to be early or mid-career humanitarian professionals based within and outside of countries affected by crises. Research suggests that appreciation of local knowledge can be low among these groups: for example, in South East Nigeria, Iloka has documented that long-held local knowledge on DRR (including local materials and approaches to flood reduction) is at danger of being lost. He explains that young people consider indigenous knowledge out-dated and unfashionable, as they look to technology and ‘modern’ ways of tackling hazards (ID 11).

In addition, national NGOs interviewed for this research reported that although they are aware of local knowledge on early warning, coping or survival, they do not know always know how to incorporate it into their more scientific approaches.



We therefore recommend that the academy pilots learning exchanges between local and national staff interested in promoting use of local knowledge.

A needs assessment should be conducted to identify the level of demand for local knowledge sharing. Our initial discussions indicate there may be greater appetite for a platform that allows individuals, organisations and networks to share the **approaches they have taken** to fostering and using local knowledge, rather than the specific knowledge that was shared.

Where possible, local actors should be connected directly to one another, and should determine the modalities used (such as discussion, written case studies, audio or video files). The Academy should seek to build the capacity of local actors to facilitate and moderate the platform in future.

By facilitating exchange in this way, the Academy will help to promote the value of local knowledge among its users and allow them to exchange experiences on local knowledge processes within their organisations' work. The research on local knowledge sharing suggests that the greatest opportunities will exist in connecting actors experiencing the same forms of disaster in similar geographies.

7.5 Provide learning for national staff on nurturing and working with local knowledge

Finally, the Academy should work to influence global thinking on the role of local knowledge for locally led humanitarian preparedness response. Engage local and national organisations to discuss how their approaches to engaging with local knowledge might be shared or enhanced.

L2GP, or a similar agency engaged in community-led processes, might then be asked to develop a learning module on nurturing local knowledge.

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Annexes

Annex 1: Interviews

ID	Name	Organisation
ID 1	Bob Aston	Arid Lands Information Network
ID 2	Chanda Magar and Lapka Sherpa	Asia Indigenous Peoples Pact
ID 3	Sarah Mace	CDAC network
ID 4	Sudhanshu Singh	Executive Director, Humanitarian Aid International (India)
ID 5	Anonymous	Uganda Red Cross Society
ID 6	Anonymous	DRT Uganda
ID 7	Anonymous	NRRDO (Sudan)
ID 8	Anonymous	Coordinator, National NGO network
ID 9	Casey Barrs (written responses)	The Centre for Civilians in Harm's way
ID 10	John Nduri	Kenya Academy Centre
ID 11	Namadi Iloka	PhD Candidate Northumbria University
ID 12	Rabina Shaheen	MEL Team Leader, DEPP Programme
ID 13	Degan Ali	Executive Director ADESO

ID 14	Alice Obrecht	Research Fellow, ALNAP
ID 15	Sorcha O'Callaghan	Independent consultant working on capacity building and local humanitarian action
ID 16	Edith Favoreu	CERAH
ID 17	Emma Visman	Researcher

Annex 2: Stakeholder mapping

[Attached]