Child-centred hazard, vulnerability and capacity assessment and planning in urban settings

A scoping study and needs assessment

Research Report – April 2018

C&A Foundation

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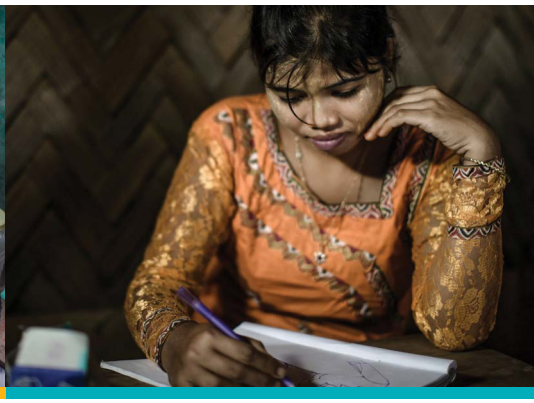
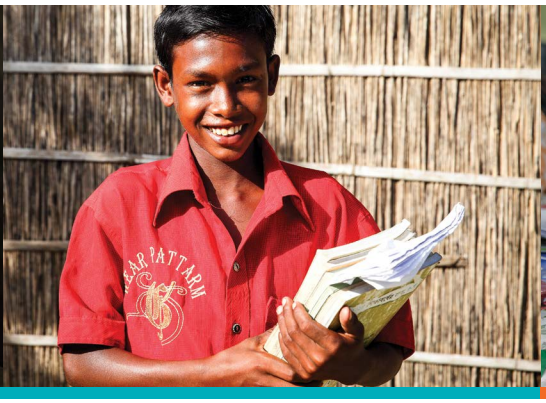
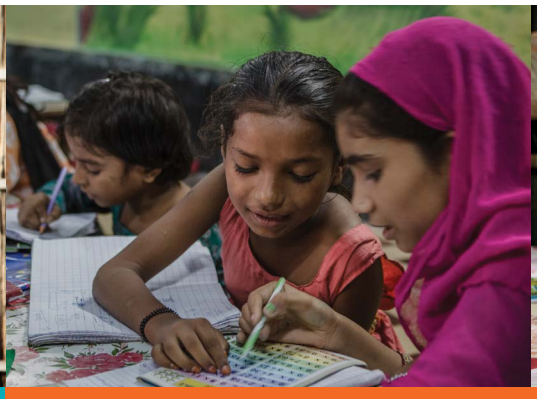
Acronyms





CCA	Climate Change Adaptation
CCDRR	Child-Centred Disaster Risk Reduction
CPiE	Child Protection in Emergencies
CVCA	Care International's Climate Vulnerability and Capacity Analysis
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EiE	Education in Emergencies
HCI	Human-Computer Interaction
HVCA	Hazards, Vulnerabilities, and Capacities Assessment


HVCAP	Hazards, Vulnerabilities, and Capacities Assessment Planning
IFRC	International Federation of the Red Cross
IoT	Internet of Things
KIIs	Key Informant Interviews
KIs	Key Informants
PRCVA	Participatory Risk, Capacity and Vulnerability Analysis (Action against Hunger)
PSDM	Participatory School Disaster Management
URA	Islamic Relief Urban Risk Assessment
USAT	Urban Situational Analysis Toolkit and Guidelines

Summary

To help develop Child-Centred Disaster Risk Reduction (CCDRR) in urban areas, this report provides new elements for practitioners to better use Hazards, Vulnerabilities, and Capacities Assessment (HVCA) tools.

In youth groups and in urban contexts, a wide range of HVCA methods and toolkits are already being used. Despite examples of good practice, more detailed critical analysis of processes, problems and opportunities when applying HVCA guidance must be conducted. This report examines the challenges of enabling children's participation and helps create space for their voices to be heard.

Findings

- There is limited evidence of how HVCA tools help users to consider and address the risks and vulnerabilities that are more prominent in urban contexts. This is particularly relevant when risks identified by urban dwellers are not associated with natural hazards.
- Existing HVCA toolkits do not actively engage with or help users and recipients to consider the decisions they make during the HVCA process.
- Many HVCA toolkits take a prescriptive and linear approach. The range of fixed tools are used in a set order, with limited flexibility when choosing, applying and modifying individual methods to the changing urban contexts.

Recommendations

- Developing and testing a HVCA and planning (HVCAP) process tool enables users to plan their approach more effectively. This integrating approach could be applied using multiple existing tools/toolkits and across operational contexts. This ensures that practitioners go through the same robust decision-making process in HVCA planning, but allows for flexibility when choosing, applying and modifying individual methods and tools.
- Emphasising the 'planning' component means treating HVCAP as an empowering tool. This will help practitioners and end-users produce more contextual and action-oriented outputs.

Background

To develop effective approaches to CCDRR in urban contexts, this report scopes existing approaches and toolkits currently being used by practitioners. We focus particularly on the Asian continent and the interventions used to reduce children's exposure to hazards and disasters in urban settings.

The analysis reviews useful methods and successful approaches to best inform the urban CCDRR approach. It will help further adapt and develop tools to identify vulnerable children in urban settings. And it will also help in understanding the hazards they face and their vulnerabilities and capacities. The scoping exercise includes methods for engaging adults and children in identifying risks, planning, reducing risks, and building resilience.

Methods and measures

This report combines a scoping exercise and a needs assessment. The scoping exercise analyses 20 toolkits acquired through literature searches and key informant referrals. The toolkits were designed by a variety of organisations, including ten different NGOs, one government and one advisory organisation. World Vision and Save the Children featured prominently with four and three HVCA toolkits respectively.

The needs assessment was conducted with NGO practitioners involved in Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA), urban development practitioners, and youth-centred development, and practitioners and researchers with experience in developing and testing HVCA tools.

Between February and April 2017, 23 Key Informant Interviews (KIIs) were conducted with Save the Children staff in a variety of roles at different levels, and with staff in other child-focused agencies and other specialists. Most Key Informants were identified based on recommendations from Save the Children, but snowball sampling also allowed us to discuss with other stakeholders within or outside Save the Children. Semi-structured interviews lasted between one and two hours and were mostly conducted over the phone, based on the same interview protocol. Discussions were recorded, summarised, and anonymous.

Further to the analysis, this report also identifies and analyses the processes in place in preparation for conducting each HVCA. This supports our recommendation that designing and trialing an assessment process tool is the next logical and critical step to design effective and comprehensive child-centred urban HVCAP tools appropriate to their context.

In Annex B, the report focuses on using new technology and the potential for technology to be adapted and utilised in the HVCAP process.

The report is divided into the following sections:

1. What HVCA toolkits currently exist? What do they contain?
2. How do organisations decide how best to use their toolkits?
3. Suggestion for a process tool to analyse how to best implement existing toolkits.

Annexes:

A) Review of current pre-assessment processes

B) Note on the potential for technological innovation in HVCAP for urban children

C) Scoping matrix of existing HVCA toolkits (Excel spreadsheet)

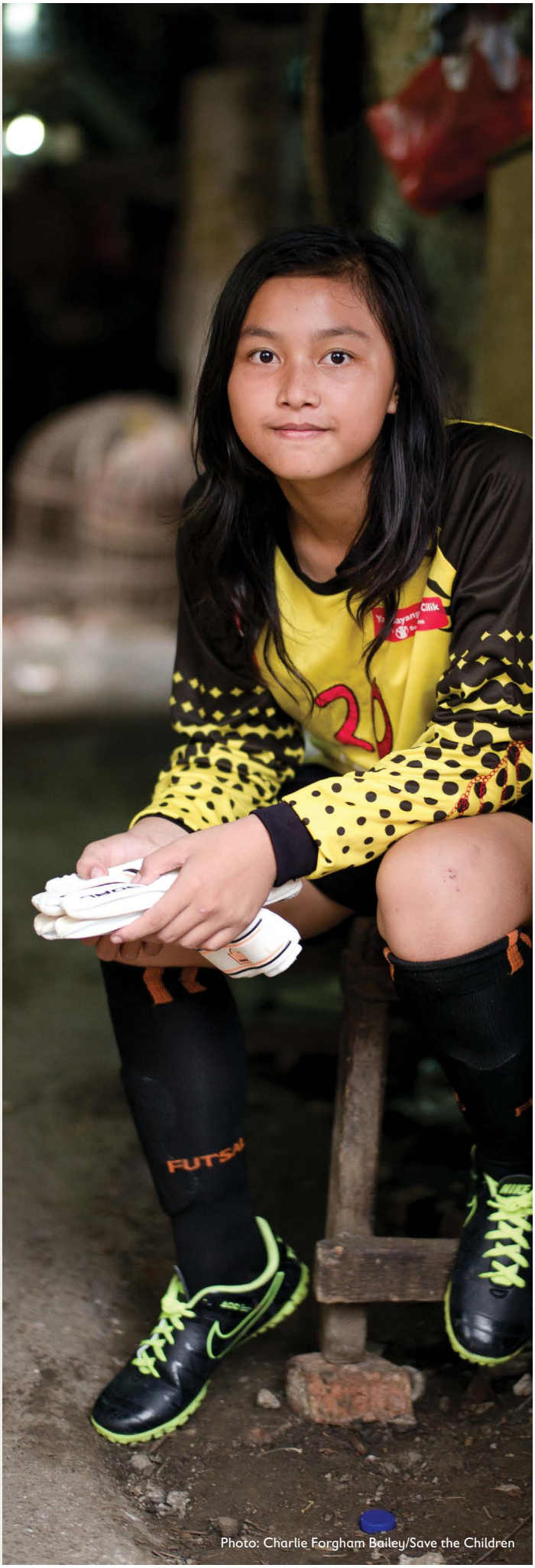


Photo: Charlie Forgham Bailey/Save the Children

1. What HVCA toolkits currently exist? What do they contain?

The 20 toolkits analysed cover a wide range of contexts. Some focus on communities, some on urban areas, and others are grounded in the school environment. Four of the twenty kits focus specifically on urban areas, six are child-centred in their approach to HVCA, and two focus only on school contexts.

Many of the toolkits are based within a broader context of DRR and emergency preparedness planning. Plan International's HVCA (one of the most relevant practitioner handbooks) is only one segment of a wider child-centred DRR toolkit. Save the Children's Participatory School Disaster Management (PSDM) toolkit looks at assessing the risk, planning, and carrying out risk reduction measures specific to the school environment. The PSDM assessment tools in the scoping matrix (in the Excel spreadsheet attached) are only the preliminary stage of a broader programme guideline for improving school-based Disaster Risk Management (DRM).

One exception to the toolkits is Save the Children's Urban Situational Analysis Toolkit and Guidelines (USAT), which gathers evidence to better understand the nature of poverty and inequality through a child-centred lens in an urban environment. Although not specifically a HVCA it is intrinsically linked, and as such the tools are useful and included in the final matrix.

Although the general objectives and methods in each toolkit are very similar, there are some examples of different approaches. The Islamic Relief Urban Risk Assessment (URA) and Care International's Climate Vulnerability and Capacity Analysis (CVCA) approaches analyse the factors that contribute towards risk, vulnerability and capacity-building at different levels in-country (national, sub-national, community, household, etc). Whether countries have demonstrated an active engagement in DRR programming or not, it would be helpful to understand national policies (or lack of) and any institutional mapping in order to engage with the government.

As suggested by the needs assessment, understanding the lines of communication between communities, NGOs, local government bodies and private organisations and other main stakeholders is also crucial to completing a comprehensive HVCA. World Vision's Community Risk Assessment, Analysis and Planning toolkit intentionally splits its methods into tools that engage adults and tools that engage children. There may be merit to those tools designed to target different populations, however the separation may restrict the interactions needed between adults and various youth groups. Engaging stakeholders of all ages for the sake of dialogue, and the recognition of children as agents of change in a community, are important factors that should be recognised when carrying out the HVCA process.

The matrix demonstrates the variety of each toolkit's construction: how many tools or activities are included; in what order these are included (if any); if there are stages to the HVCA; and which tools fit in where. The number of tools or activities utilised ranges from a minimum of five (World Vision's Community Risk Assessment) to fifteen (Action against Hunger's Participatory Risk, Capacity and Vulnerability Analysis, or PRCVA).

In general, the tools used do not vary much between the different organisational guidelines. Many are adapted slightly to fit different contexts. However, the matrix demonstrates that organisations agree on the themes and areas that must be targeted to conduct a useful and comprehensive HVCA. The most common tools can be seen in the table below. It should be noted, however, that due to the differing definitions and applications of tools,

it is difficult to compare between toolkits with total confidence. The table below must be taken as a guideline, and the matrix should be referred to when assessing the differences between the tools used by each organisation.

Table 1

Type of tool or activity	Number of toolkits it features in
Community/school mapping (hazard, resources, capacities etc.)	14
Seasonal calendar	14
Historical/disaster timeline	12
Vulnerability analysis	9
Institutional/stakeholder/ political mapping	9
Transect walk	7
Key Informant Interviews (KIIs)	7
Focus group discussions	7
Livelihood analysis	6
Social mapping	6
Hazard ranking	6

It is interesting to note that there was not much evidence of tools that targeted risks and vulnerabilities found to be more prominent in urban contexts, such as road safety, air pollution, child labour, hazardous materials exposure, mental health conditions, drug use and trafficking, human trafficking, children working on the road and the role of cash and commerce. All these themes arose from the needs assessment, yet there is no clear evidence that the tools found in the matrix are able to interrogate or assess these issues.

When assessing the matrix through an urban-focused, child-centred lens, it is evident that further reflection on urban HVCA must be done. There must be more clarity in users' understanding of a wide range of risks and vulnerabilities in the urban context. Cross-thematic communication within and between organisations would potentially help navigate some of these issues, as there could be urban child protection tools that are used to monitor some of these areas.

From an operational perspective, the matrix demonstrates clear gaps in communicating vital aspects of HVCA implementation. This report may be missing vital documentation due to organisational policies on disseminating material externally. However, more can be done in the future to ensure that HVCA handbooks are easily accessible and provide specific instructions on their use in the field.

Limitations highlighted by practitioners

Findings from the needs assessment suggested two strengths of tools and toolkits. First, their sensitivity and adaptability to their context, and second, their ability to create relationships between a variety of stakeholders.

Using adapted rural toolkits

KIIs revealed that more could be done to construct a comprehensive urban toolkit. Specifically, urban issues were missing from toolkits that were largely used in rural communities and had been modified for urban areas. The tools teams are currently using come from their programme experience in mostly rural contexts (such as their decades of work in participatory rural appraisal, which has influenced a number of agencies' VCA/PVCA tools). These have been applied to the urban context with varying degrees of success. As already noted by Save the Children in the ToR for this study, these familiar tools are designed to be used with

small groups with high levels of participation. This may make it difficult for them to differentiate between or engage with different stakeholders and roles, power and decision-making structures, and relationships and networks in urban areas. In addition, rural tools may not easily capture or analyse risks not associated with natural hazards (e.g. road safety, violence, exploitation, abuse and neglect), which is also considered a limitation for Save the Children's work in urban areas. It is suggested that Save the Children should aim to build a comprehensive assessment of the different types of risk that may fall under health, education or DRR programming (not necessarily associated with natural hazards) to design adequate responses across themes.

The USAT is designed to overcome some of these problems, but the tool is still being field tested and the final version of the toolkit is not yet published. Identifying and sharing lessons from this field-testing would be timely for progressing urban HVCA in Save the Children's work.

The research team also observed that there was little discussion around CCA by interviewees, nor about how the HVCA toolkits can integrate CCA. Explaining and understanding such terms is essential when discussing CCA with children and other groups in low-income urban settlements.

The KIIs identified other limitations in current toolkits:

- Some did not recognise children's right to play. There seemed to be no tools that recognise where children play, the dangers those spaces present, and what other safer play spaces are available for children to utilise.
- Although the toolkits are used mostly in slum locations in the urban context, no current tools recognise the daily risk of slum eviction, how this is approached, or what it leads to.
- Street children and child labourers, who are amongst the most at-risk, are mostly identified through implementing projects. This is instead of assessment toolkits that accommodate or focus on these specific at-risk groups. It should be noted that there was evidence of projects that did utilise HVCAs focusing on other children in disadvantageous situations, such as single migrants, refugees, or children in unauthorised squatter settlements.
- Children from medium and high-income areas and their risks are not identified. This is even though they may be equally or more exposed to certain hazards due to their geographical location within a city.
- The effectiveness of different approaches on participation in different contexts needs further investigation.

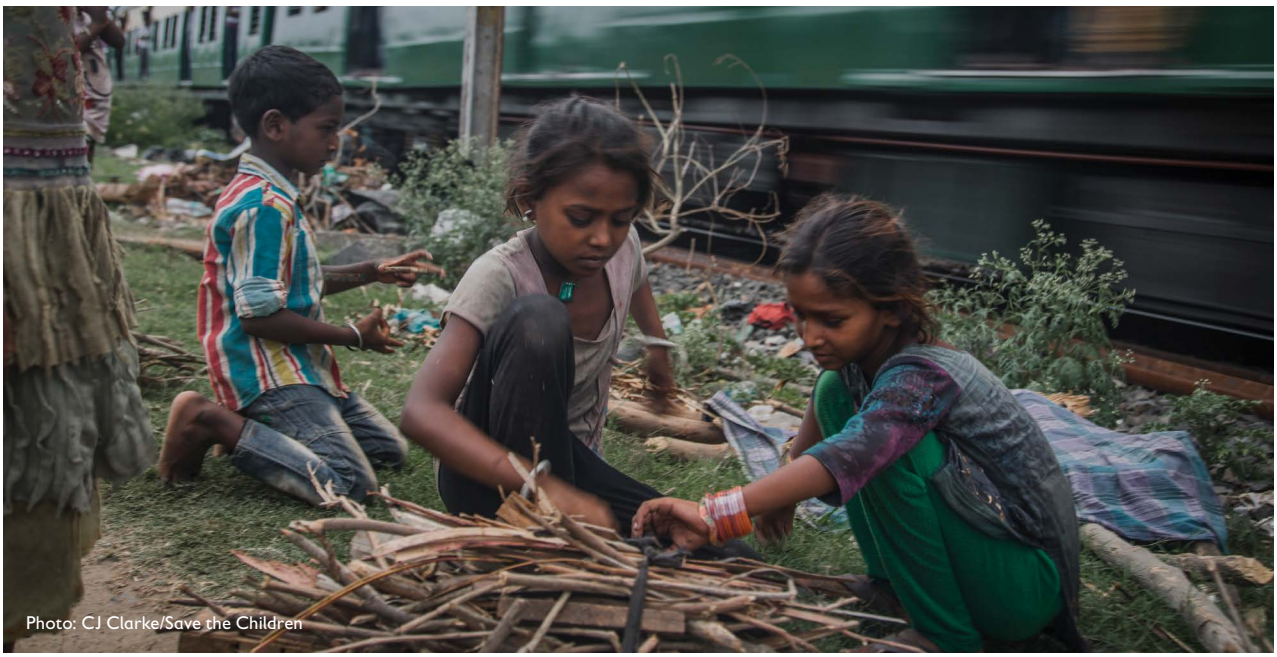


Photo: CJ Clarke/Save the Children

- Some KIIs found that planning ahead is a gap in current assessments. While new and emerging risks are not considered, in complex urban contexts they should be addressed.

Understanding urban-specific risks and vulnerabilities

Many toolkits have touched upon (but not tackled directly) how urban hazards, vulnerabilities and risks differ from those found in rural areas. A number of informants provided examples of risks that are particularly significant in urban areas. To date, these have not been discussed, acknowledged nor targeted directly in urban HVCA toolkits. These risks include:

- Mental impairments or disorders
- Drug use
- Drug trafficking
- Human trafficking
- Children working on the streets
- Cash or commerce

Several KIIs suggested that a lack of awareness of urban risks is an obstacle to engagement (however, these views need to be set against published research into risk perception and risk management practices of the urban poor, which presents a more complex picture).

Different entry points to risk assessments have been used.

For example, in India, after the initial three-month phase of a PVCA focusing on vulnerabilities related to natural hazards failed to engage community members (largely due to a lack of interest), the project shifted to implement PVCA activities for social protection issues. Over the next three months, field staff engaged with issues including access to schools, access to local governing bodies, access to food rations, and entitlements amongst other social protection issues that were important to the local community. This shift dramatically increased community engagement. From this point on, Save the Children staff were able to communicate with the community on the links between social protection and DRR.

Although DRR programmes may not always be able to address social protection issues, this could be achieved through collaborating with other programmes or organisations. One informant suggested avoiding separating aspects of hazards, risks and vulnerabilities, as these are often perceived as one connected issue at the local level.

Although this may be outside the remit of this research project, these are all issues that need to be addressed in a comprehensive HVCA. Other assessments may include tools built to assess the prevalence/risk of the issues above. These should be analysed and adapted to be included in an extensive urban HVCA and planning toolkit.

Children's voice in HVCA

Securing children's rights underpins Save the Children's work. This work aims to promote change from the ground up by engaging children, families and civil society in strengthening child rights systems.

When discussing their practices for engaging with children, KIIs revealed a disparity of approaches. In terms of children's' involvement, these had mixed results. In some programmes, engagement with children appears to be strong (although not always age-responsive). In others, wanting to consult with children about programme design and implementation did not necessarily translate into more involvement in project activities. So far, voice does not seem embedded in any of the HVCAs and associated toolkits discussed with KIs. Promoting young people's voice seems almost entirely reliant on how the programme staff decide to implement the toolkit.

Another observation is that children do not appear to be recognised as agents of change in urban areas in the same way as in rural areas. This issue deserves further investigation.

2. How do organisations decide how best to use the available toolkits?

Overall, existing HVCA toolkits do not actively help users question the decisions they make during the HVCA process. The information provided to support users to choose the most efficient HVCA approach and select specific activities varies greatly. Many toolkits take an extremely prescriptive and linear approach, with a range of fixed tools that are used in a set order. These toolkit guidelines are relatively inflexible and make it hard for users to choose, apply and modify individual methods and tools. They also show a lack of awareness that assessment in urban areas must be constantly re-evaluated and adapted.

More extensive toolkits such as the International Federation of the Red Cross' (IFRC) VCA and Save the Children's recently developed USAT are more flexible and reflective during the assessment process. In both cases, detailed guidelines are provided with the toolkit itself with detailed information on issues, challenges and discussion points the user should be aware of when implementing the toolkit. To ensure an effective and useful process, both guidelines also engage users to question the decision-making and structure of the assessment. Neither toolkit has integrated these questions into an intentional pre-assessment process tool, which would ensure that everyone would go through the same robust and deliberative decision-making process for planning individual HVCAs, yet allow for the flexibility needed for a child-centred urban approach.

The phrases 'urban context' and 'child-centred' are generally too broad and include too many specific situations for a 'one size fits all' toolkit. The needs assessment with practitioners highlighted the following four issues:

1. How to define and work with 'urban communities'

This is the barrier most often reported by KIIs. Initial responses of interviewees revealed that they did not consider urban areas to have the same sense of community as rural areas appear to. As our line of questioning developed based on the information provided, it became clear that urban communities do exist – with bonds that are often as strong as in rural communities – but the forms they take can be very different and are not as easy to identify (a view supported in the literature).

The concept of what a 'community' is must be re-evaluated for urban areas. Groups such as migrants, working children and mothers all have a strong sense of community. With this in mind, the challenge is not that urban communities do not exist, but rather that field staff must understand what communities exist based on this new perception of community, how they are formed, and how best to access them through the HVCA process. Tools that have been constructed from a rural community risk assessment perspective must therefore be carefully re-evaluated before they are used in urban areas.

2. How to better work with and draw on the capacities of informal groups/ localised self-governance

Community-based and informal governance mechanisms exist in all urban settings and need to be integrated into HVCA to maximise the effectiveness of DRR planning. KIIs raised fundamental questions here, particularly regarding who a toolkit or set of methodologies should be aimed at, and how to incorporate all of these target groups in the HVCA and DRR programming process (e.g. groups of children, parents of children 0-6 years, other key adults and community members, teachers, and government officials).

The 'stakeholder analysis' section of the USAT provides some positive feedback, and analyses how stakeholders can best contribute to programming targeting child poverty and vulnerability within a city. However, there is still scope to adapt stakeholder analysis tools to question the underlying motivations of stakeholders who may (willingly or unwillingly) work to keep children in positions of risk and poverty. In one interview it was suggested that the HVCA process was too linear and did not allow for genuine reflection on the many stakeholders involved (particularly in urban areas) and their underlying motivations and differences. The informant encouraged the HVCA approach to better understand how implementing staff or organisations fit within a much broader system to analyse the data collected more effectively.

3. How to work with urban authorities to foster sustainability and scaling up

These findings relate more to DRR programming in general than to HVCA in particular, but they are relevant in the context in which HVCA/DRR interventions take place. DRR implementers have to work with urban governments (within complex urban systems) to ensure long-term outcomes. For example, Save the Children Bangladesh and Philippines signed a Memorandum of Understanding with local bodies and are working with them on DRR. Nevertheless, it is challenging to work with multiple layers of bureaucracy (e.g. local authority, municipal government, and national-level ministries for urban issues). In some cases mentioned, progress was slowed down by municipal DRR staff turnover after elections, or by new administrations wanting to throw out old policies and practices. Yet engagement is needed at all levels, particularly after initial project funding comes to an end.

4. How to overcome issues related to time resources

Time is the second most reported barrier. Community members do not have or are unwilling to give the time needed to participate in HVCAs and the subsequent programmes. KIIs suggested that community members are often unwilling to devote time to discussing natural hazards because they do not see it as a priority amongst all the other pressures they face. One KI stated that slum dwellers in particular were becoming tired of researchers and had reached a saturation point in terms of engagement with such processes. On the other hand, there were also discussions about the current lack of flexibility from Save the Children's Human Resources regarding employing staff through shift work that would mirror the availability of urban community members. This was noted both as a problem and a potential solution, i.e. to have more staff available to work with community members at mutually convenient times, as well as not insisting staff work well over their set hours per week.

Currently, no toolkits provide a reflective tool to ensure robust, systematic and contextually specific HVCA and planning (HVCAP) delivery.

To compile a new toolbox to implement CCDRR in urban areas through a process of learning and improvement, the first step must be designing a pre-assessment process tool that encourages users to interrogate the entire procedure – from inception to delivery and beyond.

From our analysis of the current toolkits, there is a clear basis of understanding to enable us to construct an effective and accessible tool.

3. Suggestion for a process tool to analyse how to best implement existing toolkits

Most development organisations' country offices and programmes already engage with risks and vulnerabilities. There is no need to reinvent the wheel; most of the relevant tools, methods and approaches are already in existence, and many field staff are familiar with them. What is important is to utilise these more effectively.

Development and field testing of new HVCAP toolkits is a major task requiring considerable time and resources. It is best approached as an iterative process of learning and improvement rather than a one-off intervention.

More emphasis should be put on how to select or modify tools/toolkits in practice to deal with specific situations. In principle, programmes should be allowed flexibility. This could be a range of choices about what tools to use (or adapt) and how to do so, but should be a deliberative process. Decision-making concerning intentions, assumptions, constraints and other contextual or influencing factors should be explicit. The rationale for the decisions made must be transparent, and those who make the decisions must be accountable for them.

Country programme staff must also be given the freedom to adapt and customise existing toolkits to fit the specific contexts they work in. Development organisations can support this process by making relevant information available (e.g. an online platform of different tools, toolkits and related resources) and providing access to specialist advice regarding specific questions (e.g. an international HVCAP focal point), and by working in partnership with shared tools. KIIs highlighted that a balance was needed between ensuring consistent methods while also acknowledging the socio-economic/cultural/religious context the assessment was held in. KIIs also identified the need for training field staff and partner organisations in how to choose and use tools. This is a major task, but training could be delivered through e-learning to make it accessible to all relevant staff.

We suggest an alternative approach to creating and testing a 'new' HVCAP toolkit, based on existing tools of different kinds. Our approach focuses on the decision-making processes by which HVCA tools and toolkits are selected and deployed.

We suggest developing and testing a process tool that enables users to plan their approaches more effectively and make them question the decisions they make during the HVCAP process. This integrating approach can be applied across multiple tools/toolkits and operational contexts. It ensures that everyone in the organisation goes through the same robust and deliberative decision-making process when planning each individual HVCAP, but allows for flexibility regarding choosing, applying and modifying individual methods and tools.

Process tool contents and questions

To help the planning phase, the process tool should address a set of important operational questions in a transparent manner. These questions reflect the principles of social inclusion in project cycle management:

Objectives and planning:

- What is the overall aim and purpose of this urban HVCAP? Is it situation diagnosis, planning, empowerment or advocacy? If it has more than one of these aims, how does the design and implementation of the HVCAP contribute to these?
- Which thematic priorities and/or cross-cutting issues is it addressing?

- How much information is needed to achieve the objectives? What kind of evidence is most important?
- Who will use the results, when, and for what purpose? How will outcomes be monitored? (note: focus on outcomes, not outputs)
- Who is making strategic and operational decisions about the urban HVCAP?
- What relevant resources and capacities are available or missing? What provision is there for skills training? What are the financial and time constraints? What technical expertise or back-up is available? (note: focus on resources and capacities)
- What is the influence of each of the above factors on the urban HVCAP methodology and choice/application of tools?

Methodology:

- Who is the urban HVCAP intended to help? Why have these groups been chosen?
- What is the domain of the urban HVCAP (where does it take place, for example a household, community, municipality, slum or school setting)? Why was this chosen?
- What is the wider context of the assessment (e.g. geographical, political, socio-economic, thematic)? How was this decided?
- What risks and vulnerabilities will it consider (e.g. will it focus on the physical environment or take an all-risks perspective)?
- How will it capture underlying risk factors (e.g. poverty, discrimination, land rights) in addition to immediate risks (e.g. exposure to hazards)?

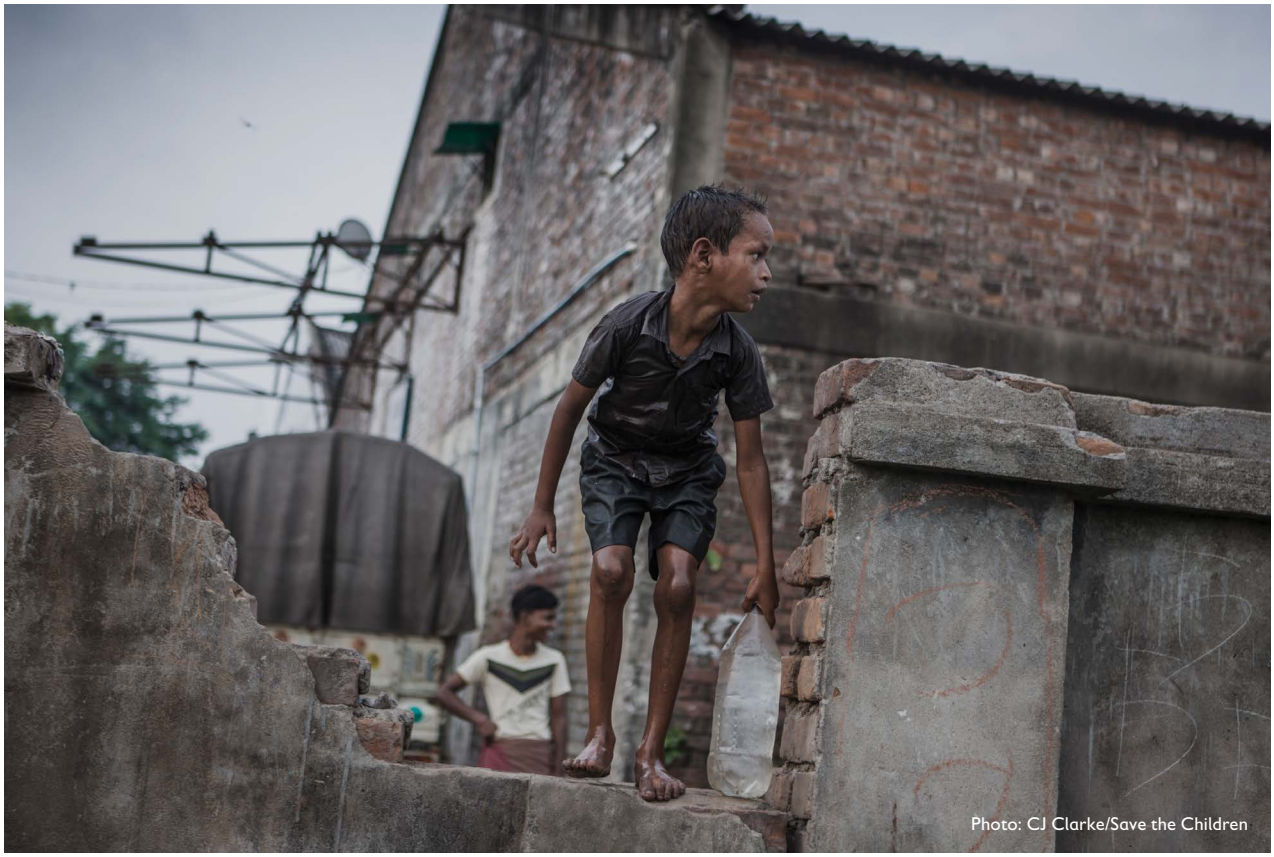


Photo: CJ Clarke/Save the Children

- Does it consider power structures, relationships and dynamics and their influence on vulnerability?
- What assessment methods and tools are available for the urban HVCAP (in terms of trained staff, resources, etc)?
- Does it consider how children and young people's vulnerabilities differ according to other socio-economic factors (such as gender, disability, or ethnicity)?
- How does the urban HVCAP link to other tools or assessments carried out with the same target groups, in the same or neighbouring localities, or in the surrounding region?
- Which methods and tools were chosen, and why?
- What is the role/purpose of each tool selected? What knowledge do we acquire by using it? How does it contribute to the overall HVCAP?
- Is there a need to adapt or customise particular tools or methods? If so, what is the appropriate process for deciding, planning and doing this?
- What tools and methods are not used for example, due to lack of skills, resources, or time?
- What are the implications of all of the above choices for the urban HVCAP findings?
- Participation, voice and empowerment:
- What is the structure of the team carrying out the urban HVCAP? How are decisions made about the purpose, approach, methods, etc? Who in the team (or elsewhere in the organisation) has responsibility, authority and influence over the process?
- Who in the community/location participates in the urban HVCAP and how do they do so?
- How participatory is the process? (note: there are different forms/levels of participation)
- Is the HVCAP child-centred? Child-participatory? Child-led?
- Are children's voices heard? Who is listening to them? Whose voices are not being heard?
- Who is empowered through the HVCAP process, and how?

Results and evaluation:

- How reliable is the evidence from the urban HVCAP? What are the strengths and weaknesses in the evidence base?
- How useful is the knowledge gained from the process? Who is it useful for?
- What issues has the HVCAP not addressed? What questions were not answered?
- How do we measure the quality and success of the HVCAP?

Outcomes:

- Who uses the results of the HVCAP? For what purpose(s)?
- What actions followed from the HVCAP? What did they achieve?
- What was learnt from the HVCAP? Who was this learning shared with and how was this done?

Recommendations for practitioners and NGOs

- HVCAPs must be 'child-centred'. They must both facilitate engagement with children as participants as well as look at urban risks from children's point-of-view.
- It is important to understand that urban areas are continuously changing. Informants stated that it was not only difficult to produce a satisfactory definition of what 'urban DRR' is, but also that it was unhelpful and counter-productive to do so. Instead, it would be more useful to develop an urban DRR approach that mirrored Sphere standards through creating a set of principles that apply to the context and indicators to measure these.
- Save the Children and other INGOs may have experience in urban programming, but country programmes need staff who are specialised in dealing with urban complexities in the DRR/resilience context. For example, this could be linking DRR or protection with other aspects of intervention in urban areas, and with more fundamental underlying problems such as housing and land rights.
- Adopting a city-wide view of hazards, risks and vulnerabilities, rather than automatically focusing on slums, could be an important base upon which to conduct the rest of a HVCAP. Part of this could be conducting secondary reviews of city-wide disaster events or accessing a vulnerability atlas, if available. Some Save the Children field experience suggests it could be valuable to link CCDRR with other areas of intervention such as school safety and solid waste management, and with current Save the Children initiatives like Child Protection in Emergencies (CPiE) and Education in Emergencies (EiE). The USAT could provide crucial information and insight into specific urban areas of vulnerability. Any urban-focused HVCAP should be implemented closely with the USAT to ensure a comprehensive assessment is completed.
- Save the Children and other INGOs could establish a community of practice on HVCAP (urban and rural) where staff from across the organisation can share ideas and experiences. This could give HVCAP a stronger, broader foundation across each organisation. A starting point for these discussions could be innovation in HVCAP (methodological, technological and attitudinal) and how it occurs. At the national level, an open stakeholder community of practice for child-centred HVCAP could foster exchange. It could also build confidence among disaster management and urban duty-bearers that governmental, non-governmental and other partners are working towards developing best-practices towards a common goal.

Annexes

Annex A: Review of current pre-assessment processes

Plan International – Hazard, Vulnerability and Capacity Assessment (within wider child-centred DRR Toolkit)

General

- There is no specific process tool suggested in this toolkit.
- The manual does touch superficially upon important issues that our operational questions would interrogate in a transparent manner.

Objectives and planning

- No questions posed that focus on the objectives/planning of the HVCA.
- The initial commentary does outline that the programme in the manual is not a stand-alone activity, and so perhaps some of the operational questions would be addressed elsewhere (such as aim and purpose of the HVCA and how much info is needed to achieve the objectives, etc.).

Methodology

- The document identifies and discusses composition of groups the HVCA will focus on, and specifically focuses on grouping by age.
- It also looks at appropriate and encouraging questions and designing the right questions to guide discussion and elicit the most feedback.
- It discusses working with marginalised groups superficially and developing partnerships with specialised organisations.
- It does not provide questioning on any other aspects of suggested operational questions (wider context of assessment, risks/vulnerabilities it will consider, power structures, how HVCA links to other tools, etc.).

Participation, voice and empowerment

- Participation is discussed conceptually and how children should participate. There is discussion around 'over-valuing' children's views vs adults pre-defining what hazards exist.
- The structure of the team and who has responsibility, authority and influence over the process is not discussed.
- Child-centred vs child-led is not discussed, nor is measuring whether children's voices are heard, and understanding who is empowered through the process.

Results and evaluation

- Ensures the process is not extractive through sharing the outputs with children, as well as making children aware when the data is used elsewhere (in advocacy/programme planning etc.).
- Does not discuss evidence reliability, how useful the data will be, what issues haven't been addressed, or quality/success measurement.

Outcomes

- There are clear identified actions that could be taken following the HVCA.
- Last tool allowed reflection from children

International Federation of the Red Cross – Vulnerability and Capacity Assessment (VCA)

General

- The IFRC has supporting documents alongside the VCA itself.
- Two documents titled 'What is VCA?' and 'How to do VCA'. These provide extensive detail on the purpose behind VCA, what it involves, what the outcomes are, how to use VCA, and managing the process.
- Like the Save the Children PVCA guidance document yet is constructed potentially as a source of information and as a process tool (particularly the 'How to do VCA').
- Very lengthy (which could be perceived as a negative). It's not an easily accessible tool, rather an informative and interactive guiding document.
- Interesting case studies are provided throughout which help put the information in context.

Objectives and planning

- Addresses what the VCA is not, what it is, how it fits into disaster preparedness, and how it contributes to programming.
- Directly discusses how the VCA investigation links into the Red Cross/Red Crescent values and mission. Also looks at the connection between existing programmes and capacity building and vulnerability reduction.
- Discusses the added benefits of using the VCA.
- Analyses differences between its methods with its purpose.
- Identifies 6 key questions:
- Why is it being proposed?
- What does it involve?
- Who is involved in doing it? Who is it for?
- How will it be done? With what resources?
- What is the timescale?
- Where will the VCA be carried out?

Methodology

- Looks at the process of conducting a VCA, including looking at setting up a management structure, clear objectives, and planning the VCA.
- Goes into a lot of detail on issues such as community identification, gathering useful information, potential challenges faced, and selecting and training staff/volunteers.

Participation, voice and empowerment

- Assesses participation in theoretical detail. Does not look at it through a child-centred lens however, nor does it really consider how specific stakeholders are engaged in participation.
- Does not discuss who is empowered through the VCA process.

Results and evaluation

- Does not look at how reliable the evidence generated is but does look at how the knowledge is used and who it is useful for.
- Only superficially touches on the quality/success of the VCA.

Outcomes

- Addresses who uses the results, for what purpose, what actions follow the VCA, and what can be learnt from the VCA.

Save the Children – Urban Participatory Vulnerability and Capacity Assessments (PVCA)

General

- A guidance document and PowerPoint is provided with the PVCA. It provides a small amount of information about the tools, some key standard operating procedures, expected outcomes, and key stakeholders.
- Although helpful, it is not a comprehensive process tool. It is informative, but it does not encourage much reflection upon or interrogation of the decisions they make during the PVCA process. It provides basic detail on the linear PVCA process, without much opportunity to adapt, change or challenge any elements of the process.
- Could be seen as a base for a process tool to be built upon. A reflective approach is missing and explanation of why these specific tools have been picked and how they integrate with the wider context.
- The document and PowerPoint are simply informative documents, rather than tools used by those about to undertake the PVCA.

Objectives and planning

- Provides information specifying it is a planning tool and discusses in depth what outcomes and evidence are necessary.
- Does not provide reflection on Save the Children's thematic priorities and/or cross-cutting issues it addresses. The PowerPoint touches upon wider aims the PVCA contributes towards but does not specify in depth who will use the results, when, or for what purpose (nor does it encourage the staff to consider this).
- The PowerPoint provides a passage on how it links to DRM programmes but could provide more detail.

Methodology

- Specifies who the important stakeholders are and that it is targeted at the community level.
- Outcomes do suggest identifying underlying risk factors such as poverty, discrimination and land ownership, but provide no discussion prior to the PVCA being conducted. Similar can be said of assessing power structures, relationships and dynamics.
- Does not provide detailed discussion of why tools were picked, how they contribute to the overall PVCA, nor if there is the need or ability to adapt the tools/methods.
- Does identify some potential challenges that may be faced.

Participation, voice and empowerment

- Emphasises that the community and important stakeholders are the owners of the PVCA. They identify who would participate, but not how.
- It does not specify whether it is child-centred or child-led, nor how children's voices are heard (and what voices aren't being heard and why).
- Does not look at the structure of the team carrying out the PVCA, how decisions are made, nor who is empowered through the PVCA process or how.

Results and evaluation

- Does not assess reliability of evidence collected, how useful the knowledge is (or who it is useful for), and does not critically assess what issues are not addressed from the PVCA.
- Does not look at how it measures the quality or success of the PVCA.

Outcomes

- Does not discuss who uses the results, for what purpose, what actions follow the PVCA, and what it may achieve.
- Does not discuss how the learning/knowledge is shared.

World Vision – Participatory Capacity and Vulnerability Assessment (PCVA)

General

- No process tool is provided with the PCVA document.
- Only pre-tool activity specified is 'training and practicing the use of PCVA tools'.

Save the Children – Participatory School Disaster Management (PSDM)

General

- Discusses why school-based DRM is needed and what the aims and purpose are (and with each tool).
- No specific 'process tool' but small snippets of information mostly found from an initial 'handbook'. No active interrogation of the process/tools/methodology; very prescriptive and linear. This could be improved using a process tool.

Objectives and planning

- Discusses aim of each tool.
- Does not look at how priorities and programmes integrate, nor does it look at who is making the strategic/operational decisions.
- It touches upon outcomes, but not in enough detail.

Methodology

- Looks at the process, the risks and vulnerabilities that should be considered, and the underlying risk factors.
- Probably the strongest area of this toolkit. This section provides information on the purpose of each tool yet does not discuss much around adaptation/customisation.
- Does not discuss power structures, relationships and dynamics.

Participation, voice and empowerment

- Does not interrogate participation, how participatory the process is, nor the extent of child-centred versus child-led.

Results and evaluation

- Does not question how reliable the evidence is, nor how useful it is and for whom specifically. Measuring quality and success are not discussed.

Outcomes

- Results, outcomes and follow-up actions are not discussed in detail, nor how learning can be shared, etc.

World Vision – Community Owned Vulnerability and Capacity Assessment (COVACA)

General

- No process tool is suggested in this toolkit.
- Provides small pieces of information based on group formation for activities and working in a context-specific manner. Very superficial and could benefit immensely from a process tool.

Bangladesh Government Urban Community Risk Assessment (UCRA)

General

- It has no process tool and provides minimal interrogation of the decisions made during the UCRA.
- As a guidance note (as with most others) it touches upon why it is necessary, the rationale for using it, and the benefits.
- As it is a government document it incorporates not only the UCRA, but the following work to design an action plan, etc.
- Even as a government tool it would still benefit from more detail. This could include: the users reflecting upon and questioning the purpose each time the UCRA is used; the team implementing it; the specific target population and the related power relations/dynamics; and how and why specific tools/methods were chosen.

Islamic Relief – Urban Risk Assessment (URA)

General

- A lot of useful information is provided in this toolkit. This includes: the aim and purpose of the URA; who should use it and who should it be targeted towards; how it should be applied; and discussion of a number of contextual factors.
- This is mostly information provided, rather than built into a tool that encourages the user to actively think about these issues. Much of the detail exists in this document (similar to the IFRC's VCA) and can be adapted to help form a useful process tool.

Objectives and planning

- Discusses the overall aims and purpose.
- Looks at who will use the toolkit and who will benefit.

Methodology

- Looks at what the URA is intended for, where it takes place, and the wider context (discusses a variety of urban issues).
- It also looks at underlying risk factors, and power structures, as well as how the URA can target different populations.

Participation, voice and empowerment

- Participation does not come across as so important in this toolkit compared to others.
- Not child-focused so does not consider the child-centred versus child-led issue.
- Not much discussion of how voice is promoted

Results and evaluation

- Does not discuss much in terms or results or evaluation, or measuring success/quality, etc.

Outcomes

- Does not go into detail about what actions occur after the URA.

USAT (Urban Situation Analysis Tool)

*This is still under development and has not been published yet

General

- Important to remember USAT is a situational analysis rather than a HVCA (or similar). It has a similar set-up to the IFRC VCA toolkit as it provides detailed information combined with some questioning.
- The findings can be extremely useful to help guide DRR programming, specifically the HVCA aspects.
- Does not have a process tool but is a detailed guideline document that encourages reflective interrogation of the approach and implementation.

Objectives and planning

- Box 1 shows "10 points to be kept in mind for a Rights-based Equity-focused SitAn [Situational Analysis]". These points cover the variation in target groups; different forms of deprivation/exclusion; underlying barriers to wellbeing; what risks affect patterns of deprivation; what social/institutional/political factors impede or support an enabling environment; capacities at various sub-levels; and what programme interventions/resource mobilisation should be considered in the future.
- These questions provide much of the process tool 'interrogation' and are a good example of engaging in these issues.
- The construction of the team undertaking the USAT is discussed in detail.

Methodology

- A 'process flow' that is advised to be followed, even if adapting tools. It states that country teams are free to develop their own format provided "the broad contours of the prescribed contents are maintained".
- Analyses what outputs they may want, the methods involved, and in what situations they are best undertaken (the purpose of the SitAn).
- Locations are analysed and understood, with the selection process examined.
- Stakeholder analysis is discussed in-depth and looks at their interests in the project.
- A focus on the socio-political, judicial and institutional environment which could be linked to the HVCAP toolkit. It includes:
  - Causality analysis (Why things are the way they are)
  - Role-pattern analysis (Who is responsible through to who is accountable to make things right)
  - Capacity-gap analysis (Why are those accountable unable to secure the rights of children?)
  - Analysis of the enabling environment (What can be done, given the constraints and opportunities)

Participation, voice and empowerment

- Participatory appraisal techniques are discussed in-depth.
- Does not discuss quality and success measurement.

Results and evaluation

- Discusses who knowledge is for and how it could prove useful.

Outcomes

- Discusses who will use the USAT and how. Does not go into much detail into what actions will follow a USAT (as the answers could be extensive).

Care International CVCA

General

- Similar to others listed above, this is a guidance document for the toolkit.
- Discusses key process issues such as: how, where, and when the CVCA should be used; the scope and depth of analysis; assembling the right team; and who the handbook is for.
- Targets a number of the core issues but again these are not structured within an easy and accessible tool. Not as extensive nor as detailed as others (IFRC/Save). By not having a structured tool with set questions, it could mean the CVCA is conducted in a less rigorous, systematic and mainstream manner.

Bangladesh Government CRA

General

- Similar to the Bangladesh Government's UCRA, the rural CRA toolkit does not incorporate a process tool.
- Briefly addresses the purpose of the CRA, when it is used, who with or by, and how it should be used.
- Information is brief and could be more detailed, and again is merely informative rather than designed to engage the user.
- No encouragement of the user to reflect/question the approach taken, what tools may be particularly useful, nor how they should adapt depending on multiple factors (target population, specific location details, etc).

World Vision CRA

General

- Similar to Bangladesh Government CRA, it does incorporate a process tool.
- Briefly addresses the purpose of the CRA, who should use it and who the target audience should be (as well as key participants/stakeholders).
- Briefly touches on team construction before undertaking the CRA as well.
- Would benefit from a process tool that engages users with the discussion points they touched on above to ensure WV CRA attempts are robust and deliberative.

Annex B: Note on the potential of technological innovation in HVCAP for urban children

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Introduction

This summary compiles emerging research and case studies around technological innovations that can support HVCA and child-centred approaches for DRR in urban areas (Slotema et al. 2010; Brown and Dodman 2014).

It assesses the potential for technology to be used directly by participants (including using mobile technology, apps and balloon mapping), as well as indirectly through monitoring and analysing large data collections. The summary supports the findings from the needs assessment and the scoping matrix that a comprehensive HVCAP should work at various levels. Analysis suggests that technology can and potentially should be utilised at a city-wide level as well as at ground level through individual participants.

The findings from this summary suggest that children already have fairly regular access to technology (such as social media, mobile apps and computer games,), even in vulnerable locations, and thus it would be more pragmatic to utilise technology that already exists, rather than designing something new. NGOs and other stakeholders should focus on how they can use technology that children and youth already understand, are aware of, and have access to. This would ensure children's capacity to use the technology and also help manage issues of sustainability that NGOs regularly encounter when designing and using a new technology.

Background

Some technologies are already known as valuable tools to support HVCAP. In particular, the importance of access to the internet and mobile technologies have been stressed as critical to achieve the millennium development goals (United Nations 2015 p. 68).

Geographical information technologies are also tools already widely used. Participatory or Public Participation Geographic Information Systems (PGIS or PPGIS), Volunteered Geographic Information (VGI) for disaster response, and the widespread use of mobile technologies and even smartphones can be used among the most vulnerable sections of at risk populations (Jha et al. 2013) – for example migrant children (Raftree et al. 2013, Cossor 2016) and informal settlement dwellers exposed to fire risk (Twigg et al. 2017).

Human-Computer Interaction (HCI) experts are now more aware of vulnerable children's needs through designing applications with these children (Culén et al. 2013, Benton and Johnson 2015, Culén and Karpova 2015, Ioannidi et al. 2016). Such interactions can enhance children's involvement in school activities and support learning activities. Developing design principles such as game dynamics, also known as 'gamification' (Deterding and Dixon 2011), while closely related to technology, is not developed further in this note.

Current technological trends can contribute to build an innovative toolkit for child-centred HCVA through several approaches. First, to detect hazards, as well as identifying the exposure and the vulnerability of children. Second, to implement policy to mitigate hazards and exposure. And third, technology as a child-centred learning tool can be used to reduce vulnerability and support recovery.

For example, American social worker Katie Wrench (2016:13), created a compelling case where technology could help sexually abused children through detecting and reducing factors of vulnerability (e.g. loneliness, lack of confidence and disabilities) and supporting self-protection and recovery. Wrench also suggests the importance of preventive work through creating self-esteem and resilience, self-confidence, communication, problem-solving, and individuality in making decisions (Wrench 2016 pp.17-18).

Technology can help protect children, but they have to be aware of basic safety precautions when using it to avoid being victimised. Loneliness (a vulnerability factor) induces children to seek contact through social media. But untrained children are potentially subject to online predators. This issue is also stressed in Dombrowski et al. (2004). Another interesting source is the Child Welfare Information Gateway (www.childwelfare.gov) a service of the Children's Bureau, Administration for Children and Families, U.S. Department of Health and Human Services. This source stresses the risks and opportunities that using social media can present to children or to children-centred services. However, research has also documented how technological innovation is used to support child-centred psychological approaches to assess social hazards like online-initiated abuse, domestic violence, bullying and exploitation in the labour market (Weitz 2014).

Technological changes can lead to innovation not only in determining new research paradigms, but also influencing policy and governance. In 2011, CW360° magazine devoted an issue to the role technology can play for children's welfare (Center for Advanced Studies in Child Welfare 2011) and a document intended for policymakers (Child Welfare and Technology: A Guide for Policymakers. 2011).

Technological trends

Concepts emerging in computer sciences and urban studies include several opportunities that can be explored. Considerable funding is being invested to secure their practical application.

Big Data and the Internet of Things

Big Data, a term coined to identify big volumes of data (Diebold 2012), is perceived as a great opportunity. A more comprehensive definition includes variety and velocity as elements that characterise Big Data (Laney 2001). Variety refers to including sensors and citizen-originated information, while velocity refers to the incessant flow of real-time produced data. Kitchin (2013) uses an expanded definition: his approach focuses on the potential of Big Data for cultural geography research. Big Data is produced by users but also by connected physical devices including vehicles and buildings now built with embedded electronics and sensors. Radio-frequency identification (RFID) is used to create magnetic tags to attach to objects to remotely interact with the surrounding environment. The connected world of objects is called the Internet of Things (IoT) (Atzori et al. 2010).

Examples of components of Big Data and IoT applications

Atzori et al. (2010) suggest various potential developments of the paradigm for social and economic purposes. Large information systems store complex and varied data (La Mendola 2011), such as in the US Statewide Automated Child Welfare Information Systems (SACWIS), or National Child Abuse and Neglect Data System (NCANDS), which are merged in the Child Welfare Information Gateway (CWIG). The combination of those large amounts of data easily falls within the domain of Big Data (see Lery et al., 2016).

Two reports stressed the role IoT can play for economic and global development (Manyika et al. 2015, Biggs et al. 2016). Children in vulnerable environments are mentioned as the principal beneficiary of smart health management. Smart health in this context consists of two aspects: the control of the cold chain to physically deliver vaccines to the most deprived areas, and distributing wearable, non-wearable or even injectable health monitoring smart devices (Manyika et al. 2015 p. 38). These smart devices could enable remote checks on health and compliance, with medication and prescriptions for children in environments where healthcare is difficult or where parents' supervision is lacking. The use of implants is especially suggested in Domingo (2012) who proposed a framework to use IoT as an enabler for disabled children who are particularly vulnerable. The possibility to develop cheap wearable basic tracking tools and combine them with CCTV (as used in monitoring commuters or employees), can help control school attendance and exposure to harmful places in environmental and social terms. Rivera et al. (2016) prototyped smart toys to enhance the detection of development problems in children.

To reduce children's exposure to social hazards the compulsory use of GPS (Global Positioning System) tagging for known offenders as implemented in the USA (Mortensen 2006) can be enhanced using RFID or any other tracking device.

Technology: DIY, the maker movement, and open hardware

The emergence of open hardware (Powell 2012) is characterised by cheap and easily accessible hardware components such as the Arduino board (Kushner 2011) or Raspberry-pi. Those boards have the computational power of computers and can be used combined with sensors and several electronics components to create objects to interact with and control the physical world. This has enabled the maker movement (Hatch 2014). This is a development of the Do-It-Yourself (DIY) culture, whose emphasis is on practical and physical design and construction or hacking technological tools. The maker movement is also characterised by a strong willingness to share, co-develop and co-design. All are enhanced by a constant use of information technologies. At the borderline between DIY and citizen science is the Public Laboratory for Open Science and Technology (PLOTS), which investigates environmental concerns using cheap DIY solutions (https://publiclab.org/).

While PLOTS developed balloon and kite mapping that was used in mapping the Gulf of Mexico oil spill, these tools can also be used as a tool for civic science (Graeff and Matias 2015). Civic science and open hardware can be used to tackle environmental concerns and also as a catalyst to engage local communities and create cohesive social structures where children can be better monitored and protected (Brix-Etgar and Keysar 2014). Open hardware, open science and DIY can be a way to create a rapport with vulnerable children and increase their problem-solving abilities and self-confidence. The Instructables website for example (www.instructables.com) contains step-by-step guidance on how to create a CCTV system. Flick et al. (2012) built a cheap DIY system to monitor children's online behaviour.

Policy and education

While individual technological solutions on their own can be hardly seen as potentially impacting HVCAP, combining several of them can provide a more suitable terrain for urban child-centred approaches.

Data mining and Smart Cities

New technological and computational capabilities have been created to take advantage of Big Data in urban environments This can lead to the smart use of information geared towards change and adaptation, and towards a better and more sustainable urban environment (Caragliu et al. 2009). Smart Cities are popular amongst technological enthusiasts of urban studies and planning. Smart Cities mainly take advantage of Big Data to direct city governance and business intelligence (Batty 2012). Collecting and analysing Big Data is also called data mining. Smart Cities can be seen as the proactive use of Big Data and the IoT. Using data mining to analyse human behaviour and preferences has been developed to achieve predictive analysis and modelling (Finlay 2014). Predictive analysis combines statistical data on human actions to forecast the most possible future behaviour. The concept of Smart Cities has been endorsed by the Government of India, which is unfortunately intended more as fully digitally serviced areas to support economic development rather than inclusive (Sadoway and Shekhar 2014) and child-friendly environments (Gautam et al. 2015).

Implementing the decision-making from Big Data analysis has been widely used to design smart city solutions for child protection. Big Data and predictive analysis have been tested and proposed by the New Zealand Ministry of Social Development to deliver a Predictive Risk Model (PRM) focusing on children's welfare (Dare 2013). This approach has been used for a feasibility study and some practical applications in New Zealand (Vaithianathan et al. 2013, Gillingham 2016).

In addition, predictive analysis is highly valuable in crime prevention, but it is critically seen as a tool that can endanger and erode civil liberties (Keddell 2014). A full issue of the Journal of Public Child Welfare (Volume 10(4), 2016) is devoted to Administrative/Big Data Sets and Child Welfare Research. Most of the works shown stress the usefulness of Big Data for child and family-centred agencies (Shaw et al. 2016). The main benefits listed focus on better predicting events and targeting interventions regarding maltreatment, child labour and overall vulnerable children.

Conclusions

Innovative technologies and research approaches can support HVCAP for urban children subjected to social hazards. Technology can play the role of mitigating, controlling and predicting the hazard (tagging and predicting offenders' behaviour). Technology can also help reduce the exposure (smart health, enhanced surveillance). Technology can help to reduce vulnerability (engagement through technology in learning activities, hands-on DIY to improve decision-making and self-esteem, or supporting disabled children through DIY solutions). Technology can also be used to mitigate exposure to hazards when used by social workers as an engagement tool, or when it is used as a tool to make the use of the internet safer.

Most of the technologies and approaches mentioned do not require direct interaction between children and data technology. The agents of data-intensive technologies are NGOs and public agencies. Children are in touch with technologies when they are engaged in educational activities to develop confidence and DIY tools.

References to Annex B

- Atzori, L., A. Iera, and G. Morabito. 2010. The Internet of Things: A survey. Computer Networks 54:2787-2805.
- Batty, M. 2012. Smart cities, big data. Environment and Planning B: Planning and Design 39:191-193.
- Benton, L., and H. Johnson. 2015. Widening participation in technology design: A review of the involvement of children with special educational needs and disabilities. International Journal of Child-Computer Interaction 3-4:23-40.
- Biggs, P., J. Garrity, C. LaSalle, and A. Polomska. 2016. Harnessing the Internet of Things for Global Development. The Huffington Post:61.
- Brix-Etgar, L., and H. Keysar. 2014. A Matter of Scale - Civil Architecture and Open Hardware. https://publiclab.org/notes/hagitkeysar/10-19-2014/a-matter-of-scale-civil-architecture-and-open-hardware.
- Brown, D., and D. Dodman. 2014. Understanding children's risk and agency in urban areas and their implications for child-centred urban disaster risk reduction in Asia. Page Pubs.Iied.Org.
- Caragliu, A., C. Del Bo, and P. Nijkamp. 2009. Smart Cities in Europe. Serie Research Memoranda, VU University Amsterdam, Faculty of Economics, Business Administration and Econometrics 48:1-15.
- Center for Advanced Studies in Child Welfare. 2011. CW360°.
- Child Welfare and Technology: A Guide for Policymakers. 2011.
- Cossor, E. 2016. Young and on the Move: Children and youth in mixed migration flows within and from the Horn of Africa.
- Culén, A. L., and A. Karpova. 2015. Designing with Vulnerable Children: A Researcher's Perspective. Pages 611-629 Gamification: Concepts, Methodologies, Tools, and Applications. IGI Global.
- Culén, A., M. van der Velden, and A. Karpova. 2013. Challenges in Designing Learning Apps for and with Vulnerable Children. Acm.
- Dare, T. 2013. Predictive Risk Modelling and Child Maltreatment - An Ethical Review.
- Deterding, S., and D. Dixon. 2011. From Game Design Elements to Gamefulness: Defining "Gamification":9-15.
- Diebold, F. X. 2012. A Personal Perspective on the Origin(s) and Development of "Big Data": The Phenomenon, the Term, and the Discipline. Social Science Research network.
- Dombrowski, S. C., J. W. LeMasney, C. E. Ahia, and S. a. Dickson. 2004. Protecting Children From Online Sexual Predators: Technological, Psychoeducational, and Legal Considerations. Professional Psychology: Research and Practice 35:65-73.
- Domingo, M. C. 2012. An overview of the Internet of Things for people with disabilities. Journal of Network and Computer Applications 35:584-596.
- Finlay, S. 2014. Predictive analytics, data mining and big data: Myths, misconceptions and methods. Palgrave Macmillan.
- Flick, C., P. Duquenoy, and M. Jones. 2012. Designing for child resilience. Proceedings of the 2012 ACM annual conference extended abstracts on Human Factors in Computing Systems Extended Abstracts - CHI EA '12:761.
- Gautam, A., A. K. Singh, B. Patil, C. Vaidya, and M. Bhatt. 2015. Forgotten voices: The world of urban children in India.
- Gillingham, P. 2016. Predictive Risk Modelling to Prevent Child Maltreatment and Other Adverse Outcomes for Service Users: Inside the "Black Box" of Machine Learning. British Journal of Social Work 46:1044-1058.
- Graeff, E., and J. N. Matias. 2015. Making Drones Civic. Values and Design Principles for Civic Technology. International Studies Association's 56th Annual Convention.
- Hatch, M. 2014. The Maker Movement Manifesto. The Maker Movement Manifesto:1-31.
- Ioannidi, D., E. Zidianakis, M. Antona, and C. Stephanidis. 2016. Designing Games for Children with developmental disabilities in Ambient Intelligence Environments. International Journal of Child-Computer Interaction 11:40-49.
- Jha, A. K., T. W. Miner, and Z. Stanton-Geddes, editors. 2013. Building Urban Resilience : Principles, Tools, and Practice. Page Directions in Development. World Bank, Washington, DC.
- Keddell, E. 2014. The ethics of predictive risk modelling in the Aotearoa/New Zealand child welfare context: Child abuse prevention or neo-liberal tool? Critical Social Policy 35:69-88.
- Kitchin, R. 2013. Big data and human geography: Opportunities , challenges and risks 3:262-267.
- Kushner, D. 2011. The Making of Arduino. IEEE Spectrum - Article:1-7.
- Laney, D. 2001. 3-D Data Management: Controlling Data Volume, Velocity and Variety. Application Delivery Strategies 949:4.
- Lery, B., J. M. Haight, and L. Alpert. 2016. Four principles of Big Data practice for effective child welfare decision making. Journal of Public Child Welfare 10:466-474.

- Manyika, J., M. Chui, P. Bisson, J. Woetzel, R. Dobbs, J. Bughin, and D. Aharon. 2015. The Internet of Things: Mapping the value beyond the hype. McKinsey Global Institute:144.
- La Mendola, W. 2011. Child Welfare and Technology. CW360°.
- Mortensen, M. 2006. GPS monitoring : an ingenious pose to California's children. Journal of juvenile law 27:17.
- Nascimento, S., A. G. Pereira, and A. Ghezzi. 2014. From Citizen Science to Do It Yourself Science.
- Paulos, E., R. J. Honicky, and B. Hooker. 2009. Citizen Science - Enabling Participatory Urbanism. Page 470 in M. Foth, editor. Handbook of research on urban informatics: The practice and promise of the real-time city. Idea Group Inc (IGI).
- Powell, A. 2012. Democratizing production through open source knowledge: from open software to open hardware. Media, Culture & Society 34:691-708.
- Raftree, L., K. Appel, and A. Ganness. 2013. Modern Mobility: The role of ICTs in child and youth migration.
- Rivera, D., A. Garcia, B. Alarcos, J. R. Velasco, J. E. Ortega, and I. Martinez-Yelmo. 2016. Smart toys designed for detecting developmental delays. Sensors (Switzerland) 16.
- Saad-Sulonen, J. C., and L. Horelli. 2010. The value of Community Informatics to participatory urban planning and design: A case-study in Helsinki. The Journal of Community Informatics 6:1-22.
- Sadoway, D., and S. Shekhar. 2014. (Re) Prioritizing Citizens in Smart Cities Governance : Examples of Smart Citizenship from Urban India. The Journal of Community Informatics 10:1-15.
- Shaw, T. V., B. Lee, and J. Farrell. 2016. Introduction. Journal of Public Child Welfare 10:349-351.
- Slotema, M., I. A. Shahi, S. S. Ali, A. Kumar, P. Credit, I. A. Shahi, and E. C.-H. Aid. 2010. Child Inclusive Community Risk Assessment. Dhaka, Bangladesh.
- Twigg, J., N. Christie, J. Haworth, E. Osuteye, and A. Skarlatidou. 2017. Improved Methods for Fire Risk Assessment in Low-Income and Informal Settlements. International Journal of Environmental Research and Public Health 14:139.
- United Nations. 2015. The Millennium Development Goals Report. United Nations:72.
- Vaithianathan, R., T. Maloney, E. Putnam-Hornstein, and N. Jiang. 2013. Children in the public benefit system at risk of maltreatment: Identification via predictive modeling. American Journal of Preventive Medicine 45:354-359.
- Weitz, P., editor. 2014. Psychotherapy 2.0: Where Psychotherapy and Technology Meet. Karnac Books.
- Wrench, K. 2016. Helping Vulnerable Children and Adolescents to Stay Safe: Creative Ideas and Activities for Building Protective Behaviours. Jessica Kingsley Publishers.
- Yang, L., S. H. Yang, and L. Plotnick. 2013. How the internet of things technology enhances emergency response operations. Technological Forecasting and Social Change 80:1854-1867.

Annex C: Scoping matrix of existing HVCA toolkits

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Hazard, Vulnerability and Capacity Assessment (HVCA within wider child-centred DRR Toolkit)	Plan International	This manual not only focuses on conducting a HVCA assessment, but also to train children on DRR through the process.The process is meant to build children's capacities in DRR; enable children to analyse and monitor disaster risks, vulnerabilities, and capacities in their communities; help children plan for DRR activities they can initiate or participate in their communities; provide a space for children to contribute their perspectives to DRR in their communities; and to link children's HVCA findings appropriately to local disaster management governance and planning.	Community Map	Participants will be able to portray their community/neighbourhood from their perspective, identifying important locations and landmarks, including settlements/residential areas, schools, government and public buildings, infrastructures etc. Participants will also be able to identify/define the area that their risk analysis will cover.
			Better understanding of our risks, Optional transect walk	Participants will be able to define hazard, vulnerability, capacity, risk, and risk reduction through community examples
			Hazard identification	Participants will identify the hazards in their community.
			Seasonal calendar and disaster history	Participants will learn about the history of disasters in their area and identify the time periods when recurrent hazards occur
			Hazard ranking	Participants will rank hazards based on impact, frequency, and priority to address
			Disaster causes and impacts	Participants will describe the causes of disasters and their impacts, including the causes and impacts of climate change, and the links between disaster causes and risk reduction/prevention efforts
			Vulnerability identification	Participants will identify and analyze vulnerabilities in their communities
			Transforming vulnerabilities into capacities and identifying prevention, preparation and mitigation activities	Participants will be able to identify the way in which the vulnerabilities identified can be transformed into capacities for mitigating, preparing for, or preventing disasters. The participants will also identify which of their actions are prevention actions, and which are preparation and mitigation actions.
			Stakeholder mapping and influence	Participants will identify the actors and institutions involved in disaster prevention and mitigation or preparation and how they can be influenced to help reduce disaster risks

Target Population	Size of Group	Method	Materials	Implementation Time	Context
Children aged 10-18	15-20 children	Drawing a community map by participants, drawing relevant buildings/landmarks/facilities etc	Flip chart, markers/crayons/pencils	30-45 minutes	Community focused, child-centred
		Engagement and participation in story of community prone to disaster - discussion and drawing. Children define key words. Optional trnasect walk based on time available	Flip chart, A4 paper, crayons/markers	30-45 minutes	
		Discussion based on previous community map	Community map, card, markers, flip chart	30 minutes	
		Discussion, drawing, mapping by month	Seasonal calendar, flip chart, markers, worksheet template	30-45 minutes (plus work at home)	
		Discussion	Flip chart, markers, large bag of dried beans/pebbles	30-45 minutes	
		Discussion, writing	Disaster causes and impacts template-chart, flip charts, markers	30-45 minutes	
		Discussion, writing, drawing	Large cards, markers, community map, plastic sheeting, marker to write on plastic	20-30 minutes	
		Game, discussion, writing	Flip chart, markers, cards	45-60 minutes	
		Discussion, writing	Cards, flip charts, markers	30-45 minutes	

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Vulnerability and Capacity Assessment (VCA)	International Federation of the Red Cross	The VCA is: an investigation that uses various participatory tools in order to understand the level of people's exposure to (and capacity to resist) natural hazards at the grass roots level. It is an integral part (but not the only part) of disaster preparedness and can contribute to the creation of community based disaster preparedness prograames at the rural and urban grass-roots level. As part of the process it allows people to identify and understand the risk they consider should have priority, even if these are not the natural hazards. It is a tool which enables local priorities to be identified and leads to the design of actions that contribute to disaster reduction, as well as the design and development of programmes in each of the International Federation's priority areas that are mutually supportive and responsive to the needs identified by people at the grass-roots level.	Review of secondary sources	Gain an overall picture of the community, reviewing reports produced by other organisations, local gove
			Community baseline data (quant and qual)	Checklist to assess a community's vulnerability to di
			Semi-structured interviews	Used to both give information and to receive inform
			Focus group discussions	Group to give thoughts/views on specific issue
			Direct observation	Process of observing objects, people, events and rel data on how people interact with each other and go
			Mapping	Method of setting out in visual form the resources, s in a community. Maps can be used to indicate the lo water sources and shelter or to identify locations at prone to floods or health hazards, indicating which
			Transect walk	Used to note the sites and topography of the area a their natural surroundings. It allows first hand viewi environment and human activities, behaviour, values space and time. It also identifies danger zones, evac emergency periods, land use zones, health issues, co
			Seasonal calendar	Explores the changes taking place in a community o not only weather patterns, but also social and econ recession), public events and seasonal activities such used to identify periods of stress, hazard, disease, hu
			Historical profile / Historical visualisation	Give an insight into past events, such as hazards, an two variations can also assist in building a picture of and track changes in the environment and communi
			Household / Neighbourhood vulnerability assessment	Tool is a graphic means of assessing the main vulner households and neighbourhoods.Enables you to gat vulnerabilities faced by people in the community, bo
			Livelihoods analysis / Coping strategies analysis	Tool assesses what assets or resources are available and the damage/disruption to those assets and reso The tool also assesses how the livelihoods and their strengthened from the impact of hazards, and asses of the community to construct safe houses or to live
			Institutional and social network analysis	Tool uses a diagram to show key organisations, gro in a community, the nature of the relationships betw the perceptions that people have of their importanc
			Assessing the capacity of people's organisations	A tool for organisational analysis that can help a co organisations that are important to it. This tool is c
			Venn diagram	Tool used to clarify the different interest groups, ins Shows the claims people have on others during a pe both internal and external, operate to provide reso

	Target Population	Size of Group	Method	Materials	Implementation Time	Context
secondary sources including documents and ernment authorities and social institutions.	Local Community					Community focused
isaster and its capacities to respond						
nation						
ationships. Easy means of gathering o about their daily activities						
ervices, vulnerabilities and risks cation of health clinics, schools, particular risk such as areas groups are vulnerable.			Choose either hazard/risk map, spatial map or capacity resource map			
and to understand inter-relationships in ng of the interactions between the physical s, attitudes, practices and capabilities over uation sites and local resources used during ommercial actitvity in the community.						
ver the period of one year. Shows omic conditions (including economic as harvesting. Calendar can be unger, debt and/or vulnerability.						
d what changes have occurred over time. The f the effects of past events on the community, ty behaviours and shed light on causal links.						
abilities faced by individual her information about the main th individually and collectively.						
e to a sample of households ources when a hazard occurs. assets can be protected and s the capacities of the members e in safe locations.			Interviews and diagrams			
ups and individuals ween them and e.						
mmunity identify the people's losely linked to capacity mapping.						
stitutions and decision-making patterns. riod of hardship and how institutions, urces during an emergency.						

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Urban Participatory Vulnerability and Capacity Assessment (PVCA)	Save the Children India	PVCA is the first step in planning to gain an in-depth understanding of the community through the key lenses. It is an appraisal/mapping of the given community's realities, vulnerabilities, risks as well as capacities. The PCVA provides a solid foundation for designing, planning, implementing and evaluating practical coping and adaptive strategies. It contributes to linking DRM programmes or initiatives with local concerns, needs and priorities. The information is used to build disaster risk management programmes which include response, mitigation and/or preparedness activities.	Social mapping	A social map will highlight key findings and analysis of the social indicators that will provide an overview of the socio-demographic overview of the community.
			Economic mapping	An economic mapping should provide a pattern/overview of income, expenditure, credit, savings and investments on children. Issues such as land ownership, production of crop types and landlessness is mapped with quantitative and qualitative parameters. Livelihood occuptations are also mapped, as well as key vulnerabilities identified and analysed.
			Political mapping	Aim of the political mapping tool is to gradually unfold the power sharing pattern/control, the decision making process, access to entitlements, whether there is a silent majority who never speak nor participate, the involvement of women in the decision making process and the extent to which children are a part of the decision-making process.
			Seasonal calendar	This helps the community to understand the community dynamics through a calendar year. It builds awareness regarding the vulnerable times during the year that puts the community at risk (through unemployment, starvation, distress, migration etc). It also establishes the linkages with economic and social indicators of the community.
			Disaster history	This helps to get an overview of the disasters that have impacted the village/area and the key impacts/losses suffered.
			Hazard / Risk Hunt	Looks to build a physical map of the school/centre, to map the structural features such as cracks, staircase without rails, safe play areas etc. It also is intended to map the non-structural elements such as doors (inwards or outwards opening), electrical switches, water/sanitation etc. A disaggregated list of children, teachers etc would also be made, as well as a map of key risks/ challenges children face on their travel to and from school.
			Community resource mapping	Every village is equipped with human, technical, material and institutional capabilities. This map is important for forward planning.
			Household mapping questionnaire	Maps key stakeholders who are affected and can affect the project directly and indirectly
Toolkit	**Author**	**Purpose**	**Individual Tools (in order)**	**Aim of Tool**
Participatory Capacity and Vulnerability Assessment (PCVA)	World Vision	The assessment provides a framework for analysing vulnerability and capacity to adapt to climate change and disasters at community level. It prioritises local knowledge on climate and disaster risks and adaptation strategies.	Rain/Seasonal calendar	A tool that helps in gathering and analysing information from communities on rainfall and temperature for specific locations. It examines trends in rainfall, brainstorms on future rainfall scenarios and potential responses. It is also used to evaluate use of climate information for planning.
			Hazard / Resource mapping	Community draws a maps showing main livelihood resources and where hazards impact these resources. The members then identify all livelihood resources and generate a list of all climatic hazards they face. They then rank these hazards by their severity.
			Hazard ranking	After the hazard/resource mapping the generated list to probe more from the children if they are facing other different hazards. After consensus, children are guided to prioritise their top 3.
			Vulnerability and impact analysis matrix	Tool explains that climatic hazards are caused by weather changes and it looks to measure the impacts on livelihoods of men/women/children, the coping strategies they have in place, and whether they are effective and sustainable. It works to look at alternate long term adaptation/mitigation strategies
			Local adaptive capacity and risk assessment	The tool looks at the existing capacity in terms of each adaptive characteristic before and during disaster events, the vulnerability in relation to the local adaption characteristics, and the strategies to increase capacity to mitigate the impact of the disaster and adapt to climate change.
			Institutional mapping	This mapping helps to understand which institutions are most important to the community, analyse engagement of different groups in local planning processes and how they increase capacities or vulnerabilities of communities. Overall it assesses and evaluates access to service and availability of social 'safety nets' for the community as well as their relevance.

Target Population	Size of Group	Method	Materials	Implementation Time	Context
Local Community (children, women, men, duty bearers, authorities, electoral representatives, opinion leaders).				1 day	Urban focus, child-centred
				1 day	
				1 day	

Target Population	Size of Group	Method	Materials	Implementation Time	Context
Local Community (adults and children)					Community focused
Local Community (adults and children)					
Children					
Local Community (adults and children)					
Local Community (Adults only)					
Local Community (Adults only)					

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Participatory School Disaster Management (PSDM)	Save the Children	The PSDM is aimed to guide staff in assessing risks. planning and carrying out physical protection measures. It also looks to develop skills and provisions for disaster and emergency preparedness, response and recovery. It also supports schools in developing disaster plans specific to their local needs and that reflect good practices nationally and internationally. The student and community participatory activites form a section of the broader PSDM.	**Knowing our Dangers**	
			Natural hazards and human made risks	Aim it to allow students to distinguish between hazards that cannot be avoided and risks that can be reduced.
			Hazards calendar	Aim is to consider the various dangers that children encounter, that would prevent them from attending school, and when these might occur
			Learning from past disasters	Objective is to research and to learn lessons from past disaster in the country and specific area
			Risk matrix	The aim of creating the matrix is to identify the natural and human-made hazards that could affect the school and community in question.
			Grounds survey and mapping (school)	The aim is to involve the children in leading in the creation of a school grounds risk and resource map to raise awareness about hazards, vulnerabilities and capacities in the school, and to engaging in awareness and risk reduction.
			Community walk, survey and mapping	Aim to involve children in leading in the creation of a community risk and resource map to raise awareness about hazards, vulnerabilities and capacities in the community, and to engaging in awareness and risk reduction.
			Key messages in songs, storytelling and games	To learn key messages for disaster risk reduction and make them the children's own.
			Reducing our Dangers	
			Mind mapping	Aim is to think about what the impacts of hazards are, and what can be done about them. The process wil help think about problems in detail and develop specific solutions to reduce dangers.
			School rooms earthquake hazard hunt	Aim is to complete the earthquake hazard hunt in all rooms of the school to identify anything that could injure or kill people by falling, sliding, or colliding during an earthquake, and any valuable assets that might be damaged.

Target Population	Size of Group	Method	Materials	Implementation Time	Context
Children	1 school class divided into pairs	Discussion and picture identification	Paper, pencils, blackboard, chalk, numbers photographs showing hazards in country	35 minutes	School focus, child-centred
	Class divided into groups of 4	Discussion, writing	Paper, pencils		
	Class divided into groups of 3	Discussion, writing	Paper, pencils/pens, coloured pencils, crayons		
	1 school class	Discussion	Chalkboard, chalk, paper		
	Small groups	Discussion, writing	Map of the school grounds, pencil/ pen, school-based self-assessment survey (parts A, B, C and D)		
	Class divided into groups of 4	Discussion, writing, drawing	Community Walk Survey, map of the community, pens/pencils, paper, coloured pencils		Community focus, child-centred
	Class divided into groups of 3-6	Discussion, songwriting, game designing, storytelling/ poem and story writing	Each activity needs 1 copy of 'Key messages for DRR for Households and families'	1-1.5 hours	School focus, child-centred
Children, community members and local experts	Various groups depending on specific sub-activity	Discussion, writing, drawing	Results from previous tools, copies of 'summary of risks requiring action in and around the school'	3-4 hours	School focus, child-centred
Children	Groups (unspecified number)	Discussion, writing	Paper, pencils, blank copy of 'school non-structural earthquake risk reduction action plan'		

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Community Owned Vulnerability and Capacity Assessment (COVACA)	World Vision	The COVACA toolkit comprises a series of exercises that a community will undertake to identify: a) the likely disaster risks that threaten the community b) capacities (strenths and weaknesses) the community has in dealing with disaster risks, these include traditional mechanisms and c) what the community can do to be prepared to face disaster risks and to reduce their impacts.	**Part A - Gathering basic info on the community**	
			Community fact sheet	Tool allows community to fill out basic informat
			Social mapping	The tool helps the group to build a picture of th process helps the group and relevant staff to un and essential information.
			Part B - Identification of hazard	
			Disaster timeline	Explores types of shocks that have afeted the c
			Food calendar	Used to map out the production and availability
			Important changes	Identifies patterns or trends and assesses the le
			Seasonal calendar	Tool gathers information on changes in seasona and the degree to which climate data is used in
			Important health issues	Tool reveals the existence of health problems re
			Selection of key threats	Tool allows community to identify what they pe
			Part C - Identification of vulnerabilities, capacities and coping mechanisr	
			Impacts / Vulnerabilities	This process wil help participants/communities to the nature of that vulnerability, and whether the
			Coping mechanisms / capacities	These four tools help participants/community m can be drawn upon in order to cope with or rec
			Causes	
			Capacity and resources	
			Early warning sign	
			Part D - Planning of community activities	
			Identifying activities	The community can now bring together all the i they can do within their own resources to bette
			Action planning	
			Part E - Feedback and sharing, reporting and monitoring	
			Feedback and sharing	Once all the processes have been done, these to ensures the staff member reports their impressi
			Reporting	
			Regular monitoring	
			Annual monitoring	

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Urban Community Risk Assessment (UCRA)	Bangladesh Government	The URA looks to understand the characteristics, circumstances and causal relationship among factors that render urban dwellers prone to disasters.It looks to determine the nature and extent of risk by analysing potential and actual hazards, evaluating conditions of vulnerability and potential threat, to people, property, livelihoods and the environment. It then looks to examine the capacity gaps and from there the risk assessment identifies priority interventions required to address the risks in question. This helps to determine the level of risk an urban community faces given their particular areas within a city. The participatory approach facilitates the active involvement of city swellers and other crucial stakeholders, fostering a common understanding, ownership, sense of responsibility and mutual accountability.	Validation of relevant secondary information	Aim is to collect data (economic, geographic, d
			Transect walk	Aimed at identifying obvious vulnerabilities whil way. It is an opportunity for community membe them about how their actions contribute to the
			Hazard mapping	Maps depict the spatial locations, size and frequ management actions that would be difficult to c
			Focus group discussinos	Allows richer and more in-depth understanding
			Household and institutional level vulnerability survey	Shows household and institutional level vulnera
			Vision mapping	Shows the future vision of the ward in term of th developed to complement the disaster maps an
			Validation of the maps (Present vs Vision)	Presented to Ward Disaster Management Com
			Assessing the capacity gaps	Aims to translate findings into requirements for the emergence of particular disasters, mitigate the disasters happen, and to recover effectively
			Risk statements/consequence	Repeat FGD sessions with same groups as previ participants specific question regarding a specif

	Target Population	Size of Group	Method	Materials	Implementation Time	Context
tion of the area where they live.	Local Community					Community focus
e relevant existing structures and key actors in the primary focus area. The derstand the social and institutional context of their work and gives them early						
community in the past	Local Community					Community focus
of foods over a 12 month period						
vel of preparedness for future hazards.						
al activity. It can help identify perceptions of long term changes to the climate community planning. It can identify regular events associated with conflicts/						
elated to disasters and climate change						
erceive the key threats to be						
ms						
o understand which aspects of their livelihoods are vulnerable to particular hazards, re are institutional and/or policy factors which contribute to that vulnerability.	Local Community					Community focus
nembers to understand which livelihood assets and which policies or institutions cover from hazards.						
information that they shared during previous activities to identify activities that er protect themselves.	Local Community					Community focus
ools ensure the assessment is shared with other community members. It also ions on how the exercise has been done with the community.	Local Community					Community focus
	Target Population	Size of Group	Method	Materials	Implementation Time	Context
emographic etc) on the relevant area.						Urban community focus
st interviewing community members along the ers to see the overall scenario and sensitises accumulation of disaster risk.						
ency of hazards. They provide motivation for risk obtain without a compelling visual aide.						
of the differential perception of hazards by the various sectors						
bilities, and the level of awareness on disaster risks scenarios.						
he selected disaster risk reduction measures should be d should include information gathered from the survey.						
mittee and selected senior members for validation.						
capability development and resources needed to; prevent the severity of the threats, prepare for events, respond when and in a timely manner after a disaster event.						
ious FGDs. Facilitators will share final list of vulnerabilities and will ask the ic vulnerability and consequences for the community to check understanding.						

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Urban Risk Assessment	Islamic Relief	Urban risk assessment is a methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat, or harm, to people, property, livelihoods and the environment. Urban risk assessment is also a process which assists policy/decision makers, practitioners and government authorities to identify the most vulnerable communities with respect to existing hazard/disasters, and allows them to develop strategies for further risk reduction interventions. The urban risk assessment also gives a glimpse of development and growth, and highlights the bottlenecks of urban planning.	**Hazard Assessment at Ward Level**	
			Hazard mapping	To identify and analyse common hazards in the locality and their magnitude and likelihood
			Vulnerability assessment	To identify and analyse vulnerabilty in the locality
			Capacity assessment	To identify and analyse capacity in the locality
			Institutions mapping	To understand the perceptions that local people have of the role and significance of various organisations within the community
			Mobility mapping	To analyse people's mobility at different places during day and night time
			Livelihood mapping	To identify the major livelihoods in the locality and their importance in the context of existing hazards
			Key informant interviews	To gain information about the locality, people, past and potential future hazards
			Risk Assessment at Community Level	
			Hazard mapping	To identify and analyse common hazards in the locality and their magnitude and likelihood
			Vulnerability assessment	To identify and analyse vulnerabilty in the locality
			Capacity assessment	To identify and analyse capacity in the locality
			Key informant interviews	To gain information about the locality, people, past and potential future hazards

Target Population	Size of Group	Method	Materials	Implementation Time	Context
City disaster management committee members, local knowledgeable persons, local professionals, representatives from primary stakeholders		Venn diagram and mapping	Flip chart, different sized/coloured paper, marker and adhesive	2-3 hours	Urban focus
		Discussion	Flip chart, marker, adhesive	1-2 hours	
		Discussion	Flip chart, marker, adhesive	1-2 hours	
		Group work and discussion	Flip chart, marker	1 hour	
		Mobility mapping	Flip chart, different sized/coloured paper, marker and adhesive	1-2 hours	
		Chapati diagram	Flip chart, different sized/coloured paper, marker and adhesive	1 hour	
Key informants should have involvement with a particular issue of interest		Discussion	KII Checklist, notepad, pen	1 hour	
City disaster management committee members, local knowledgeable persons, local professionals, representatives from primary stakeholders		Venn diagram and mapping	Flip chart, different sized/coloured paper, marker and adhesive	2-3 hours	Urban focus
Ward commissioner, local knowledgeable persons, professionals, representatives from primary stakeholders		Discussion	Flip chart, marker, adhesive	1-2 hours	
Ward commissioner, local knowledgeable persons, professionals, representatives from primary stakeholders		Discussion	Flip chart, marker, adhesive	1-2 hours	
Key informants should have involvement with a particular issue of interest		Discussion	Notepad, pen	1 hour	

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Urban Situational Analysis Guide and Toolkit (USAT)	Save the Children	The USAT is designed to assist child-focused development agencies to develop evidence on the scale and nature of poverty and inequality in cities and urban areas, with a view to deepening knowledge on the opportunities and challenges to impact the most vulnerable and marginalised children at neighbourhood, municipality and city level. This involves analysing the political economy and gathering of data on child rights in cities to identify potential programming opportunities and entry points within poor urban areas. The USAT will help to identify target groups and areas for projects by identifying pockets of poverty and vulnerability within a city.	Demarcation of vulnerable locations (where the intervention/investigation is to take place)	If the programme focus is is a particular location or vulnerable populations in and description of their ch the most vulnerable childr stakeholders and their ca of the SitAn exercise, ther hand so that a rudimentar
			Desk Review of Secondary Data (including child budgeting, local government systems to determine actors responsible for service delivery)	Review should seek report area, by local orgs, and by urban area. Analysis of do characteristics of children the multiple forms of discr their childhood, as well as tool whereby one can exa programmes a governmer strategy a country prescr
			Interviews with Key Development Partners (KDPs)	KDPs are representatives rights initiatives in these c research/academic institu understanding of the chall programme in urban area
			Interviews with Key Duty Bearers (KDBs)	These discussions are helc about the status of vulner of interventions that are c their help identify gaps in
			Focus groups with children and caregivers	It is necessary to talk dire This will provide insights i cope with their vulnerabili from family and duty bear
			Priority ranking using participatory appraisal techniques (Problem ranking or paired ranking)	Used to elicit local people
			Stakeholder Analysis	This is the identification o in the project and the way doing a stakeholder analy include in your coaltiion b and nurture relationships
			Rapid primary quantitative surveys (only to be done is there is no secondary data available or if benchmark values for potential outcome/ impact indicators will have to be generated)	If an urban programme is localities, and disaggregat can commission a quick su

	Target Population	Size of Group	Method	Materials	Implementation Time	Context
city-wide, then demarcation is not necessary but if the area of interest locations within a city, then a mapping exercise to identify the their place of existence needs to be done. The identification of slums haracteristics is important becase a) localising interventions to target en requires a clear demarcation of localities which house primary regivers; and b) if some extent of ground truthing is a necessity as part it is necessary to have slum locations and their broad characteristics on ry sampling exercise can be undertaken to select a representative lot.	Not applicable	Not applicable				Urban focus, child-centred
ts and analyses produced by other development actors in the urban y urban and national governments responsible for governing the ata should be disaggregated, to the extent possible, by various as relevant in each context. This is important in understanding rimination and exclusion that girls or boys, at different ages in women may face. Child budgeting as part of the desk review is a mine the true commitment to child welfare and child protection nt has for any given fiscal year. It lets you take stock of the development ibes to and the recourse gaps in meeting its commitments.	Not applicable	Not applicable				
of donor agenecies and their partner organisations funding child ities and beyond, local NGOs, Child Rights NGO networks and tions etc. The aim of these interviews is to acquire a comprehensive lenges that are faced in running a child rights based development s, both at the funding level as well as execution on the ground.	Key development partners		Discussion			
d with duty bearers to get first-hand information from the stakeholders able children based on their on-job experience, understand different types available to address various child-rights issues at city-level, and finally, with the system that leave children open for exploitation and deprivation.	Key duty bearers		Discussion			
ctly to children in vulnerable situations and their caregivers. nto a child's understanding of rights, how children at risk ties, their survival strategies, met and unmet expectations rers and finally, what they see as their future.	Children and caregivers		Discussion			
's perceptions of the most important development needs/problem they face.						
f a project's key stakeholders, an assessment of their interests gs in which these interests may affect a project. The reason for gsis is to help you identify a) which individuals/organisations to)what roles they should play and at which stage c) who to build with and d) who to inform and consult about the project.	Key stakeholders					
being planned that is confined to a single neighbourhod/cluster of ed data on crucial aspects is not available, then country teams rvey of chidren and caregivers to fulfil these data gaps.	Children and caregivers					

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Climate Vulnerability and Capacity Analysis (CVCA)	Care International	The main objectives of the CVCA are to a) analyse vulnerability to climate change and adaptive capacity at the community level and b) to combine community knowledge and scientific data to yield greater understanding about local impacts of climate change	**National Level**	
			Secondary research	Scientific information on climate change which climate-related shocks and stresse available and re-package it in a way that
			Institutional mapping	Aim is to understand the context at the to plan the scope of the policy analysis a
			Policy analysis	Aims to understand the dynamics of poli they may affect adaptive capacity at the
			Key informant interviews	Key informants provide information and
			Local Government / Community Level	
			Secondary research	Gain an understanding of the livelihood and local governance in the target comm effective during the field work, and to ide
			Policy analysis	Assess the degree of decentralisation of households/individuals. Regional/district provide insight into level of participation of implementation can yield useful info o
			Institutional mapping	Aims to better understand which institut It assists in identifying the institutions th as potential allies and opponents in addr
			Key informant interviews	Provide useful insights into local governa
			Household / Individual Level	
			Secondary research	Having more background information co
			Hazard mapping	Aim to become familiar with the commu It identifies important livelihood resourc area and resources at risk from climate
			Seasonal calendars	Identifies stress, hazards, hunger, debt et to analyse changes in seasonal activities
			Historical timeline	Aims to get an insight into past hazards, time, and to evaluate extent of risk analy
			Vulnerability matrix	Determines the hazards that have the m resources, determines which livelihood r coping strategies currently used to addr
			Venn diagram	Looks to understand which institutions a as analysing engagement of different gro also evaluate access to services and avai

	Target Population	Size of Group	Method	Materials	Implementation Time	Context
is generally available at country level and can help in identifying es are likely to affect communities. Important to know what info is t will be interesting, relevant and easily understood in communities						National focus
national level and to guide further analysis. Provides useful info nd to identify key stakeholders for further investigation.						
cies in different sectors, how they address climate change, and how local government/community, and household/individual levels.						
analysis on the implementation of relevant policies						
strategies, socio-economic situation, power dynamics munities is critical to ensuring that facilitators are entifying focus groups within the community						Community focus
decision-making in shaping adaptive capacity of vulnerable plans give helpful info on priorities of local governments. Can also of vulnerable people in establishing these priorities. The status n resource and capacity constrains faced by local actors.						
tions are most important to people in target communities. at should be engaged in the CVCA process, as well ressing vulnerability at the community level.						
nce structures and status of implementation of local policies and programmes.						
n allow the field work to focus specifically on climate change issues.		5-12 people				Household focus
nity, see how the area is perceived by different groups within the community. es in the community, and who has access and control over them. It identified hazards, and it analyses changes in hazards and planning for risk reduction					1 hour 30 minutes	
tc. It looks to understand livelihoods and coping strategies, and to evaluate use of climate info for planning					1 hour 15 minutes	
to make people aware of trends and changes over ysis, planning and investment for the future					1 hour 15 minutes	
ost serious impact on important livelihoods esources are most vulnerable and identifies ess the hazards identified					1 hour 30 minutes	
re most important to communities, as well ups in local planning processes. It aims to ilability of social safety nets					1 hour 30 minutes	

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Community Risk Assessment (CRA)	Bangladesh Government	CRA is a participatory process for assessing hazards, vulnerabilities, risks, ability to cope, preparing coping strategies and finally preparing a risk reduction options implementation plan by the local community. CRA looks to use scientific information and predictions and participatory discourses to identify, analyse and evaluate the risk environment of a particular community, and then reach a consensus amongst the community on actions that are needed to manage the risk environment.	Validation of relevant secondary information	Tool uses community members to validate secondary
			Transect walk (familiarisation tour)	Tool looks to gain clear understanding of the locality natural resources, land use, local problems, prospects
			Focus group discussions	Aim is to gain information about the locality, people, t livelihoods, local risk environment (hazards) and local traditional preparedness and coping strategy
			Social mapping	The maping collects information on the topographical settlement, physical infrastructure, institutions, comm land use, disaster prone and impacted areas and natu of the area. This information will be recorded on maps
			Hazard venn	Aim is to identify and analyse the common hazards in the locality, their magnitude and likelihood
			Hazard mapping	Tool aims to locate the affected areas by specific hazards within the union
			Livelihoods seasonal calendar	Calendar aims to look at local livelihood options and its seasonablity dimensions
			Hazard seasonal calendar	This looks at the occurrence and intensity periodof lis and their changing trend due to 'climate change' in the
			Key informant interviews	Aim is to gain information about the locality, people, t livelihoods, past and potential future hazard impacts
			CRA Workshop (which has 4 internal steps consisting of 9 activities)	This workshop builds consensus among the different concerned stakeholders on identified actions (interven relevant to hazard management and mitigation.
Toolkit	**Author**	**Purpose**	**Individual Tools (in order)**	**Aim of Tool**
Community Risk Assessment (CRA)	World Vision	CRA is a participatory assessment of hazards, vulnerabilities, capacities and people's perception of risks. CRA unites the community and other stakeholders in common understanding of its disaster risks. It enables the community to estimate the range of risk, provides an avenue for children and the community to define their situation and recommend solutions, as well as raising awareness.	Hazard and resource mapping	Aim is for the participants to be able to a) Know what or can be damaged by a disaster; b) Identify safe and in the community; c) Identify available resources that by the children and community members in disaster ri
			Seasonal calendar (adults)	The participants, at the end of the activity, are able to the seasonal changes, hazards, diseases, community e and livelihood activities in a given month of the year.
			Seasonal calendar (children)	By the end of the activity the participants should be a cultural and other religious celebrations in the commu livelihood and typical occupation of people; c) share ty children/young people in the community; d) create pic representing season og the community and situation young people; e) identify months and places that pose the community, particularly the children; and f) identi the community with high concentration of children an
			Disaster timeline	This tool aims to teach participants about the history the community, the factors that led to the disasters a on the environment and people's lives. The participant describe how much natural resources have been affec
			Organisations in my place	Aim is to identify the organisations that can assist in advancing disaster preparedness efforts

	Target Population	Size of Group	Method	Materials	Implementation Time	Context
information	Local teachers, knowledgeable persons, Union Disaster Management Committee (UDMC) members	10-15 people	Discussion	Secondary information docs/maps, notebook, colour marker, pens	2 hours	Community focus
and its etc	Local land surveyors, knowledgeable persons, local professionals (school teachers and other primary stakeholders)	6-8 people	Discussion, writing	Map, notebook, pen/pencil	3-4 hours	
their /	UMDC members, local knowledgeable persons, local professionals	6-10 people	Discussion	FGD checklist, notebook, marker, brown paper, board, tape, pen	3 hours	
, villages/ onplaces, ral drainage s	UMDC members, local knowledgeable persons, local professionals		Discussion	Brown paper, union map, pens, adhesive labels, scissors, pencil	3-4 hours	
	UMDC members, local knowledgeable persons, local professionals		Discussion, writing	Brown paper, diff sizes/colours of paper, marker, adhesive	1 hour	
	UMDC members, local knowledgeable persons, local professionals		Discussion, drawing	Large union boundary map, colour pencil, marker	2 hours	
	UMDC members, local knowledgeable persons, local professionals		Discussion, drawing	Brown paper, scale, colour markers, board, adhesive tape	1 hour	
ted hazards e locality	UMDC members, local knowledgeable persons, local professionals		Discussion, drawing	Brown paper, colour markers, board and adhesive tape	1 hour	
their	Individuals who have involvement with a particular issue of interest		Discussion	Notepad, pen	1 hour	
tions)	Primary and secondary stakeholders		Multiple		7 days	
	Target Population	**Size of Group**	**Method**	**Materials**	**Implementation Time**	**Context**
t will be affected dangerous places can be used isk reduction	Boys and girls		Discussion, drawing	Paper, pencils, pens, community spot map	1 hour	Community focus
o know events	Women's group and Men's group		Discussion, writing	Paper, pencil, markers, ten seeds	1 hour	
ble to: a) share unity; b) share ypical image of up calendar of children/ risk/danger to fy the places in d young people	Boys and girls		Discussion, drawing	Paper, pencils, scissors, hole-puncher, yarn, masking tape	2 hours	
of disasters in nd the impact ts will be able to ted by disasters.	Elderly adults		Discussion, drawing	Paper, metacards, pen, masking tape	1-1.5 hours	
	All participants		Discussion	Paper, metacards, pen, masking tape, coloured paper	1-1.5 hours	

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Community Risk Assessment, Analysis and Planning	World Vision	Designed to effectively carry out disaster risk assessment in target communities which are high risk to natural and human induced hazards. This is a community based approach to DRM where children are at the heart of the process. It provides an avenue for the children and their community to define their situation (through risk assessment and analysis) and recommend solutions (planning) to the issues affecting them.	**Tools for Adults**	
			Risk map	This is a tool that allows community members t the vulnerable elements of the community espec disabilities who are put at risk by hazards. The t their resource base and make an inventory of th
			Disaster timeline	This tool shows the disasters that they have exp disaster timeline will also demonstrate the repe disasters, as well as looking at the natural/physi community coped and responded afterwards.
			The organisations in my place	This tool identifies the parties/stakeholders who development of the community. Participants wil before, during and after an emergency or major
			Seasonal calendar	This tool helps the community identify importan The community chooses the indicators they wan
			Hazard assessment	This tools aims to teach participants to be able present in the community, as well as understand
			Hazard ranking	The aim of this tool is to know the priorities of c problems/hazards faced by the community.
			Tools for Children	
			Risk map	This is a tool that allows community members t the vulnerable elements of the community espec disabilities who are put at risk by hazards. The t their resource base and make an inventory of th
			The organisations in my place	This tool identifies the parties/stakeholders who development of the community. Participants wil before, during and after an emergency or major
			Safe and dangerous places	Aim of this tool is to check if the child has know he perceives them.
			Disaster timeline	This tool shows the disasters that they have exp disaster timeline will also demonstrate the repe disasters, as well as looking at the natural/physi community coped and responded afterwards.
			Understanding livelihood	Through this tool children discuss the different t exploration of what alternative livelihood peopl flood/rainy season), what livelihoods children ar these. It also probes into the existence of child l
			My needs before, during and after a disaster	This tool looks to understand and know the nee after a disaster.

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Participatory Vulnerability Analysis (PVA)	ActionAid	PVA is a systematic process that involves communities and other stakeholders in an in-depth examination of their vulnerability, and at the same time empowers or motivates them to take appropriate actions. The overall aim of PVA is to link disaster preparedness and response to long-term development.	**Situation Analysis of Vulnerability**	
			Focus group discussions	
			Historical profile/time line	
			Vulnerability map	
			Seasonal calendar	
			Livelihood analysis	
			Analysing causes of vulnerability	
			Problem tree/objective analysis	
			Concept mapping	
			Analysis of community action	
			Matrix highlighting communities' ability to cope	
			Venn diagrams	
			Problem tree/objective analysis	
			Concept mapping	

	Target Population	Size of Group	Method	Materials	Implementation Time	Context
o identify visually the capacities, as well as cially the children, the elderly and people with cool enables community members to look at eir capacities.	Adult community members representing different parts/ sectors		Discussion, drawing	Paper, pencil, pens, crayons and plastic cover, community spot map, glue, masking tape		Community focus
perienced in previous years/decades. The titiveness and the increased frequency of some cal/human resources affected, and how the			Discussion, writing	Paper, metacards, pen, masking tape		
o can potentially help advance or hinder the l identify the organisations that helped them r disaster.			Discussion, drawing	Paper, pencil, markers, cut-outs (circles of various size/colours)		
nt aspects of seasonality that affect their lives. nt to demonstrate seasonality against.			Discussion, drawing	Paper, pencil, markers, ten seeds, crayons		
to identify the kind of hazards or threats ding the nature and behaviour of hazards.			Discussion, writing	Paper, pencil, markers		
community members or the most significant			Discussion, writing	Paper, pencil, markers		
o identify visually the capacities, as well as cially the children, the elderly and people with cool enables community members to look at eir capacities	Boys and girls (18 and under) representing different parts of the community		Discussion, drawing	Paper, pencil, pens, crayons and plastic cover, community spot map, glue, masking tape		Community focus, child-centred
o can potentially help advance or hinder the l identify the organisations that helped them r disaster.			Discussion, drawing	Paper, pencil, markers, cut-outs (circles of various size/colours)		
ledge of safe and dangerous places, and how s/			Discussion, drawing	Paper, crayons, pencils (or may use clay)		
perienced in previous years/decades. The titiveness and the increased frequency of some cal/human resources affected, and how the			Discussion, writing	Paper, metacards, pen, masking tape		
ypes of livelihoods in the community. It allows e get involved with during different seasons (eg. e aware of, and the problems associated with abour.			Discussion	Paper and pencil/pen		
ds of the children before, during and			Discussion, clay molding	Clay of different colours		
	Target Population	Size of Group	Method	Materials	Implementation Time	Context
						Community focus
						Community focus
						Community focus

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Participatory Capacity and Vulnerability Analysis (PCVA)	Oxfam	The PCVA toolkit outlines a multi-stakeholder risk analysis and planning process designed to help staff and partner organisations engage with communities in contexts where natural disasters are significant drivers of poverty and suffering.	Secondary data collection	
			Beginning work with the community	
			Plate diagram tool	The aim is to find out the demographic composition of the community
			Daily time chart	Aim is explore what the gender and generational roles are in the community
			Circle diagram tool	Aim is to understand what groups and organisations exist within the community, as well as which government/private sector institutions exist within the community and which external institutions does the community interact with
			Semi-structured interviews	Aim to find out what the main livelihood strategies are in the community
			Annual livelihoods calendar	Aim of the calendar is to find out what cycles the main livelihood strategies follow
			Resource map	To explore which natural and physical resources are important to livelihoods, life, and well-being in the community
			Analysing hazards, the impact of climate change, vulnerabilities, and capacities	
			Hazard map	Aim is to look at what hazards are affecting the community (and how hazards have changed/might change as a result of climate change)
			Historical timeline	Aim is to look at how the different hazards affected the community at different times (and how hazards have changed/might change as a result of climate change)
			Impact visualisation tool	The tool looks at how the identified hazards affect families and the resources on which they rely for their livelihoods
			Problem tree	The aim to identify why community members are negatively affected by hazards
			Solutions tree	Looks at how the community can reduce its vulnerability to hazards
			Prioritising risk	
			Risk quadrant tool	Looks at which hazards present the highest risk to the community
			Ranking tool	Tool looks at which assets are at greater risk

Target Population	Size of Group	Method	Materials	Implementation Time	Context
Local Community	6-8 people (2 groups of men, 2 groups of women)				Community focus
Local Community (adult men and women)	Four groups of 5-8 people (mothers, grandmothers, fathers, grandfathers)				
Local Community (adult men and women)	Four groups of 4-6 people (2 male, 2 female)				
Local Community					
Local Community					
Local Community (adult men and women)	Two groups of 6-8 participants (1 male, 1 female)				
Local Community (adult men and women and possibly children)	Two groups of 6-8 men, women and possibly children				Community focus
Local Community (adult men and women)	Groups of 4-6 participants (at least one comprised solely of women)				
	Four groups of 5-8 people				
Women of different ages and men of different ages	1 Group of 4-6 women, 1 group of 4-6 men				Community focus

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Participatory Vulnerability and Capacity Assessments (PVCA)	Christian Aid	A PVCA is carried out in a community to collect, analyse and systematise information about its vulnerability in a structured way. Its main purpose is to a) identify the key vulnerabilities of a particular community; b) understand how community members perceive risks and threats to their lives and livelihoods; c) analyse the resources (capacities) and strategies available to them to address or reduce these risks; and d) help the community develop an action plan as an important output of the PVCA process	Focus group discussions	Used to obtain diverse ideas and perceptions on a topic of interest in an informal and tolerant environment.
			Transect walk	This serves to create hazard awareness within the community and will provide the facilitators with useful information including the presence of any excluded inhabitants, how densely populated the community is, the historical development of the village. It will also give an idea about the type, location and distribution of the main resources, landscapes and main land-use and will help establish that everybody is informed about future gatherings
			Timelines	An interviewing tool that relies on the knowledge of some members of a community to describe the history of the village and record the important historical events as perceived by the community themselves. By drawing a timeline, the community can learn to temporally trace the disasters they have experienced, but more importantly they can track the frequency with which each different disaster affects their lives, changes in their environment and its behaviour, understand the causal links of the disasters and the links with the community's vulnerabilities, and how the people have adapted and developed specific response mechanisms over the years.
			Social mapping	Aims to form a visual representation of a community in terms of (for example) resources, demography, ethno-linguistics, health patterns and wealth. It is one of the best tools used to understand some of the less sensitive aspects of the social interactions within a community
			Risk mapping	
			Ranking (including wealth/ vulnerability)	The aim is to rank the degree to which different hazards affect people/ property/resources etc to show the kind of hazards people feel affect them the most. It will also provide a tool to assess the importance of different activities in the community's livelihoods.
			Power-structure analysis	Focuses on the social and institutional hierarchy of the community. The analyses emphasize the social and economic differences between the households and the perceptions of significance that each group and organisation have of each other.
			Seasonal diagrams and calendars	Offers a visual representation of the temporal distribution of a community's resources such as economic activities, production activities, epidemics, migration and natural phenomena. At the same time it allows people to plot their strategies, such as diversifying livelihoods, in order to cope with the recurring hazards.
			Action plan development	Culmination of the PVCA. The developing of an action plan is a consensus-building tool aimed at identifying the environmental and/or livelihoods problems and to solve them with the input and support of the community. The aim of this tool is to increase the level of understanding or risk and disaster risk reduction (DRR) by all the participants and to help reach a consensus on proposed new activities that would help improve the resilience and development of a community.

Target Population	Size of Group	Method	Materials	Implementation Time	Context
Local Community	Groups of 7-10 people		Notebook, pens (flip chart, markers, audio recorders)	At least 1 to 1.5 hours	Community focus
	Groups of at least 2 people		Notebook, pens (cameras and audio recorders if wanted)	90 minutes	
			Pens, papers, markers (cameras and audio recorders if wanted)		
			Pens, papers, markers (cameras and audio recorders if wanted)		
			Pens, papers, markers (cameras and audio recorders if wanted)		
			Pens, papers, markers (cameras and audio recorders if wanted)	2 hours	
			Flipchart paper, markers (cameras and audio recorders if wanted)		
			Flipchart paper, markers (cameras and audio recorders if wanted)		

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Participatory Risk, Capacity and Vulnerability Analysis (PCVA)	Action against Hunger	PCVA is an investigative method that uses a variety of qualitative participatory tools (PRA) to engage local stakeholders in their own disaster risk and vulnerability diagnosis. It combines local knowledge with secondary information on disaster risks, and increases understanding of the context where ACF wants to intervene.	**Select and meet with the community**	
			Community Agreement	To confirm that ACF has the agreement from the community to ca and national stakeholders.
			Community Profiling	Aim is to collect basic information about the community, including points, to describe land features, to identify power and influence pe
			Identify disaster risks	
			Focus group discussions	Fieldwork starts with FGDs about general topics like natural hazar strategies, environmental issues etc. This technique explores value knowledge and understanding of the topics.
			Disaster History	Help to provide a better understanding of the most significant disa development and evolution, on the changes in their nature, intensit community identity. It helps reveal how disasters have affected peo effects on their lives.
			Seasonal calendar	Used to study changes in the community over a year. Can show we public events and seasonal activities. It shows periods of stress, wo
			Social, resource and hazard mapping	The maps are used to indicate the location of health centres, schoo and located vulnerable groups. They help to understand complex r
			Transect walk	This is used to observe the community organisation, the risk areas the topography of lands, to understand the interrelationships with sites, spatial planning, the types of construction, the distribution of business activities etc.
			Historical calendar	Aim is to determine the factors that led to the disasters and the im
			Prioritise disaster risks	
			Disaster risk ranking	Aim is to know, prioritise and analyse the most significant disaster solutions for further assessment. It determines the hazards that ha and the current coping and adaptive strategies.
			Hazard analysis	The aim of this tool is to support the community to describe the ch during the previous stage.
			Analyse disaster risks	
			Vulnerability and impact analysis	The aim is to define vulnerable elements, why they are vulnerable can be used to specify the categories of people affected by a hazar elements at risk of the hazard.
			Capacity and risk analysis	Used to discover the needs from the community and to further disc listed, a risk rank is assigned to individual or household groups.
			CVA matrix	Aim is to provide an inventory of all the capacities and resources o the community and attempt to have an overview of the main facto
			The problem/ solution tree	The community and team together choose the most dangerous ha tools. Then a problem/solution tree can be developed for the majo hazard on the community and to determine its capabilities to limit
			Visioning matrix	This exercise allows the community to participate in the decision-m The tool allows the community to refine the analysis and to define into capacities. It provides a vision of their ideally prepared and res

	Target Population	Size of Group	Method	Materials	Implementation Time	Context
rry out the assessment and share information with local	Local Community					Community focus
demographic data, the geographical relationship to key ersons and groups etc etc.						
rds, socio-economic vulnerabilities, disaster preparedness s and attitudes of different groups, as well as the	Local Community					Community focus
ster events that have left their mark on the community's y and behaviour. It provides a more in-depth history and ople's resources over the years and evaluate their negative						
eather patterns, the social and economic conditions, rk, disaster, hunger, debt, or vulnerability.						
ols, water points etc, and identify in particular risk areas relationships and allow visual comparisons of information.						
and the available resources. It can be used to record the environment, to locate vulnerable sites, evacuation social infrastructure, the health issues and facilities, the						
pact on people's lives, livelihoods, environment and assets.						
risks faced by the community, and to weight needs and ve the most serious impact on important people's assets,	Local Community					Community focus
haracteristics of the major hazard that has been prioritised						
and how they are impacted by the specific hazard. It rd; organisations exposed to the hazard and the physical	Local community leaders					Community focus
aggregate groups. After capacities and gaps have been	Local Community					
f the population. It is a way to organise information about rs to consider prior to planning.						
zards based on the disaster risk ranking and analysis r hazard. The aim is to determine the consequences of the or reduce these effects.						
making process, and to identify potential action on DRR. the potential measures that can transform weaknesses silient community.						

Toolkit	Author	Purpose	Individual Tools (in order)	Aim of Tool
Child-oriented Participatory Risk Assessment and Planning (COPRAP)	Centre for Disaster Prevention (CDP) and the Asian Disaster Preparedness Centre (ADPC)	The aim of COPRAP is to a) assess disaster risks and particular strengths and weaknesses of children and the community through participatory means; and b) to collectively devise risk reduction solutions based on the results of the participatory assessment.	Representation of self	Aim is to build rapport and create ease between the facilitator and the participant, and to know how and identify the strengths and weaknesses of child participants.
			Safe and dangerous places	Aim is to check if the child has knowledge of safe and dangerous places, and how s/he perceives them.
			Make me a portrait of…	Aim is to know what the participation of children is before, during and after the flood
			Dangerous things	Objective is to know the perspective of children towards dangerous things or animals
			My needs - before, during & after the typhoon and floods	Objective is to know the needs of the children before, during and after the disaster
			Top five problems	Aim it to know the five primary problems that children face
			Suggested solutions	Aim is to know the suggestions of the youth and children in solving the problems confronted by the children and the community.
			Suggestions to those in authority	Aim is to explore the possible solutions to problems that the teenagers want to suggest to local authorities
			Hazard and resource map	Objective is to know the safe and dangerous places. To know what will be affected or can be damaged by disaster and locate in the map the resources present in the community for diasaster preparedness and mitigation
			Understanding livelihood in our place	To know the different forms of livelihood in the community/area
			The organisations in our places	Aim is to identify the organisations that can assist in advancing disaster preparedness and development efforts
			Disaster timeline	Aim is to know the disaster experienced by the community, their effects and the actions taken by the people

Target Population	Size of Group	Method	Materials	Implementation Time	Context
Children aged 7-17		Drawing of thing/animal/plant that represents or illustrates self	Paper, crayons/pencils		Community focus, child-centred
Children aged 7-12		Picture of place/s child considers safe and dangerous	Paper, crayons (or clay)		
Children aged 7-17		Children to act out a scene or activity and will ask them to depict their condition and activities before, during and after the hazard/disaster	Not applicable		
Children aged 7-12		Molding of dangerous things using clay/mud	Clay of different colours		
Children aged 7-17		Molding clay to show needs of children	Clay of different colours		
Children aged 7-17		Discussion, writing	Paper, pen/pencil		
Children aged 7-17		Discussion, writing	Paper, pen/pencil		
Teenagers aged 13-17		Discussion, writing	Paper, crayons (or clay)		
Adults (men and women separately)		Discussion, drawing	Paper, pen, crayons, plastic cover		
Adults (men and women separately)		Discussion	Paper and pencil/pen		
		Discussion, drawing	Paper, pen, coloured paper		
Adults (men and women separately)		Discussion, drawing	Paper and pen		

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