ANALYSIS OF THE RESILIENCE OF COMMUNITIES TO DISASTERS

ARC-D TOOLKIT
USER GUIDANCE MANUAL
OCTOBER 2016

GOAL

Principle authors

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Alexandra Mitsidou, M.A. in International Humanitarian Action and co-author of the ARC-D toolkit, has over eight years of academic and programmatic experience in disaster resilience approaches, rooted primarily in the regions of Central America, the Horn of Africa and South East Asia. She has supported programming in urban and rural disaster risk reduction, drought emergency response and market system development. As technical advisor in Resilience and Disaster Risk Reduction for GOAL, she assists country programmes in the strategic design, implementation and impact measurement of resilience-focused interventions. She led the ARC-D toolkit's field-testing and roll-out in 11 countries across Africa, Asia, Central America and the Caribbean between 2013 and 2016 and has overseen its development over the years. Alexandra has trained over 160 staff from national risk management agencies, GOAL and other NGOs in disaster resilience measurement using the ARC-D toolkit.

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GOAL

GOAL is an international humanitarian organisation founded in Ireland in 1977, working towards ensuring that the poorest and most vulnerable in our world and those affected by humanitarian crises have access to the fundamental rights of life, including but not limited to adequate shelter, food, water and sanitation, healthcare and education.

Since its inception, GOAL has responded to the majority of large-scale humanitarian disasters and has spent in excess of €910 million in humanitarian and development programmes in more than 50 countries.

Abbreviations and Acronyms

ARC-D	Analysis of the Resilience of Communities to Disasters
BBB	Building Back Better
CBO	Community Based Organisation
COPECO	Comité Permanente de Contingencias (Honduran Risk Management Agency)
DipECHO	Disaster Preparedness programme of ECHO
DDG	Digital Data Gathering
DFID	Department for International Development
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ECHO	European Community Humanitarian Office
Eco-DRR	Ecosystem-based Disaster Risk Reduction
EMMA	Emergency Market Mapping and Analysis
EWS (or EWRS)	Early Warning System (or Early Warning and Response System)
FAO	Food and Agriculture Organisation
FAQ	Frequently Asked Questions
FGD	Focus Group Discussion
GBV	Gender-Based Violence
HEA	Household Economy Approach
HFA	Hyogo Framework for Action (2005-2015)
HIV	Human Immunodeficiency Virus
INEE	Inter-Agency Network for Education in Emergencies
IPCC	Inter-governmental Panel on Climate Change
KAPB	Knowledge, Attitudes, Practices and Behaviours
KII	Key Informant Interviews
LQAS	Lot Quality Assurance Sampling
MEAL	Monitoring, Evaluation, Accountability and Learning
MICS	Multiple Indicator Cluster Survey
MOV	Means of Verification
M&E	Monitoring and Evaluation

NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
OFDA	USAID Office for Foreign Disaster Assistance
PCMMA	Pre-Crisis Market Mapping and Analysis
PLHIV	People Living with HIV and AIDS
PLW	Pregnant and Lactating Women
PWD	People with Disabilities
TA	Thematic Area
TB	Tuberculosis
SDG	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction 2015-2030
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
USAID	United States Agency for International Development
VCA	Vulnerability and Capacity Assessment
VSLA	Village Savings and Loan Association
WFP	World Food Programme

1 Introduction

Disaster-related shocks such as hurricanes, floods, drought, earthquakes, volcano eruptions, and landslides constantly threaten the lives and livelihoods of the most vulnerable populations worldwide. In the context of increasing stresses like the negative effects of climate change, population growth, and social inequality, these disasters are expected to increase in their frequency, intensity and impact. Increased disaster resilience is essential to reduce the adverse impacts these shocks have on the poorest communities, who are most often disproportionately affected, and to ensure that hard-won gains in development and well-being are preserved in the face of these shocks.

The Analysis of the Resilience of Communities to Disasters (ARC-D) toolkit has been developed as a concise and user-friendly tool to assess the level of disaster resilience at community level through a discussion-based survey of 30 disaster resilience components.

These 30 components span four thematic areas, corresponding to the four Priorities for Action of the 2015-2030 Sendai Framework for Disaster Risk Reduction. These are:

Understanding disaster risk

Strengthening governance to manage disaster risk

Reducing vulnerability to improve resilience[1]

Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery

1 - For the purposes of this toolkit, the third Sendai Priority for Action, "Investing in DRR for resilience" has been renamed "Reducing disaster vulnerability to improve resilience." There are three reasons for this change: a) its components consist of vulnerability reduction factors such as livelihoods and market access, health access, natural resource management, infrastructure, social protection, etc. b) we believe the term "investing" is appropriate for a global framework aiming to incentivise national governments to invest in DRR, but less so as a technical category in a community disaster resilience survey; c) we believe all 30 components of this toolkit are part of DRR and not only the ones contained in the third Sendai Priority for Action.

The ARC-D toolkit builds on the disaster resilience work commissioned by the DFID-funded InterInstitutional Group, documented in the publication "Characteristics of Disaster Resilient Communities" by Dr. John Twigg. The toolkit's development was also informed by consultations with political and technical stakeholders in Latin America, the Caribbean, Eastern and Southern Africa, and extensive field-testing in 11 countries (see Figure 1) between 2013 and 2016 in rural, urban and peri-urban communities.

The improvements contained in this updated 2016 version of the ARC-D toolkit are based on the following three elements:

a. The valuable feedback obtained in 2015 from field-testing the toolkit in 8 countries and presenting it to various national and international stakeholders;

b. The content and scope of the new Sendai framework for DRR, signed in 2015, and the Making Cities Resilient campaign;

c. A systems approach to resilience programming, increasingly embraced by GOAL and other agencies; to this end, certain parts of the ARC-D toolkit were adapted to better capture the systemic factors that enable (or obstruct) community resilience to disasters and also make these more visible in data presentation (the ARC-D dashboard).

It is recommended that this toolkit be applied as part of a wider framework of risk and systems assessments to obtain the fullest understanding possible of the complex and context-specific aspects of community resilience.

GOAL invites feedback from all users of the ARC-D toolkit to ensure its continual improvement and to contribute to the global learning process of building disaster-resilient communities.

Please send us your comments and feedback at resilience@goal.ie.

2 - Twigg, John. Characteristics of a Disaster-resilient Community – A Guidance Note. Version 1, 2007 and Version 2, 2009.

2 Background to the development of the ARC-D Toolkit

In 2007 GOAL completed a comprehensive KAPB (Knowledge, Attitudes, Practices and Beliefs) survey in La Moskitia, Honduras, to gain a better understanding of the factors influencing communities' disaster resilience. In 2010 GOAL developed a more targeted survey to assess disaster resilience, incorporating over 210 questions on a variety of disaster resilience aspects, including the assessment of "disaster resilience characteristics" based on the work of John Twigg[3]. Over 2010 and 2011, this tool was applied in La Moskitia, proving very effective in measuring progress in strengthening disaster resilience capacities and consistent with other monitoring and evaluation tools, e.g. programme evaluations, simulation drill reports, etc.

During 2013-14, GOAL undertook a comprehensive revision of its work on measuring community disaster resilience in involving extensive field testing and technical validation Honduras, Haiti, Ethiopia and Malawi, resulting in the ARC-D toolkit (then called the GOAL Toolkit for Measuring Community Disaster Resilience), which contained 30 key resilience components.

In 2015, increased interest in applying the ARC-D from these and other GOAL country programmes, other NGOs and government actors, resulted in an extensive roll-out of the toolkit in 8 countries. As a result, there are currently 11 countries across three continents where the ARC-D is being applied for community disaster resilience measurement. These are Honduras, Haiti, Nicaragua, Niger, Sudan, South Sudan, Ethiopia, Kenya, Uganda, Malawi, and the Philippines (Figure 1).

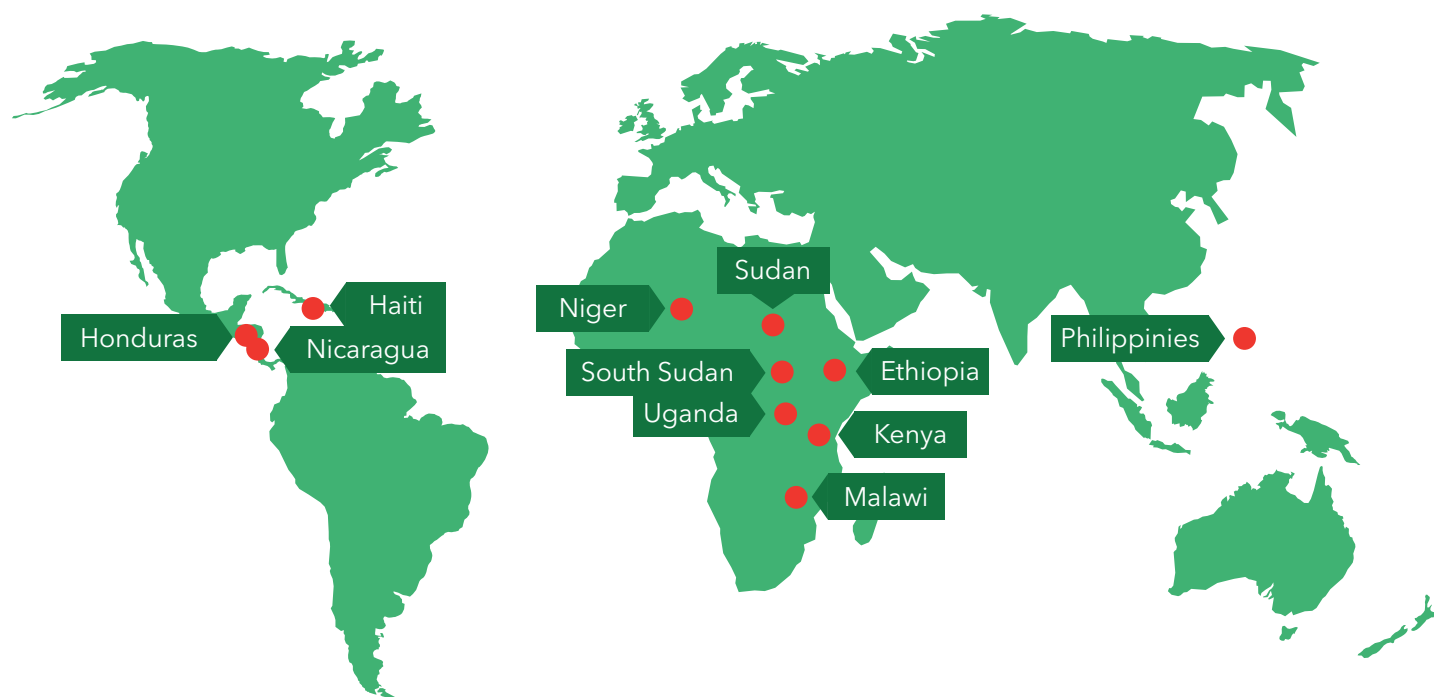Figure 1: Countries where the ARC-D toolkit is or has been used for community disaster resilience measurement.

3 - "Characteristics of a Disaster-resilient Community – A Guidance Note" (2007 & 2009) is the key reference for the development of this guideline.

Importantly, in 2015, the Honduran risk management authority (COPECO) institutionalised the ARC-D as a nationwide best practice tool and, in partnership with UNDP, trained 60 members of the national disaster risk management system in its application. The National University of Honduras validated the toolkit's relevance and complementarity to UNISDR's Local Government Self-Assessment Tool within the Making Cities Resilient campaign. In addition, the ARC-D was an important cornerstone in GOAL's urban resilience project in Haiti, "Tounen Lakay (Retour à la maison)", which was featured in the European Union's 2015 best practice compendium on resilience[4].

Throughout this dissemination and validation process, the ARC-D was shared with disaster risk management specialists, (including from national risk management authorities), UN agencies, other NGOs and institutional donor representatives in Central America, the Caribbean and Eastern and Southern Africa. Their valuable feedback was incorporated into the final version of this toolkit.

GOAL training on the ARC-D toolkit for the technical staff of the Honduran national disaster risk management authority and Central District municipal emergency committee in Tegucigalpa, Honduras (April 2015).

Launch of 2015 version of the ARC-D toolkit to national government, civil society, UN and institutional donors in Port-au-Prince, Haiti (July 2015).

4 - EU Resilience Compendium: Saving Lives and Livelihoods" (2015)
http://ec.europa.eu/echo/files/policies/resilience/eu_resilience_compendium_en.pdf

3 The Resilience lens

Since becoming such a prominent concept in the humanitarian and development discourse, resilience has been defined in various ways[5] , from the "capacity of a system to absorb disturbance and reorganise while undergoing change […]" (Walker et al. 2004), to the "ability to bounce back and return to a fixed stable state equilibrium following a shock" (Holling 1973 in Béné et al. 2012), to "learning how to change in order not to be changed" (Walker 2012)."

For the purposes of this document, GOAL defines resilience as "the ability of communities and households living within complex systems to anticipate and adapt to risks, and to absorb, respond and recover from shocks and stresses in a timely and effective manner without compromising their long term prospects, ultimately improving their well-being."

GOAL, like many of its peers in the humanitarian and development arenas, does not view resilience as a separate sector or as an issue to mainstream in existing programming. Instead, it is seen as a strategic approach to better programming, based on a strong contextual analysis, a dynamic understanding of community attributes and capacities, and an adaptive management of interventions. Through the resilience lens, we aim to ensure the preservation of gains in the well-being and development of communities in the face of disturbances and an independence from outside humanitarian assistance over the long term.

"Resilience is the ability of communities and households living within complex systems to anticipate and adapt to risks, and to absorb, respond and recover from shocks and stresses in a timely and effective manner without compromising their long term prospects, ultimately improving their well-being."

To guide its resilience thinking, GOAL adopted and adapted the widely accepted conceptual framework by Frankenberger et al. (2012), updated by IFPRI in 2014. Our conceptual framework is divided into three main components:

1. Analysis
which includes:
- an identification of the group that our work will benefit (Resilience for whom?);
- an evaluation of the context within which that group or system resides;
- an assessment of the shocks and stresses that the group of focus faces (Resilience to what?);
- a determination of the level of exposure the group faces to these disturbances;
- and the determination of the systems and levels at which we plan to work (Resilience of what?).
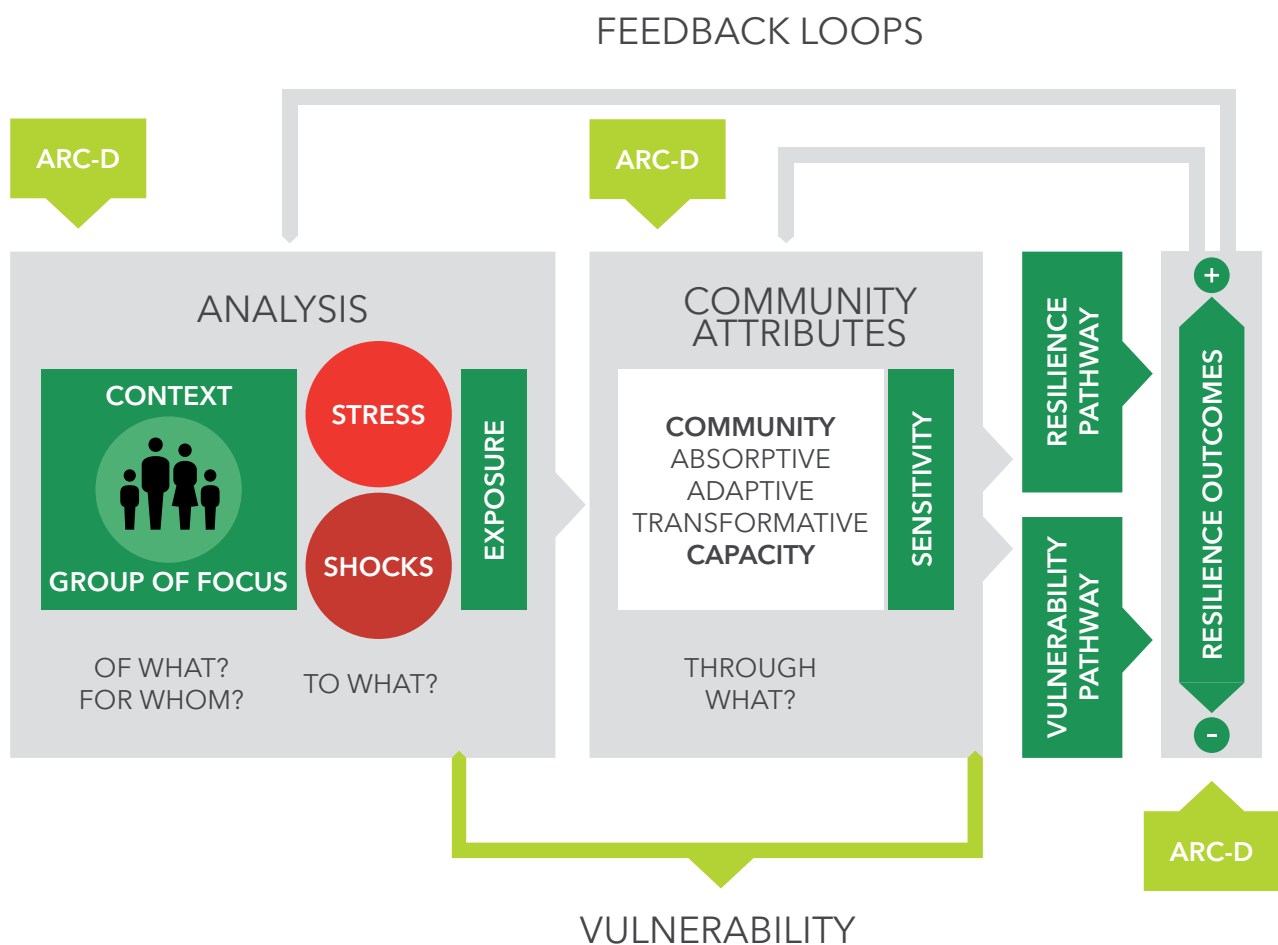
Figure 2: GOAL's Resilience Framework

2. Community or system attributes

refer to the capacities that enable our target groups to absorb, adapt and transform in the face of the identified shocks and stresses (Resilience through what?).

3. Pathways and Outcomes

refer to the measureable outputs, results and outcomes we aim to achieve as from programme interventions that strengthen resilience. The feedback loops give the framework an iterative nature, enabling us to continuously examine how we effect change and learn, by monitoring critical points (e.g. strengthened attributes and expected outcomes) in order to address shortcomings, adjust programme strategies and generate learning.

When it comes to programming for disaster-related shocks and the stresses that exacerbate them, the ARC-D toolkit informs all three components of this framework and serves its iterative feedback process by being applied at various stages throughout a project's life (e.g. baseline, interim, endline). For example, the ARC-D collects information on the community context, including location, demographics, environmental and governance conditions, most vulnerable groups, principal shocks and stresses, which readily serve the Analysis stage. Next, it analyses and measures the existence of several factors and characteristics that enable community disaster resilience (Attributes) and gives an aggregate and quantitative view of these that can serve as a measurement of desired resilience pathways and outcomes.

3.1. Systems thinking in resilience programming

Households and communities are not islands. They live and function within multiple complex systems (market systems, health systems, governance systems, ecosystems) that they affect and are affected by. The stronger these systems are, the more capacity communities have to achieve their development goals and protect them in adversity. On the contrary, the weaker and less inclusive these systems are more vulnerable they are to disturbances.

A systems approach to resilience helps us understand how various system components (actors (including communities), resources, regulations) interact and interconnect, as well as the interlinkages among various systems and risk factors. In other words, when we apply a systems approach to building resilience, we can anticipate how disasters can trigger economic shocks, how conflicts can leave people more exposed to additional shocks or stresses (e.g., an outbreak of cholera can be triggered when water, sanitation and hygiene systems are destroyed or become inaccessible), and how long-term stresses such as environmental degradation can lower agricultural productivity, weakening food security and income levels, and impacting a household's ability to pay for health care or education

GOAL strives to strengthen its understanding of these dynamics, to enable better programming that addresses root causes of constraints rather than symptoms alone. There is a direct overlap between a resilience approach and systems approach, since both are about building the capacities of permanent actors within certain system to cope, adapt and transform in the face of shocks and stresses. Improving the capacity of systems can directly influence the resilience of a community and vice versa.

The application of the ARC-D toolkit serves as a valuable entry point into systems analysis. Each of its 30 components correspond to one of eight critical sector systems for community resilience, as shown in the GOAL systems wheel (see Figure 4). This allows us to do a "vital signs" check on these critical systems for disaster resilience and identify the functional systems that can be leveraged for better resilience outcomes or dysfunctional systems that need to be strengthened or transformed to better support community disaster resilience.

Please note, the ARC-D does not propose to replace the necessary in-depth systems analysis tools, but rather to inform a holistic understanding of their performance at community level and a selection of the most critical systems to improve community disaster resilience.

The systems approach and the ARC-D toolkit have been used in the development of GOAL's urban resilience model, "Barrio Resiliente" (Resilient Neighbourhood), currently used in Tegucigalpa, Honduras, and in the process of adaptation for Port au Prince ("Katye Wozo" model).
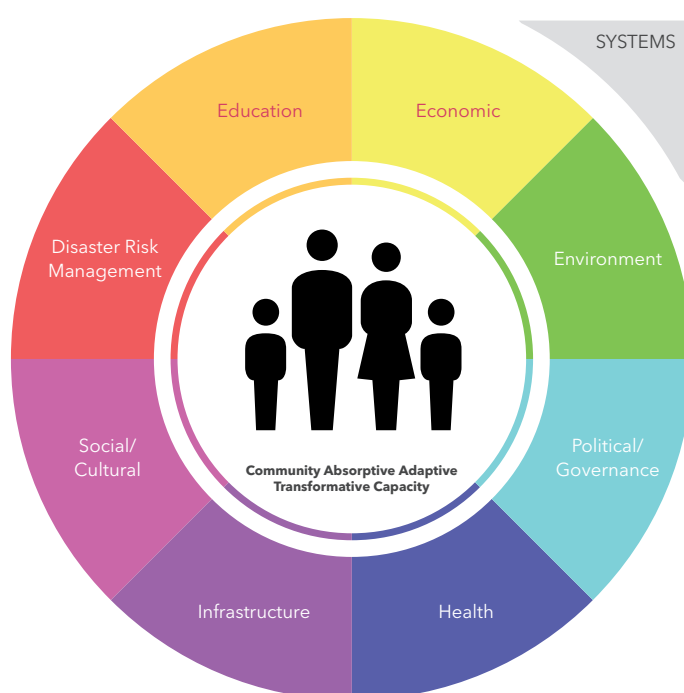

Figure 3: GOAL systems wheel

Barrio Resiliente or BR is an innovative programme designed to build resilience in high risk informal urban settlements using a systems approach. It targets the most critical social systems, identified using the ARC-D toolkit, and considers all the actors of these systems, aiming to prove their functionality for the benefit of the most vulnerable groups. In Tegucigalpa the BR programme was able to prioritize 5 critical systems, including the market system for social housing (self-construction social housing in particular), the early warning system against landslide, market system for basic food supply through neighbourhood stores, system for provision and maintenance of surface water drainage and systems which facilitate youth participation in neighbourhood development and improvement such as the development of public spaces and street art[6].

GOAL is currently completing a complementary guidance for analysing the resilience of systems (the Resilience for Systems or R4S toolkit), in partnership with the Springfield Centre for Business in Development. While the ARC-D is a key tool to support the understanding of resilience at community level and identification of critical social systems, the R4S toolkit provides detailed guidance on analysing these systems to plan interventions to achieve sustainable systemic change and together both tools provide a comprehensive guide to developing interventions to build resilience.

R4S applies systems thinking and network theory to provide guidance on assessing the resilience of social systems considering determinant factors including redundancy, connectivity, diversity, participation, governance and learning. The process is composed of various steps categorised into four broad components:

1. Identification and selection of the critical social systems for the target population
2. Mapping the selected social systems using dynamic systems maps, actor network maps and geographical maps capturing key data relevant to the resilience of these systems.
3. Identification and selection of the risk scenarios that could affect the selected social systems
4. Simulation and analysis of the impact of the different shocks and stresses of the risk scenarios on the selected social systems

Please refer to GOAL's R4S Toolkit for more guidance on applying a systems approach to build resilience.
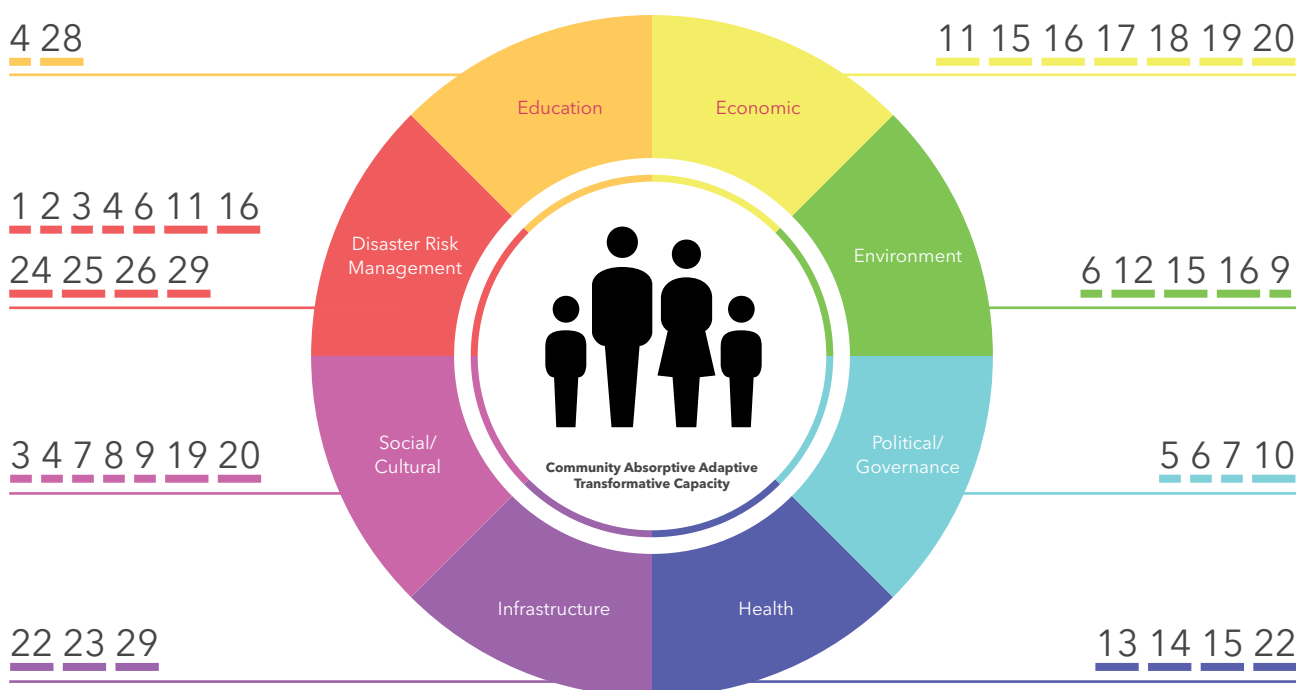

Figure 4: The eight system sectors examined in an ARC-D assessment (with corresponding key components).

4 The ARC-D Toolkit

4.1. Summary of the ARC-D

The ARC-D is comprised of three sections: a two-part mobile-based questionnaire; a digital data collection platform, (CommCare), and a user guidance manual (this document).
Let's take a closer look at each of these.

1. The questionnaire

Part A: General Context of the Community

The first part of the questionnaire serves as a preliminary analysis of the general context of the community that helps us appropriately adapt the discussion questions in Part B. Part A is carried out with key informant interviews (KII), usually community leaders. Items explored in this section include: basic population numbers and subgroups; the existence and activity of local governance groups; the existence and use of plans at community level; the description of the natural and physical environment; the identification of most vulnerable groups, the main shocks and stresses affecting the community, and an analysis of how these interrelate and interact to form "risk scenarios." After selecting the "priority" risk scenario with community informants, the field user then proceeds to Part B, which contains 30 key questions designed to assess the community's resilience to the selected risk scenario.

Part B: Community Disaster Resilience Characteristics Assessment

This second part of the survey assesses the community's level of disaster resilience to the chosen risk scenario in terms of the 30 key components. This is done through a guided discussion with a focus group that is representative of all sectors and key players of the community (as appropriate, see section 5 for more guidance). To facilitate the discussion, the facilitator uses the 30 key questions, each exploring a particular resilience component, grouped under four thematic areas aligned with the 2015-30 Sendai framework for DRR: 1) Understanding disaster risk; 2) Strengthening governance to manage disaster risk; 3) Reducing disaster vulnerability for resilience; and 4) Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery.

Each of these 30 components contains five potential "disaster resilience characteristics" (i.e. five potential answers to the component's key question), that are placed along an ascending ranking scale ranging from 1 to 5, corresponding to the five community disaster resilience levels. In this scale, a level 1 indicates weak resilience and is worth 1 point, while a level 5 indicates strong resilience and is worth 5 points.

Each component is thoroughly explored and discussed with the community, through the use of stimulating discussion questions ("Suggested Guiding Questions") and suggested means of verification, to be used if necessary. At the end of the discussion for each component, the facilitator makes an informed judgment call on the community's resilience level and characteristic (from 1 to 5). The facilitator paraphrases the description of the chosen characteristic as it appears in the survey (in non-technical

language, of course) or, alternatively (if not an exact fit), summarises the discussion they just completed regarding that component. The focus group then validates the facilitator's take on their situation by confirming or contradicting it. In case of the latter, the facilitator must probe further until consensus with the community is reached.

The selected levels are assigned the corresponding value (1-5) in points, making up the community's total "disaster resilience score". This shows up in the form of a percentage on the device screen at the end of the assessment and is then sent to the CommCare database along with all the collected data. Once in the CommCare database, that data is exported to an Excel Dashboard for further analysis.

2. The Digital Data Gathering Platform

The ARC-D uses an open-source data collection platform called CommCare, which operates on Android devices and stores data on cloud-hosted servers. The CommCare application works offline and, once connected to the Internet, via wi-fi or via SIM card mobile data, sends the assessment data to the project's CommCare database. These sent data can then be exported onto an offline Excel dashboard (see instructions in Annex 3), developed by GOAL, that enables the monitoring of communities' disaster resilience scores in almost real-time (by connecting the dashboard to the project's live database on CommCare). This Excel dashboard generates pro-forma reports, featuring quantitative visuals of resilience score comparisons over the course of various assessments for one or various communities, risk scenarios and components. These simple and informative visuals can be readily understood and shared with a variety of stakeholders involved in community disaster resilience building.

3. User Guidance manual (this document)

The user guidance manual explains the technical basis of the ARC-D toolkit, relevant DRR and resilience terminology, and a comprehensive explanation of its 30 components. It also describes the methodology for field application and includes crucial tips and best practice, based on learning acquired over years of field use and consultation with pertinent stakeholders.

4.2. Scope and Added Value of the ARC-D

The ARC-D focuses on the community level. This is why there is strong emphasis on assessing factors such as collective plans, processes, institutions, critical mass of people applying certain practices, etc. Understanding resilience at the community level is extremely important, since communities are the first to face and respond to disasters. In addition, the community is the place where collective local knowledge, capacities and traditions are used, negotiated and transformed; and, in most countries, communities constitute the smallest local administrative unit. This means that communities are the "starting point" in the process of strengthening vertical integrated systems but also the "final point" in terms of measuring positive impacts of strengthened systems on the people they are meant to benefit.

Although a community can have the overall ability to absorb or bounce back from a disturbance, there may be families or pockets of households within that same community that are left in dire circumstances and extreme vulnerability in the face of this disturbance. For this reason, we stress that, while this toolkit is designed to give a comprehensive horizontal snapshot of all the different components that influence

resilience at the community (collective) level, including certain most vulnerable population groups, this is not the only level from which we should be seeking to understand the multiple dimensions of resilience.

In addition, many components that affect community resilience are often outside a community's influence (e.g. land tenure) in the absence of the necessary institutional and legal arrangements at higher administrative levels. While resilience characteristic descriptions in the ARC-D explicitly capture the existence of systemic barriers to the improvement of certain resilience capacities, these can and should be assessed more thoroughly through tools geared to those levels. At the time of this writing, GOAL developing a toolkit that analyses and measures the level of resilience of critical systems to different disturbances. Applying the ARC-D, therefore, as a tool among tools, should be the first step in a continuing discussion and planning process to integrally strengthen a community's resilience.

Lastly, the ARC-D focuses on disasters, and is geared to measure resilience to shocks (not stresses), using solid and widely accepted disaster resilience frameworks (Twigg, Hyogo, Sendai) as its basis. This does not mean that stresses are absent from the assessment or analysis. On the contrary, Part A captures dominant stresses and their effect on the predominant shocks, so that facilitators factor this into their focus group discussion and their analysis post-survey. Experience has also shown that dominant stresses affecting communities like violence, soil erosion and contamination, often emerge naturally during the FGD as all the different disaster resilience components are discussed. However, the ARC-D frames and addresses these stresses insofar as these exacerbate the impact of the chosen risk scenario and undermine community resilience. In other words, if soil erosion is a major constraint in a drought-stricken community, the ARC-D will pick up on this and frame it in terms of its contribution to the community's vulnerability to the risk scenario of drought.

Added value of the ARC-D

- The holistic snapshot provided by the ARC-D serves as an input for strategy and programming development and in linking relief to development programming and operationalising a "build back better" approach.
- The ARC-D acts as a "vital signs test" for systems (see Figure 4) that can inform planning for programming and/or more in-depth assessments.
- Given its high relevance to the international disaster resilience frameworks, such as Sendai and Making Cities Resilient, the ARC-D can serve as a valuable community-level monitoring tool on government efforts to fulfil their obligations under these frameworks.
- Relatedly, ARC-D findings can inform policy and budgetary decision-making for governments (and advocacy efforts for these for civil society organisations).
- It is a useful project monitoring and evaluation tool, providing key performance benchmarks on disaster resilience that can be tracked throughout the life of a project or at a portfolio level.
- Its set structure and components enable comparisons across different contexts, which can reveal global/regional trends, similarities and differences that enhance our learning on building disaster resilience at the community level.
    - For example, in Honduras, communities living in remote rural regions in La Moskitia scored higher in the resilience components relating to livelihoods and infrastructural resistance, compared to urban neighbourhoods in Tegucigalpa, which scored higher on components like community organisation and partnerships.
- Its set structure does not prevent it from being highly adaptable:
    - The disaster resilience components in the ARC-D contain general terms like "hazard-resistant

livelihoods practices", "convertible assets" and "financial services" that are adaptable to a variety of contexts.

- Disaster resilience components that are simply not relevant to the chosen risk scenario or context being assessed can be given a weighting of zero, effectively ensuring that the resilience measurement is accurate and context-specific.
- The 5 disaster resilience characteristics described in each component are indicative of the 5 resilience levels, but if not fully coherent with the situation described by communities, the user can refer to the five generic level descriptions (see Table 3) to determine the most appropriate level for each component.

- The ARC-D can inform a "do no harm" approach to community resilience capacities.
  For example, rural drought-affected communities assessed in the Dry Corridor in Honduras consistently scored higher on components that are often independent of external support such as leadership, protection of vulnerable groups and volunteerism, illustrating resilience capacities inherent within these communities. This highlighted the need and the challenge for external humanitarian actors to ensure that these capacities are not undermined or bypassed during the drought response.
- The ARC-D is extremely participatory and has been found to empower and increase the capacity of both local staff and the communities themselves in understanding disaster resilience and taking actions to improve it.
- The ARC-D is suitable for use by local, national and international government bodies, as well as local and international NGOs.
- It uses a centralised open-source (free) platform for digital data collection and produces data visuals that can be understood by a variety of stakeholders, including the target communities.

4.3. ARC-D FAQ

1. How long does an ARC-D assessment take?

The actual community discussions can take anywhere between 3 and 5 hours, depending on the context, the focus group's engagement and the facilitator's preparation level. However, the whole process, including preparation, arranging logistics, community mobilisation, analysing and preparing findings, feeding these back to communities, and report write-up, can take a total of two to four weeks (depending on the number of communities assessed).

2. Who should apply the ARC-D?

- Any organisation in the process of shaping its thinking around disaster resilience and needs a disaster-focused overview of a community's resilience, as well as a comprehensive understanding of the community context.
- Organisations with a long-term commitment and portfolio in community disaster resilience, who need a "view of the forest" to inform the strategic direction of their programming.
- National and local governments who want to understand the disaster resilience of the constituent communities to identify areas of weakness and better coordinate their own efforts and those of organisations working in their areas.
- Organisations active in advocacy and government departments needing bottom-up evidence to shape policy decisions.

3. When and how often should we be applying the ARC-D?

The ARC-D can be used in multiple phases of a project life cycle, including the assessment stage, implementation and evaluation, as part of baselines, interim, endlines, and evaluations. The frequency depends on the context, your budget and your use for the ARC-D findings (e.g. an NGO tracking progress during a two-year-grant will use it differently than a government seeking overall trends over a ten-year period), but as a general indication, once a year is considered good practice. The ARC-D can be applied in "normal" (non-disaster) times as part of DRR or other programming aiming to ensure development gains are protected from disasters; it can also be applied in the aftermath of a disaster with a view to linking relief and development programming and operationalising a "building back better" approach.

4. Is the ARC-D applicable to both rural and urban areas?

Yes, the ARC-D has been successfully applied in both rural, peri-urban, and urban contexts in many countries, including Honduras, Haiti, Kenya and Uganda. Necessary considerations for urban context application include:

- Defining "the community" that will be surveyed, especially in areas where these delineations may be unclear and dynamic, e.g. in informal settlements. Similarly, in larger urban populations, additional analysis may be required to identify a relatively homogenous target group that would allow for a community disaster resilience measurement.
- Adapted community mobilisation and engagement strategies, since the urban social fabric can be more fractured and with limited social cohesion (and in some cases, violence), compared to rural areas;
- Information in urban communities often should be complemented by higher-level institutions (e.g. the municipal authority) that have more control and knowledge over certain services (e.g. sanitation) and land use issues.
- Urban residents work a variety of jobs outside the settlement that could limit the time periods when all relevant informants are simultaneously available to participate in the assessment.

5. How is this version of the ARC-D different than the 2015 one?

Based on feedback from extensive piloting and consultations made in 2015 in 8 countries where GOAL operates, the following improvements have been made to the 2015 version:

- Expanded Part A to capture more information and allow for more analysis (governance, planning, environment, shocks, stresses, loss estimates, coping mechanisms, etc.).
- Components were adapted in their order and content to ensure consistency with the 2015-30 Sendai Framework for DRR, e.g. thematic areas corresponding to the four Sendai Priorities for Action, and increased emphasis on recovery and building back better.
- Two new components were added: social cohesion/violence prevention and housing (all changes in terms of the key components can be tracked in the table in Annex 4).
- Adjustment of the resilience score and percentage scale, for better accuracy and coherence with resilience levels.
- Expanded and improved pro-forma reports in the ARC-D Excel dashboard.
- Expanded and improved guidance manual, including guidance on assessment planning and FGD management.

6. Can the ARC-D assess resilience to multi-hazards?

Yes. Part A allows for the selection of a single-hazard scenario (as per previous version) or a multi-hazard scenario to assess resilience to in Part B. It also now allows for the simultaneous assessment of two single-hazard scenarios that are not causally linked but are related or similar in their characteristics. Assessing two completely different and unrelated scenarios (e.g. drought and earthquake) is not recommended, as we have found that this fragments the conversation and confuses focus groups participants.

7. Can this toolkit be used to assess disaster resilience across different time scales?

Communities often give answers based on their current or past experience with disasters, which is why the ARC-D can be used to assess current and past resilience capacities. In theory, future resilience capacities could of course be extrapolated to an extent e.g. when projecting a higher frequency and intensity of an already assessed risk scenario. However, this would apply only for hazards that the community has already experienced, and the questions would have to be consistently phrased in the future or the subjunctive, which could be confusing for participants. We would encourage such an approach to be duly piloted before fully implemented.

8. How does this toolkit relate to other participatory tools like VCAs?

These are great tools to gain a deeper understanding of vulnerabilities and root causes and work in absolute synergy with the ARC-D. The ARC-D does not propose to replace existing methods that assess vulnerability, capacities and risks such as KAPB surveys, VCA, HEA, market system assessments such as EMMA or PCMMA and others. Instead, it complements them to give a strategic snapshot and comprehensive overview of the community's disaster resilience. The ARC-D also serves as a sister instrument to GOAL's R4S (Resilience for Systems) toolkit, designed to analyse the resilience of social systems, which is due to be published in early 2017.

9. How does the ARC-D ensure vulnerable groups are heard?

Like all participatory approaches, ensuring the discussion is 100 percent representative and participatory is not easy. The pitfalls inherent in mixed FGD groups apply to this toolkit also. There are cases where stronger groups represent their private interests as public concerns and where marginal or stigmatised groups do not speak up, or are not even mobilised. The involvement and empowerment of marginal groups can be enhanced through segregated FGDs, the facilitator's capacity to create a safe space for conversation, and of course, a permanent effort to consult widely and create non-threatening opportunities for less powerful groups to express their perspectives and challenge prevailing views. There are no shortcuts to getting this process right. It takes time, sensitivity, and a solid understanding of local social relations (Mosse, 1994).

10. Do I have to be a DRR or resilience expert to successfully apply the ARC-D in the field?

Field users do not have to be disaster resilience experts to apply the ARC-D. However, they do need to possess a solid understanding of the concepts and terminology related to DRR and resilience (as well as the ability to interpret community answers in those terms), a deep familiarisation with the ARC-D questionnaire as their discussion guide, and the facilitation and mediation skills necessary to conduct a participatory focus group.

We strongly recommend that users complete the full ARC-D training and certification process by GOAL before proceeding to apply it in the field.

11. Can the ARC-D measure resilience to human-caused hazards, like conflict and market crashes?

The ARC-D is based on conceptual frameworks created especially for natural, biological and technological hazards, and is therefore more readily applicable for assessing resilience to these. In South Sudan, the ARC-D was found to be quite adaptable to the hazard of intercommunal conflict stemming from natural resource disputes, but we do not assume the same applicability for conflict motivated by political or ethnic divisions. Additionally, shocks like state-involved conflict (war) and nation-wide market crash are complicated and often outside the control of communities. Aside from communities' ability to cope or survive these shocks, the ARC-D would not be able to fully assess resilience to these (since factors for their prevention are often outside community influence). We hope to provide more guidance on this as more research and ARC-D piloting experiences become available for shocks other than "conventional" hazards.

This FAQ section is a living document and will be updated as additional questions are received. For the most up-to-date version of this FAQ section, please check our website page at goalglobal.org/disaster-resilience

For any other questions, please email us at resilience@goal.ie

4.4. Rationale and clarifications on the 30 components

The following section contains an explanation of the importance of each component for community disaster resilience as well as a detailed description of the component's purpose and scope in the ARC-D survey. Users are highly encouraged to engage with this table during the preparatory phase of familiarising themselves with the questionnaire before field application.

Thematic Area 1: Understanding Disaster Risk		
Resilience Component	**Key Question**	**Rationale and Clarification**
1 Participatory community risk assessment	Has the community carried out a participatory risk assessment (hazard analysis, VCA, impact analysis), shared the findings and have human resources capable of conducting/updating this assessment?	This first question aims to capture if risk assessments and mapping have been completed in the community, whether the findings have been used and shared widely and whether the community itself can lead and update these assessments. Comprehensive and updated risk assessments are the sound foundation on which decisions to reduce risk should be based. The elements explored in a risk assessment are the same ones we find in the widely-known disaster risk formula (i.e. hazard, vulnerability, capacity). As such, a risk assessment is comprised of an analysis of the hazard, including its characteristics, impact, and geographical reach; and a vulnerability and capacity analysis of the people, assets and structures it may affect, commonly known as a VCA. For the complete technical definitions of these terms, please refer to the Glossary (Annex 1). When carried out and shared in a participatory way, risk assessments are essential for collective risk awareness. It should be a dynamic work that remains responsive to new inputs, given the effect of urbanisation, environmental degradation, climate change, etc., in altering the face of disaster risk.
1 Scientific risk assessment	Does the community combine local knowledge and perceptions of risk with scientific knowledge, data and assessment methods?	This question aims to uncover the extent to which the community can access relevant and current scientific data and analyses on disaster risk. Depending on the hazard in question, these studies can include downscaled climate modelling, geological studies, hydrological studies, remote sensing data, meteorological alerts etc. We also capture the extent to which this information is used and combined with local perceptions of risk. Community risk awareness, especially in rural areas, often relies on local perceptions and monitoring using local (informal) methods. The value of these methods should not be underestimated in understanding long-term patterns in frequency and magnitude of hazards, but should not be romanticised either. The changing nature of hazards and vulnerability as well as the necessity of science to fully understand them, makes it important that local risk awareness is appropriately combined with accurate scientific information.

Resilience Component	Key Question	Rationale and Clarification
3 Dissemination of DRR information	Have community members been exposed to/have participated in DRR-specific awareness events (campaigns, discussions and trainings) and have improved awareness and practices as a result?	This question aims to gauge the community's disaster risk awareness as a result of their participation or exposure to DRR- and recovery-related information in the form of discussions, public campaigns, and relevant trainings, as well as the effect of these on practices to reduce disaster risk. This question also tries to capture the community's cultural outlook on disasters, i.e. the extent to which they are viewed as inevitable and uncontrollable occurrences or as predictable and manageable phenomena.
4 Education of children on DRR	Are DRR/recovery knowledge and capacities being passed on to children formally through local schools and informally via oral tradition from one generation to the next?	This question seeks to reveal the nature and appropriateness of the channels used to educate children on disasters, with special emphasis on the formal education system and its capacity (teachers, curriculum) to effectively transmit critical information related to DRR and recovery to children.

Thematic Area 2: Strengthening Governance to Manage Disaster Risk

Resilience Component	Key Question	Rationale and Clarification
5 DRR in development planning	Does the community see DRR as an integral part of plans/actions to achieve wider community goals (e.g., poverty alleviation, quality of life)?	Given the importance of disaster resilience in ensuring that long-term development goals are not compromised or reversed, measures that reduce disaster risk should be seen as an integral part of development planning. This question captures whether the community realises the role that DRR plays in the achievement of development goals, if this awareness is reflected in the local development planning (e.g. through DRR actions), and if these actions are implemented and are effective in improving life conditions.
6 DRR in land use planning	Does the community decision-making regarding land use and management take disaster risk into account?	Practices and planning related to land use are extremely important factors in mitigating or exacerbating disaster risk. These can also be controversial when there are competing views and values on how the land should be used. A community's protection from disaster (and other dangers like exploitation), is highly linked to the existence of a clear and agreed land use plan that balances the economic, environmental and heritage questions surrounding the land's value and management and feeds into higher-level planning. This question assesses the extent to which the community considers disaster risk when making decisions about land management, the existence of an agreed local land use plan and its alignment with higher-level land use planning.

Resilience Component	Key Question	Rationale and Clarification
7 Community decision-making	Is the community leadership committed, effective and accountable?	The specific community leadership structure(s) selected for assessment in this question will depend on the context and chosen risk scenario, but facilitators should be guided by the relevance and impact of the structure in enhancing disaster resilience. In this question, we are capturing whether these leadership structures are committed, effective and accountable. Accountability for the purposes of this toolkit is defined as a) sharing of information; b) participation, and c) responding to complaints. Please note that this component can be a sensitive topic in communities where one or very few leaders unilaterally make decisions for the community. Approaching this component as an honest conversation on the challenges of good leadership will help ensure that any leaders present do not feel judged or offended in the discussion.
8 Inclusion of vulnerable groups	Are the vulnerable groups in the community included/represented in community decision making and management of DRR and recovery?	Different people experience disaster risk and its consequences differently. All people at risk have the right to participate in decisions that affect their lives. The first-hand knowledge of struggles faced by vulnerable groups that may be invisible to others makes the inclusion of these groups especially valuable for effective risk management. To accurately assess this component, please remember to probe on whether their participation is meaningful and active (or whether it consists of silent attendance of meetings). In many contexts, vulnerability is related to stigma, oppression and deliberate marginalisation by the community, which may make it extremely hard to assess this component in a "plenary" group. If deemed necessary, please feel free to hold separate consultations or, indeed, a separate FGD with the vulnerable groups in question (refer to section 5 for more guidance).
9 Participation of women	Do women participate in community decision making and management of DRR and recovery?	Following a similar structure to question 8, this question captures whether women meaningfully participate in DRR-related decision making and actions and occupy leadership roles in the relevant bodies. Community-based DRR often uses a whole community approach, which makes a gender balance in leadership especially important to ensure that the unique concerns, perspectives and interests of women are taken into account.

Resilience Component	Key Question	Rationale and Clarification
10 Rights awareness and advocacy	Is the community aware of its rights, relevant legal mechanisms and responsible actors for their fulfilment, and does it advocate for these?	Reducing disaster risk is not just a community concern, it is also the responsibility of states as duty-bearers, enshrined in their commitment and agreement to international frameworks, such as the 2015-30 Sendai Framework, the SDGs, and others. Governance systems and the political environment should enable communities to demand accountability for their decisions, actions or inaction. In this question we capture the community's awareness of their rights (and the relevant mechanisms and actors for their fulfilment). We also assess the leadership's efforts in leading rights-based advocacy to higher levels of government and the effectiveness of these. In order to successfully assess this component, facilitators should identify in advance of the FGD the specific rights (as well as their corresponding legal mechanisms[7] and responsible government actors) that have the most impact on the community's resilience to the selected risk scenario. These pre-identified rights can include: the right to water; food; health; decent work; decent housing and shelter; education; land; social security; safety and protection. Facilitators can use a grid to note the legal mechanisms and actors corresponding to each of these rights. Participants correctly mentioning up to half of these rights and their respective mechanisms/actors can be considered "some" awareness, while mentioning most or all of the rights can be marked as "good awareness." Keep in mind, the rights communities neglect to mention as important to their well-being can be as informative as what they do mention.
11 Partnerships for DRR and recovery	Are there clear, agreed and stable partnerships between the community and other actors (local authorities, NGOs, businesses, etc.) that provide resources for DRR and recovery?	A connected community is a resilient community (IFRC, 2011). Given that resilience often depends on the community's ability to access or leverage external support, this question captures the number and nature of partnerships the community has with other actors (e.g. local government, NGOs, businesses, etc), as well as the effectiveness of these in reducing disaster risk and/or facilitating disaster recovery. Please note, for the purposes of this toolkit, INGOs are generally considered unstable partnerships, due to their impermanent presence in communities and the systems that influence them. The primary role of INGOs outside of humanitarian crises is to act as facilitators of systemic change. Stable partnerships should be built around the permanent actors of socio-economic systems.

Thematic Area 3: Reducing Vulnerability for Resilience

Resilience Component	Key Question	Rationale and Clarification
12 Sustainable Environmental Management	Does the community adopt sustainable environmental management practices that reduce disaster risk and new risks related to the effects of climate change?	This question focuses on how people manage and protect their ecosystems to reduce disaster risk and to mitigate the negative impacts of climate change. Apart from playing crucial roles in people's livelihoods, health and recreation, ecosystems offer services that can act as natural barriers to mitigate the effects of a hazard and protect communities. Pro-actively managing natural resources can ensure protection and sustainability of the environment and reduce underlying disaster risk factors. In this question, we capture community malpractices to the environment as well as negative effects of climate change that contribute to disaster risk. We also capture the measures (and their effectiveness) that the community employs to mitigate these. The ecosystems identified in Part A should help the facilitator focus the discussion around this component.
13 Water security and management	Does the community have access to sufficient quantity and quality of water for domestic needs during disasters?	This question captures the practices and measures the community employs to protect water sources before a hazard strikes and to rehabilitate them after the event, as well as the efficacy of these in ensuring water security for consumption and domestic needs. We explicitly capture the existence, activity and capacity of a water management committee and the existence of long-term planning for water security and management.
14 Health access and awareness	Do community members maintain good health in normal times through appropriate awareness and practices (adequate nutrition, hygiene and health care access)?	This question assesses two broad categories relating to health in non-disaster times: the community's health awareness and its current health status. The first few guiding questions aim to gauge the general population's health awareness and related practices. Facilitators should be vigilant to ascertain whether the health awareness displayed in the FGD represents that of the broader community, and not just that of key informants; we recommend cross-referencing the result of this question with other studies like MICS or KAPB. The remaining guiding questions gauge the community's health status. Health workers should be encouraged beforehand to consult or bring their records so they can readily provide information on the health status and main health issues in the community. It is recommended that users focus these questions on the health concerns (morbidity and epidemics) most relevant to the chosen risk scenario.
15 Secure and sufficient food supply	Does the community have a secure and sufficient food supply during disasters?	This question captures whether communities are able to ensure a secure and sufficient food supply of at least basic nutritional quality (.e. containing the community's staple foods) in emergencies, whether through safe food storage and stockpiling or purchasing power (or both). This food supply can be at household level, community level or both.

Resilience Component	Key Question	Rationale and Clarification
16 Hazard-resistant livelihoods practices	Does the community employ hazard-resistant livelihoods practices for food and income security?	In this question we start by identifying the main livelihoods activities in the community, their vulnerability to hazards and the practices that community members employ to protect them from the negative impact of these hazards. Note, these practices will vary depending on the context and livelihoods in question. We assess how widespread such practices are and their effectiveness in ensuring food and income security in the face of hazards. Please note, experience has shown that community groups are fast to list the livelihoods activities relating mostly to men in this component, so it is important to explicitly ask about women's livelihoods also (or indeed, if necessary, hold separate FGDs, see section 5).
17 Access to market	Are the local market links for products, labour and services protected against shocks?	This question captures the impact of shocks on the market systems that communities depend on for their livelihoods, as well as their ability to continue functioning in the face of shocks. We explore the most dominant products, commodities or services sold to the market by community members and assess the vulnerability of market links to shocks. "Market links" include physical transport routes as well as commercial links and support services (e.g. producers, intermediaries, suppliers, processors, purchase arrangements, export regulations, etc., as applicable in the specific market system). Please note, this question looks at markets as these relate to the income generation of the assessed communities. The purchase of food, medical supplies and other commodities in the market are addressed in other components.
18 Access to financial services	Are there affordable and flexible financial services (savings and credit schemes, micro-finance), whether formal or informal?	This question aims to assess the nature and availability of financial services to the community that can facilitate disaster preparedness, response and recovery actions. Please note, financial services can and often have led to recipients' indebtedness, which clearly does not improve resilience. It is necessary to take the time in this question to explore whether these services are flexible, affordable and indeed viable for community members.
19 Income and Asset protection	Are household asset bases (income, savings and convertible property) sufficiently large and diverse and protected to ensure reduced vulnerability to disaster?	People's assets bases include their income streams (whether from their work, remittances, or welfare), their savings and their convertible property, the latter meaning things with monetary value they can sell or trade. Asset bases are a crucial part of livelihoods; protecting their value from the destabilising or destructive effect of hazards and diversifying their risk profiles are crucial in ensuring that livelihoods are sustainable and can facilitate recovery in the face of a shock. In this question we capture the nature of assets, whether communal or at household level; we explore the measures taken for their protection and diversification and, lastly, the efficacy of these in allowing people to cope or adapt to disaster hazards.

Resilience Component	Key Question	Rationale and Clarification
20 Social protection	Does the community have access to informal and formal social protection schemes that support disaster risk reduction and recovery?	Please consult the definition of social protection in the Glossary section. Given that social protection is provided as a safety net to vulnerable groups, "community members" in this component does not refer to any and all community members but rather those that need social protection. In this question we assess the formal and informal social protection mechanisms and their effectiveness in supporting risk reduction and recovery. • Examples of formal social protection include safety net schemes offered by the government or other institutions to protect vulnerable people, e.g. conditional or unconditional cash transfer schemes; in-kind transfers (food, tools, and technology); school feeding programmes; social security; pensions of handicap or elderly people and insurance schemes for loss of production or accidents. Experience has shown that identifying formal social protection schemes that apply to the target community before initiating the FGD, will ensure a more focused and efficient discussion, as the facilitator can concentrate on assessing their accessibility and effectiveness. • Examples of informal social protection include the ways in which people help each other at a time of need, e.g. tilling the land for a sick farmer, helping to build or rebuild a house, childcare, paying school fees or funeral fees, giving food or money in times of need.
21 Peace and conflict prevention	Is there a sense of peace/security and effective conflict prevention/mitigation mechanisms, both within the community and with other communities?	Social cohesion has been found to be a strong predictor of community resilience (Patel, 2014). Cohesive and peaceful communities are more likely to invest in and maintain their collective institutional capacity to deal with disaster scenarios, and more likely to work collaboratively in the recovery effort. The existence of intra- and inter-community violence, insecurity and conflict, and the absence of mechanisms to diffuse, mitigate or prevent conflict, increase community vulnerability, undermining any resilience-building effort. Please note, in communities experiencing a high level of intra-communal violence, this question has been found to cause discomfort among participants, if not properly managed. Please analyse carefully and adapt methodology for scoring this component as necessary (e.g. rephrase wording, address in Part A, conduct individual interviews instead of FGD, use secondary information etc).
22 Critical infrastructure	Are the community's critical infrastructure and basic services resilient to disaster (being located in low-risk areas, using hazard-resistant construction methods and structural mitigation measures)?	Geological and hydro-meteorological hazards can damage or destroy infrastructure which can cause loss of life and property and hamper physical access and the availability of basic services (water, sanitation, electricity, communications, etc.). The disaster resilience of critical community infrastructure is greatly improved when it is placed in low-risk areas and/or is sufficiently protected through disaster-resistant construction or mitigation, which may be stipulated in building codes. This question assesses these factors.

Resilience Component	Key Question	Rationale and Clarification
23 Housing	Is the community's housing resilient to disaster (including being located in low-risk areas, using hazard-resistant construction methods and structural mitigation measures)?	Following the structure of question 22, this question gauges the resilience of housing infrastructure to the impacts of disasters, by assessing whether they community members can adequately protect their housing structures (e.g. by building these in low-risk areas, or having hazard-resistant construction, structural mitigation, housing insurance and/or access to formally trained construction and repair services, always in accordance with building codes.

Thematic Area 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery

Resilience Component	Key Question	Rationale and Clarification
24 Contingency and recovery planning	Does the community use a communally developed contingency and recovery plan(s) that is widely understood, includes measures to protect vulnerable groups?	The existence of a widely known and agreed-upon contingency plan setting out roles and responsibilities for response in different risk scenarios is one of the most important factors for effective disaster preparedness. Plans must be regularly test-driven through simulation drills to validate their appropriateness and amend their content if necessary. Additionally, planning for disaster recovery (not just response) is important for linking relief to development; waiting until the response is deemed complete to start thinking about recovery may already be too late to reduce pre-disaster vulnerabilities. For this reason, this question assesses the existence of such plans in addition to contingency plans, or, in their likely absence (pre-disaster recovery planning is a new concept), the inclusion of recovery actions in the contingency plan itself.
25 Early Warning System	Is there an operational Early Warning System in the community?	Early warning is a major element of disaster risk reduction and is often synonymous with preparedness. Early Warning Systems (EWS) comprise the ensemble of capacities, actors and services to generate and disseminate timely and meaningful warning, enabling communities to prepare and act appropriately to reduce harm or loss (UNISDR, 2009). In this question, we explore all four core components of an EWS: a) Risk awareness; b) Hazard monitoring and forecasting methods; c) Warning dissemination and communication; d) Local response capacity to warnings. Response capacity is an extremely important element and the reason why EWS are also known as EWRS (Early Warning and Response Systems). An EWS will never be fully effective unless it is supported by a contingency plan that clearly delineates roles and activities for each warning issued, and the institutional capacity to implement these (Kellett, 2013). For this reason, this question should be viewed synergistically with questions 24 on contingency planning and 26 on emergency committees.

Resilience Component	Key Question	Rationale and Clarification
26 Capacity in preparedness, response and early recovery	Does the community have a trained and operating organisation in disaster preparedness, response and early recovery?	The existence of a proactive, reactive and capable community-level organisation specialised in disaster preparedness and response is a crucial indicator of the community's ability to manage disasters. This question captures the existence of such an organisation, its skills and credentials (e.g. in search and rescue, damage assessment and needs analysis, first aid, management of shelter and humanitarian aid), and its activities pre-disaster, during and after.
27 Health services in emergencies	Does the community have access to health care facilities and health workers equipped and trained to respond to physical and mental health consequences of disasters, and supported by access to emergency health services, medicines, etc.?	Primary health care is an essential service for communities. Disasters can directly cause injury and ill-health or, indirectly, through the disruption of health systems which compromises access to health care facilities and services. It is therefore essential for the survival and recovery of affected communities, that local health centres can continue providing their services during disasters, and scale up to address the mental and physical health consequences of disasters, including having effective referral mechanisms. In this question we capture the level of resources (human and material), capacities and referral services in place for emergencies and their alignment with local and national planning for emergency health service delivery (if this exists). For more guidance, see WHO Safe Hospitals guide.
28 Education services in emergencies	Do education services have the capacity to continue operating in emergencies?	This question seeks to understand the capacity of education services to continue operating in times of disaster. We capture the effect of disasters on educational services and the existence of school contingency arrangements containing measures for preparedness, the safety of instructors and pupils and the continuation of educational services. We also capture the existence of a committee to oversee the implementation of these contingency arrangements. The INEE Minimum Standards and the UNICEF safe schools assessment tool can serve as tools for further investigation.
29 Emergency infrastructure	Are emergency shelters (purpose-built or modified) accessible to the community and have adequate facilities to meet basic needs for all of the affected population?	The accessibility and adequacy of emergency shelters is of critical importance for persons whose homes have been affected by disasters. In this question, we capture the emergency shelter mechanisms currently employed by the community, the availability and accessibility of a communal emergency shelter and the adequacy of their conditions (please see Sphere Handbook for more information), not only to cover basic survival needs, but also to ensure protection of vulnerable groups during disasters.
30 Leadership and volunteerism in response and recovery	Does the community play a leading role in coordinating preparedness, response and recovery, reaching all affected (inc. the most vulnerable) people, through an organised and trained volunteers?	This question assesses the proactivity of the community in response and recovery actions on two fronts: its leadership and its volunteers. We assess the involvement and effectiveness of leadership in emergencies (versus passivity and/or displacement by external response agencies), as well as the level and quality of local volunteerism in preparedness, response and recovery. Since a community's volunteers usually have direct proximity and interaction with very vulnerable groups, it is important to capture their adherence to the relevant protection protocol (found in a plan, training content, or other).

5 Applying the ARC-D Toolkit

PREPARATION	ARC-D SURVEY IMPLEMENTATION	ANALYSIS AND REPORT WRITE UP

5.1. Preparation

a. ARC-D assessment team profile

The field assessment team should be comprised of at least two facilitators, preferably one male and one female. One will be leading the discussion and inputting the selected resilience levels in the Android device, while the other will take detailed notes and support the lead facilitator wherever necessary. These facilitators, together, should have the following skill-set:

1. Training and experience in disaster risk reduction and the resilience lens to programming.
2. Preferably, training in the use of the ARC-D toolkit.
3. Knowledge of the context of the community to be visited (or enough time to gather information on this).
4. Knowledge of the local language used by the community.
5. Skills and experience in facilitating focus group discussions and participatory approaches.
6. And, preferably, qualitative data collection and analysis.

b. Familiarization with the questionnaire:

Very importantly, facilitators should familiarise themselves with the questions and discussion plan before field application. The guiding questions are the facilitator's vehicle for moving the discussion toward the desired direction. They have been designed to provide sufficient understanding to enable a confident selection of the appropriate resilience level. However, they do remain suggestions, and should therefore still be carefully reviewed and modified according to context or need. This modification can include terminology, rephrasing guiding questions or adding new ones, if necessary. Same context-specific adaptation applies for the suggested MoVs. We recommend the use of role play for practice and to determine the best ways to approach questions in a community setting.

c. Translation of the questionnaire:

A standardised translation of the adapted questionnaire to the local language is essential to ensure coherent and consistent use of language among different facilitators and to reduce disparities in the data

collected and their interpretation. It will be very important that the team dedicates time for an accurate and commonly agreed translation before undertaking an assessment. To this end, the method of back-translating can be helpful in finding words and phrases that are interpreted differently by different facilitators.

d. Secondary data collection:

Sufficient advance preparation and data collection before the field assessment will enable a more targeted and efficient consultation with the community. Such preparation in advance should include a review of studies and research documenting the socio-economic background of the specific community (main livelihoods, health status, etc.) as well as the cultural context (religion, present ethnic groups, etc.), which will help the users adopt the most appropriate approach for the consultation. This information may sometimes need to be sourced from a higher administrative level than the community targeted for assessment. It is recommended that secondary data collection at this level be completed at least two days before the commencement of the questionnaire to facilitate time for review.

e. Timely mobilisation of participants and related arrangements:

The composition of the focus group should be carefully selected and mobilised, at least three to four days prior to carrying out the actual FGD, to ensure the presence and availability of the appropriate key informants that can provide valuable perspectives on the wide range of topics we examine in the 30 questions (from governance to environmental protection).

The checklist below can guide this selection process:

FGD composition checklist
(to be used at participant mobilization stage)

☐ Do you have maximum 12 participants for your focus group discussion?

☐ Do your FGD participants include:
> Community leaders
> Members of pertinent local committees (e.g. DRR, environment, women's groups etc)
> Teacher
> Health worker
> Mother of children aged 0-5 years of age
> People belonging to vulnerable groups (as identified in Part A)
> Representatives of the main livelihoods groups (e.g. farmers, pastoralists, fishermen, business owners, labourers etc)

☐ Do you have:
> A good balance between men and women?
> A good balance between people in power positions and "normal" people?
> Diverse age groups?

N.B.: If you believe cultural norms and/or social tensions in the community may obscure or obstruct an open and honest focus group discussion, feel free to consider arrangements for separate FGDs, explained in the next section.

Organising separate FGDs

Where deemed appropriate, segregated FGDs can be organised with different groups, e.g. men and women separately, or community leaders and community members separately (or a combination of these). This approach would ensure that perspectives are not censored and findings are not obscured by gender dynamics, power disparities or other factors that would prevent free expression and debate. This would produce two or more resilience measurements per community, so field staff would have to convene and agree on the community-wide score (based on analysis, not mathematical averaging out of scores).

However, before resorting to holding segregated FGDs, it is worth considering whether the facilitator could act as a "first line of defence" in ensuring everyone's engagement and participation in the mixed FGD. This has been found to work in communities where certain groups may be more marginalised, but respond positively to the facilitator's invitation to participate more or their ability to create a safe environment for discussion. In contrast, in areas where cultural norms on public expression in a mixed setting are deeply entrenched, segregated FGDs were a better option.

Pre-field-departure checklist

☐ Do you have the correct Android device to use in the assessment?

☐ Is the device fully charged?

☐ Is the CommCare app already logged into the appropriate project on the CommCare database?

☐ Have you filled out Part A as much as possible beforehand?

☐ Are you bringing any other devices you have decided to use in this assessment (e.g. tape recorder)?

☐ Have you made the lunch/snack arrangements for your participants?

☐ Have you clearly designated who will be the lead facilitator, note taker, and, if applicable, any other assistant facilitators?

☐ Are your facilitators wearing appropriate GOAL (or your agency's) visibility clothing?

☐ Do you have a print-out of the translated/adapted (if applicable) questionnaire?

☐ Have you taken enough note paper for the note taker?

☐ Have you taken a participant attendance sheet?

☐ Have you taken GOAL (or your agency's) visibility items?

☐ Have you taken a camera for documentation?

5.2. ARC-D Survey Implementation

Survey part A: General context

Part A assesses the general context of the community, identifying population characteristics, the environment, the local governance set-up, main risk scenarios, and most vulnerable groups (child-headed households, persons with serious illness such as PLHIV and other groups, according to the context). It is important to capture these factors at the outset, so that they can be carefully considered in the resilience characteristics assessment (Part B).

If secondary information sources are available on the general context of the community, users should complete Part A in advance and seek to validate and complete the information with three or four key informants, usually community leaders. Part A is usually carried out with key informant interviews for increased efficiency, assuming there is a level of community leadership whose focal points can provide information on the governance structures, population data, vulnerable groups and main hazards. If this is not contextually appropriate, users can open up Part A to a broader focus group consultation.

The main disaster risk scenarios (section 8 of Part A) are identified in three steps: first, by selecting all the shocks that affect the community (8A); then by selecting the stresses that affect the community (8B); lastly (8C), by analysing four points to determine "priority" disaster risk scenarios (up to three):
- a prioritisation of shocks and identification of causal relationships among these,
- the exacerbating effect of stresses on the identified shocks,
- the degree of damage/loss caused by this "risk scenario",
- and the community's coping capacity (coping mechanisms, both positive and negative) to overcome this.

Application of Part A with community leaders in Zinder, Niger (2015).

These disaster risk scenarios can be single-hazard, e.g. earthquake, or multi-hazard, featuring causally connected hazards, e.g. earthquake which triggers landslide. The following table on primary and secondary shocks could be useful in formulating multi-hazard scenarios, though their description and selection should ultimately result from conversation with community members in Part A.

Please ensure the multi-hazard risk scenario you choose for Part B is comprised of a maximum of three hazards, otherwise the focus group discussion can become too long and difficult to manage in a way that properly assesses resilience to all parts of the chosen scenario. Note that appropriate adaptation will need to be made to several guiding questions to cater for a multi-hazard scenario assessment. For example, when asking about contingency planning to a three-hazard risk scenario, we would not expect the existence of three separate plans for each of the hazards, but we should explore whether the content of the local contingency plan addresses all three hazards.

In any given one assessment in the field, the user can choose one multi-hazard risk scenario or up to two single-hazard risk scenarios (i.e. assess two different hazards in the same assessment). The user can always assess one single-hazard scenario (e.g. floods) per assessment, if preferred.

Grouping causally-linked hazards into one scenario for assessment or even assessing two different hazards simultaneously stems from the need to ensure that the ARC-D assessment reflects the complexity and variety of risk scenarios faced by the community in a way that is cost-efficient in terms of field trips and community time spent. Though this option does prolong any one assessment, it will be shorter than the sum of two or more separate assessments, given that some of the 30 components are not hazard-sensitive (e.g. inclusion of women in decision making, existence of peace and social cohesion, etc) and therefore only need to be captured once for a variety of hazards.

Table 2: Hazards and associated secondary hazards (adapted from USAID, 2014)	Cyclone/hurricane/typhoon	Wind, flood, flash flood, storm surge, landslide, epidemic
	Drought	Epidemic (human and livestock), pest infestation, wildfire
	Earthquake	Landslide, fire (urban), tsunami, epidemic
	Epidemic	Pandemic
	Flood	Landslide, mudflow, epidemic
	Infestation	Epidemic
	Landslide	Debris and mud flow, flood
	Tsunami	Flood
	Volcano	Landslide, mud flow, pyroclastic flow, ashfall, flood, fire
	Wildfire	Flood, landslide, debris flow
	Severe cold weather	Epidemic (human and livestock), flood, landslide

Survey part B: Community disaster resilience characteristics assesssment

Once the priority risk scenario is chosen, we can proceed to Part B to initiate the discussion with a representative focus group, comprised of a minimum of 6 and maximum of 12 participants (see FGD composition checklist), who should be represent various sectors of the society (e.g. teacher, health worker, leaders, committee members, vulnerable groups) and a variety of age groups to ensure diversity of perspective. The FGD should generate a structured and participatory conversation that seeks consensus from its participants, using the questionnaire as a guide. Facilitators should maintain flexibility while managing the order of questions, should avoid interrogative techniques and endeavour to the best of their ability to facilitate conversation that triggers authentic replies.

At the outset of the FGD, the facilitator should use the following basic template to introduce the exercise:

Suggested Introduction to Part B (FGD)

[Introduce yourself and your colleagues to the group]

[Give brief intro to your agency, how long it has have been working in this region and in what areas.]

Today we are going to talk about your ability as community to prepare and recover from disasters.

[Confirm validate the priority disaster risk scenario identified in Part A and the groups who are most vulnerable in case of such scenario.]

We will discuss what you do, how you plan and how you organise to protect your community against [selected scenario] -- to protect your families, crops, animals, buildings and income. This discussion will help us see more clearly your current capacities to overcome [selected scenario] and identify clearly the factors that help or prevent you from doing so.

We will discuss 30 topics together and at the end of each topic, we will agree on a description your community's current situation. We would like you all to participate and pay close attention to what your fellow community members are saying, so that we can create the most accurate picture possible.

Please understand that this is a conversation, not an audit.

There are no right or wrong answers and names or any information you deem sensitive from our conversation today will not be shared without your consent. The more openly you express yourselves, the better understanding we will all have of the areas that need to be improved.

[Give overview of FGD layout, breaks, etc. and manage expectations regarding support that will follow the assessment].

Thank you for giving us your valuable time to answer these questions.

Each of the 30 components can be introduced by reading out the resilience component title. Where necessary, the facilitator should give a general explanation of what is being assessed under that component. As seen in Annex 2, each component contains five levels of disaster resilience characteristics ranging from 1 to 5 (whereby 1 indicates minimal resilience and 5 indicates a resilient community). Both the characteristic descriptions and the key questions are formulated for the reference of the facilitators, and not the community focus group, as these are extremely loaded and technical.

Instead, the facilitator should use the suggested guiding questions, designed to break the key question down into more manageable discussion segments and to enable an easier selection (from a level of 1 to 5) of the characteristic that is the best fit for the interviewed community. We emphasize the term "best fit".

At times the focus group's answers will be identical to one of the five characteristics descriptions, making it very easy to select the appropriate level. Other times, the answer will not fully align with the provided characteristic description, but that is not a problem. The facilitator can summarise the situation, exactly as explained by the community (which now constitutes their "characteristic") and place it on the general 1-5 disaster resilience level template (see table 3 below). This level assignation is ultimately based on the facilitator's informed judgment, which should always be validated with the FGD participants before moving on to the next component.

Disaster Resilience Level[8]
1 — Little awareness of issues and no action
2 — Some awareness and motivation, some action, but action is piecemeal and short-term
3 — Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed
4 — Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation
5 — Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable

Application of Part B of ARC-D in San José, in the Dry Corridor region of Honduras, August 2015

8 - Adapted from the five levels featured in Twigg, 2009, p.20 and UNISDR (2012), p.2.

Tips for conducting a successful FGD[9]

- Arrange participant seating in a circle or semi-circle, ensuring that everyone can see each other.
- Consider the use of name tags for better rapport (and among participants if they don't all know each other).
- Maintain good eye contact to encourage participation.
- Use short energizers when you see attention or energy in the group waning.
- Pace yourself as a facilitator - this is a long conversation. To complete Part B in 3-4 hours, you need to spend an average of 6-8 minutes on each component (some will take a lot less and others a lot more).
- Announce each component number and title clearly, so that participants are fully aware and engaged in the process (participants are more likely to keep their answers short if they know they still have e.g. 28 components to go).
- Do not rush to finish people's sentences or to fill the silence (count to 5 before rephrasing the question).
- Be flexible with the order of guiding questions and even components, in order to remain responsive to the course of the conversation.
- Provide lunch or snacks.
- When one person answers on behalf of the group, don't forget to inquire whether everyone else agrees too. If more dominant personalities tend to monopolise the discussion, gently encourage other members to share their thoughts.
- In questions that explore knowledge, e.g. rights, hygiene practices, inquire whether the exhibited knowledge represents this focus group or indeed the whole community.
- Always frame the questions in terms of the selected risk scenario (i.e. not "disasters" in general).
- At the end of each component, synthesise the situation as it has been discussed, or if it mostly or fully matches the provided level characteristic description in the questionnaire, paraphrase that for validation.
- Manage expectations of participants regarding support after the assessment (see suggested intro and outro).
- Relax and enjoy this discussion. Stay interested and focused on gaining insight on each of the thirty components. Experience shows that facilitators who believe in the value of this exercise are more likely to carry out a meaningful discussion than those who are nervous and just want to get it done quickly.

9 - For more info on facilitating successful FGDs, see relevant sub-section under Bibliography.

Part B application in barangay San Isidro, Eastern Samar, Philippines (June 2015)

Interpreting questionnaire terminology

The survey features some technical terms which should be appropriately tailored to the context and risk scenario.

- "**Hazard**": substitute with the chosen risk scenario each time.
- "**Disaster**": substitute with the disaster caused by the risk scenario (not just any and all disasters) each time.
- "**Disaster risk reduction**" (DRR): refers to actions that reduce the chances of the chosen risk scenario happening, or that reduces its negative consequences to the population.
- "**One-off, piecemeal actions**": Usually found at a Level 2 resilience level description, these are unsustainable, incomplete measures that do not improve resilience in the long-term.
- "**Numerous, long-term actions**": Usually found at a Level 3 resilience level description, these are positive measures of a long-term nature that are nevertheless insufficient in their number and/or nature to adequately enhance resilience and are not supported by broader planning and external systemic factors.
- "**Tied to a long-term strategy**": Usually found at a Level 4 resilience level description, this denotes a long-term vision of the leadership and/or the community members, which can take the form of a documented common plan, or any indication of commitment or vision for positive measures to be sustained and scaled up (often in accordance with higher-level planning).

In some of the 30 components the five ascending resilience characteristics are expressed in terms of increasing quantities or critical mass of households or community members e.g. "few community members", "some", "most", "all". These terms are to be interpreted as follows:

- "**Few**": up to approx. one quarter of community population (0-25%)
- "**Some**": approx. a quarter to half of community population (25-50%)
- "**Most**": approx. half to ninety per cent of community population (50-90%)
- "**All**": ninety to one hundred percent of community population (90-100%)

Suggested conclusion to Part B (FGD)

Thank you for your valuable time and participation in this discussion. Do you have any questions or comments about the discussion we have just completed?

We hope it has helped you see more clearly your abilities to prepare, adapt, respond and recover together from disasters, as it has helped us understand these better. All the topics we discussed here today are key in understanding and improving these abilities.

[State when communities can expect feedback or presentation of the assessment findings].

[Manage expectations on the probability of your agency supporting communities in the action planning process]

[If you are planning to share the information with other actors like government and NGOs, state this now].

On behalf of myself and the other facilitators, thank you for your time.

At the end of the FGD, facilitators should dedicate some time for the community focus group to give feedback on the assessment process or raise concerns that may not have been captured during the discussion.

The application of the toolkit at the community level does not necessarily ensure appropriate interventions will be forthcoming. Communication and consultation with communities to explain the scope and purpose of the assessment are essential to facilitate accountable programming and manage the community's expectations. Communities should be aware of how the data will be used, understand that their participation will not necessarily lead to an intervention (which may support responses more reflective of reality), and to be informed of how they can seek external support and/or facilitate changes internally.

The results of the assessment should be shared with all relevant stakeholders, including communities, authorities and civil society organisations, as appropriate.

5.3. Using the ARC-D Assessment Results

Every ARC-D assessment form sent to the CommCare server feeds into the database and Excel dashboard. The dashboard will present the data collected in pro-forma reports containing summary tables and visuals, serving as inputs for analysing findings, comparing trends, and tracking progress. Some of these pro-forma reports are explained below[10] .

Users can refer to a dashboard report that shows resilience scores, colour-coded in accordance to the 5 disaster resilience levels (Table 3), of all communities assessed and for all risk scenarios over time (which can be sorted alphabetically by community or by scenario for clearer grouping). This reports helps with prioritising communities and geographical areas of intervention.

No.	Community	Risk Scenario	Assessment 1			Assessment 2			Assessment 3		
			Date	Score	Percentage	Date	Score	Percentage	Date	Score	Percentage
1	Alderaan	Flood, Landslide	04/11/2014	45	30%	05/11/2015	46	30%	05/14/2016	126	84%
2	Alderaan	Earthquake	06/22/2014	97	64%	06/23/2015	110	73%	06/24/2016	122	81%
3	Alderaan	Cholera outbreak	12/03/2014	51	34%	12/22/2015	76	50%	06/25/2016	90	60%
4	Colonia El Pastel	Flood, landslide	04/11/2014	40	26%	05/11/2015	51	34%	05/14/2016	84	56%
5	Colonia El Pastel	Earthquake	06/22/2014	77	51%	06/23/2015	79	52%	06/16/2016	112	74%
6	Colonia El Pastel	Cholera outbreak	12/03/2014	30	20%	06/12/2015	44	29%	06/13/2016	58	38%
7	Leon	Fire	04/11/2014	89	59%	05/11/2015	90	60%	05/14/2016	90	60%
8	Sulata	Hurricane, Floods	04/11/2014	78	52%	05/11/2015	92	61%	05/14/2016	103	68%
9	Sulata	Earthquake, Tsunami	06/22/2014	76	50%	06/23/2015	78	52%	06/13/2016	64	42%
10	Sulata	Drought	07/11/2014	84	56%	06/24/2015	91	60%	06/14/2016	80	53%
11	Parmino	Earthquake	04/11/2014	35	23%	05/11/2015	51	34%	05/14/2016	78	52%
12	Parmino	Hurricane, Floods	06/22/2014	96	64%	05/12/2015	108	72%			

Figure 5: ARC-D dashboard report illustrating colour-coded table of global resilience percentage scores for all communities and all risk scenarios, over the course of three assessments, sorted alphabetically by community.

Users can also examine the resilience snapshot of a community in terms of the 30 disaster resilience components for various risk scenarios over time. This reports helps us understand and prioritise risk scenarios to build resilience to. In Figure 6 for example, this community has an overall higher capacity to deal with landslide than with cholera outbreak.
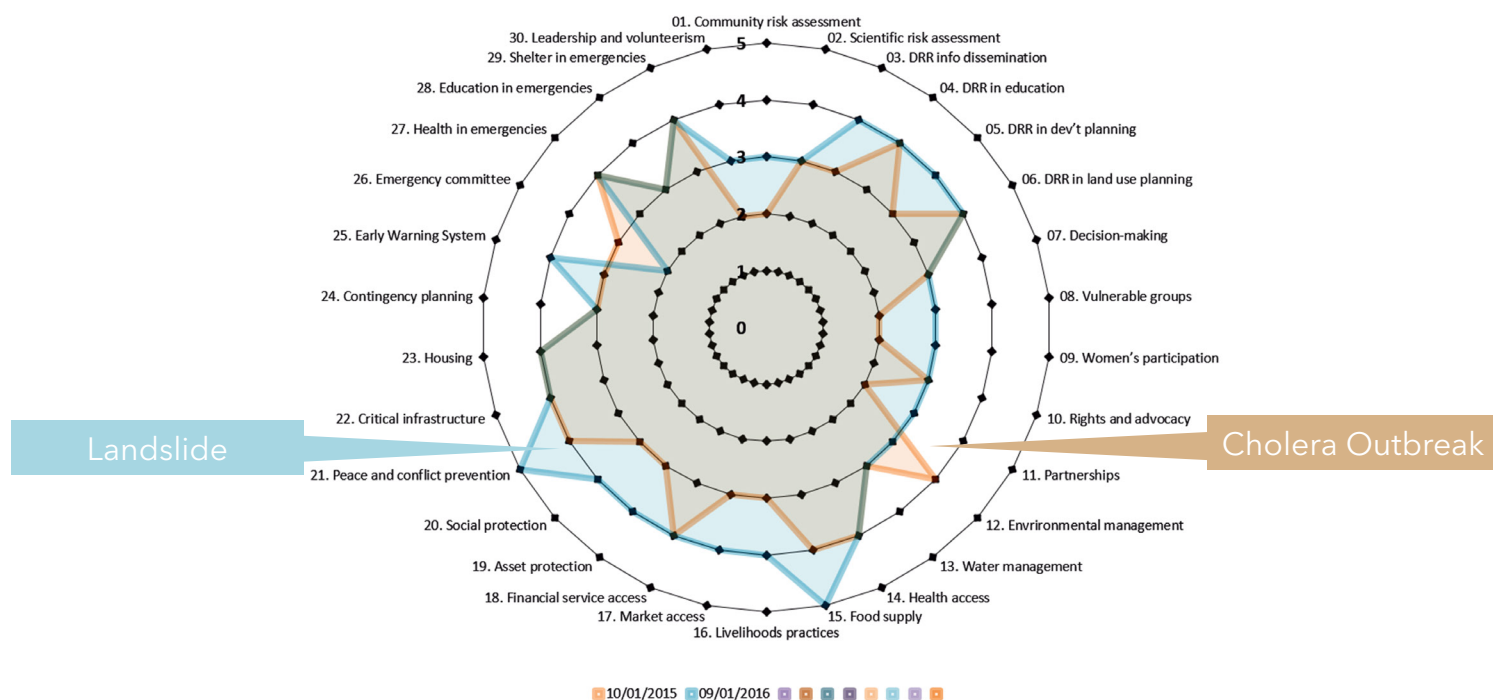
Figure 6 (above): Baseline graph for one community and two risk scenarios, landslide and cholera outbreak.
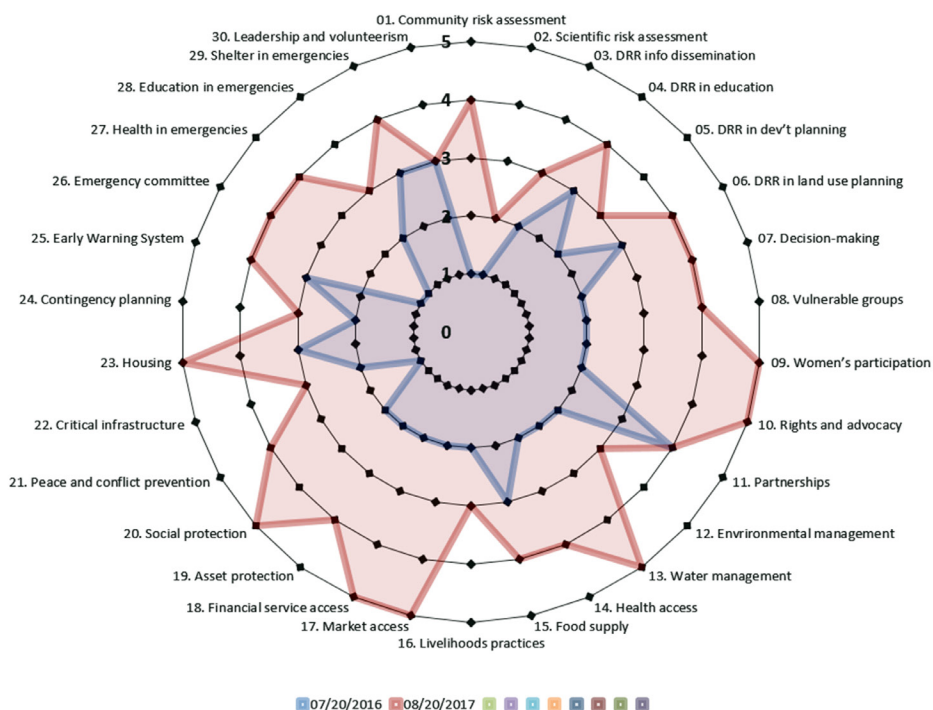Figure 7 (below): Baseline-endline graph for one community and one risk scenario.

Figure 7 illustrates a baseline-endline comparison of a community's resilience score in all 30 components. This dashboard report allows us to filter to components of interest as well as pre-grouped components, in this case, in terms of the 8 critical sector systems (see Figure 8).
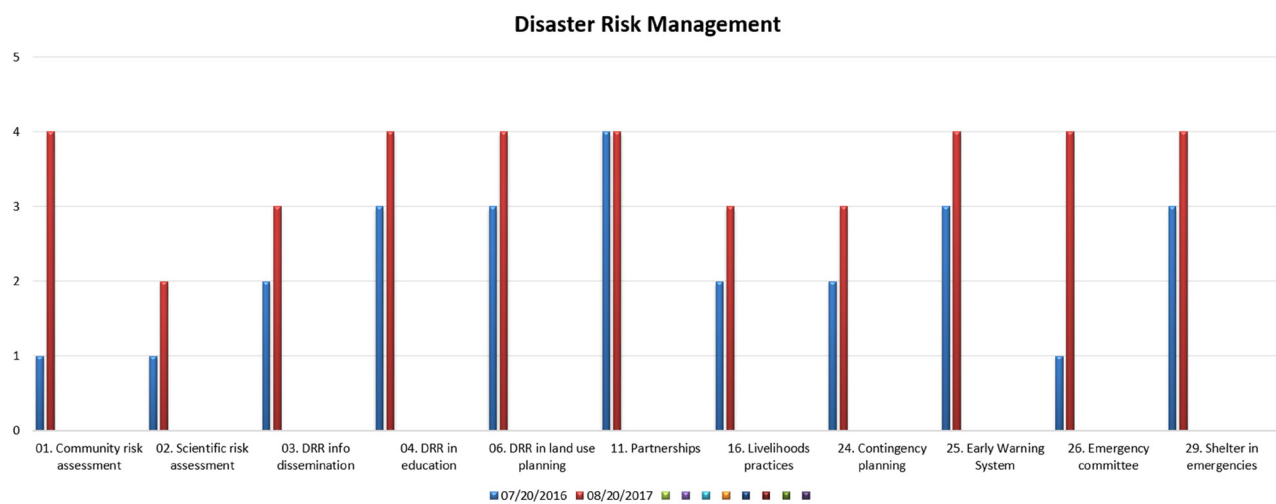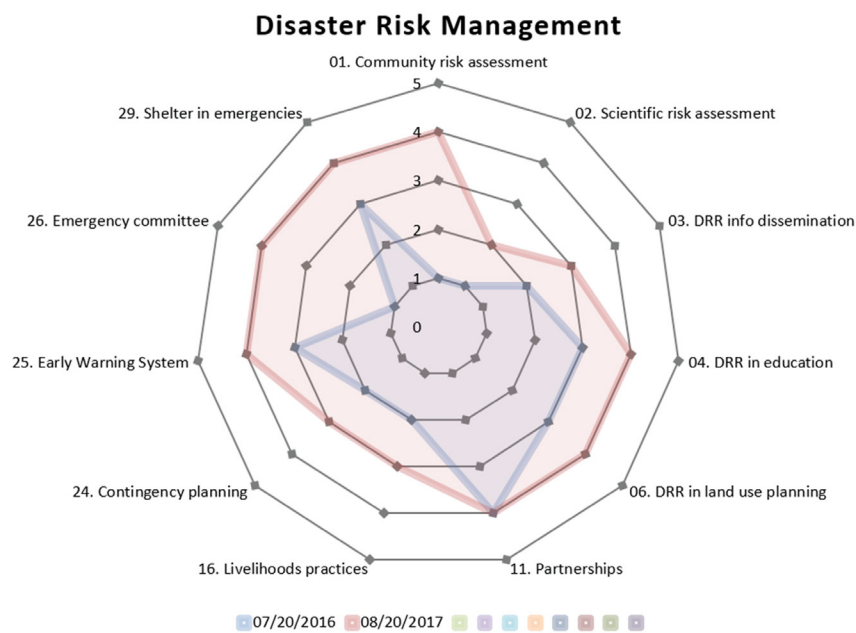
Disaster Risk Management

Figure 8: Dashboard report illustrating baseline-endline resilience scores for the ARC-D components specifically related to the DRM system, in spidergraph and bar graph form.

The qualitative notes captured during the assessment are transcribed and analysed separately. As the volume of qualitative notes for one assessment area can often be significant, users may want to consider using a qualitative data analysis software. There are a number of open-source or affordable software programmes available and, as users report their experiences using these, we hope to be able to provide more guidance on which could be the most suitable for the ARC-D toolkit.

For the analysis of a community's disaster resilience, we recommend that users make full use of the quantitative visuals and the qualitative notes in identifying key areas of weakness and priority sectors/systems for interventions. Please see the suggested template in Annex 5.

Please note, the ARC-D is an assessment tool and, as such, its purpose is to provide that will guide decision-making regarding programming, partnership, advocacy and strategy design. Prescribed recommendations on what these decisions will be or how you should proceed with designing activities are outside the scope of this manual, as this can and often does depend on additional inputs, your team's capacity and expertise, available funding, among other factors.

Accountability:

The process of using power responsibly, taking account of, and being held accountable by, different stakeholders, and primarily those who are affected by the exercise of such power (CHS, 2014). Downward accountability involves making accounts and plans transparent to the primary stakeholders, which can include partners and poor and marginalised groups. Unfortunately, aid projects often focus more on upward accountability to funding agencies than downward accountability (IFAD).

Assessment:

A process of gathering information, analysing it, then making a judgement on the basis of the information (IFAD).

Build Back Better:

Coined in the aftermath of the 2004 Indian Ocean Tsunami, "Build back better" is an approach to post-disaster recovery that aims to reduce vulnerability and improve living conditions; it seeks to not only restore what existed previously, but to go beyond, seizing the moral, political, managerial, and financial opportunities the crisis has offered governments to set communities on a better and safer development path (Office of the UN Secretary-General's Special Envoy for Tsunami Recovery, 2006).

Capacity:

The ability of people, institutions and societies to perform functions, solve problems, and set and achieve objectives (UNDP, 2002). According to UNISDR, it is the combination of all the strengths, attributes and resources available within a community, society or organisation that can be used to achieve agreed goals. Capacity may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collective attributes such as social relationships, leadership and management. A capacity assessment is a term for the process by which the capacity of a group is reviewed against desired goals, and the capacity gaps are identified for further action (UNISDR, 2009).

Chemical Accidents:

Accidental release occurring during the production, transportation or handling of hazardous chemical substances (UNISDR, 1992).

Climate:

Climate, in a narrow sense, is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time, ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years and the relevant quantities are most often surface variables such as temperature, precipitation, and wind (IPCC, 2012).

Climate change:

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as "A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is, in addition to natural climate variability, observed over comparable time periods" (1994).

On the other hand, the Intergovernmental Panel on Climate Change (IPCC) defines climate change as "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use."

Both definitions are widely accepted, though the UNFCCC definition is the more restricted one as it excludes climate changes attributable to natural causes. The IPCC definition can be paraphrased for popular communications as "A change in the climate that persists for decades or longer, arising from either natural causes or human activity." (UNISDR, 2009).

Climate change adaptation:

The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects. (IPCC, 2013).

Community:

"In conventional emergency management, communities are seen in spatial terms: groups of people who live in the same area or close to the same risks (i.e. a village or an urban neighbourhood). This overlooks other significant dimensions of the "community" which are to do with common interests, values, activities and structures. From a hazards perspective, the spatial dimension is essential in identifying communities at risk. However, this must be linked to an understanding of the socio-economic differentiations, linkages and dynamics within the area at risk, not only to identify vulnerable groups but also to understand the diverse factors that contribute to vulnerability. It was noted during field testing in Malawi in 2014, that the smallest administrative level facilitates the most consensus in terms of resilience measurement. For the purpose of this toolkit the definition of community can be determined in tune with that context in so far as a spatial element is also included.

Conflict:

A state of open, often prolonged fighting; a battle or war. Conflict can apply both to open fighting between hostile groups and to a struggle between opposing forces (Turnbull et al., 2013).

Conflict (latent):

Latent conflict exists whenever individuals, groups, organizations, or nations have differences that bother one or the other, but those differences are not great enough to cause one side to act to alter the situation (Wehr, 1975). Note: Latent conflict is often rooted in longstanding economic inequality, or in groups' unequal access to political power. The government may be unresponsive to the needs of a minority or lower-power group. Strong value or status differences may exist. Any of these issues could emerge as an open conflict after a triggering event (Turnbull et al., 2013).

Contingency planning:

A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses. Contingency planning results in organized and coordinated courses of action with clearly-identified institutional roles and resources, information processes, and operational arrangements for specific actors at times of need. Based on scenarios of possible emergency conditions or disaster events, it allows key actors to envision, anticipate and solve problems that can arise during crises. Contingency planning is an important part of overall preparedness. Contingency plans need to be regularly updated and exercised (UNISDR, 2009).

Cyclone:

Cyclones are severe weather systems characterized by high winds and heavy rains. In the North Atlantic and East Pacific they are usually called hurricanes; in the West Pacific they are called typhoons. They have the ability to cause widespread damage to houses, roads, crops, and livelihoods related to wind damage, storm surge, flooding and flash flooding, and landslides, all depending on an area's geography and topography. Without proper sanitation in affected areas, disease outbreaks are possible (USAID, 2014).

Desertification:

The United Nations Convention to Combat Desertification (UNCCD) defines desertification as 'land degradation in arid, semi-arid and sub-humid areas resulting from various factors including climatic variations and human activities' (UNCCD Art.1.a). Desertification is a dynamic process that is observed in dry and fragile ecosystems. It affects terrestrial areas (topsoil, earth, groundwater reserves, surface run-off), animal and plant populations, as well as human settlements and their amenities (for instance, terraces and dams) (http://www.unesco.org/mab/doc/ekocd/chapter1.html).

Disaster:

A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources. Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation (UNISDR, 2009).

Disaster Risk Reduction:

The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNISDR, 2009). Specifically, the purpose of disaster risk reduction is to minimise vulnerabilities and disaster risks throughout a society in order to avoid (prevent) or to limit (mitigate and prepare for) the adverse impacts of natural hazards, and facilitate sustainable development (UNICEF, 2012).

Drought:

Drought originates from a deficiency of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group, or environmental sector. Different from other hazards in that it develops slowly, sometimes over years, and its onset can be masked by a number of factors. Drought can be devastating: water supplies dry up, crops fail to grow, animals die and malnutrition and ill health become widespread (Preventionweb). Drought can be classified into four different definitions: meteorological (deviation from normal rainfall), agricultural (abnormal soil humidity conditions); hydrological (related to abnormal hydric resources) and socio-economic (when the lack of water affects the life and livelihoods of persons).

Early recovery:

After a disaster, early recovery is about shifting the focus from saving lives to restoring livelihoods. Early recovery interventions seek to stabilize the economic, governance, human security and social equity situation. Early recovery interventions also seek to integrate risk reduction at the very early stages of the response to a specific crisis; and to lay the foundations for longer-term reconstruction (UNISDR, 2009)

Early Warning System (EWS):

The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss. This definition encompasses the range of factors necessary to achieve effective responses to warnings.

A people-centred early warning system necessarily comprises four key elements: a) knowledge of the risks; b) monitoring, analysis and forecasting of the hazards; c) communication or dissemination of alerts and warnings; and d) local capabilities to respond to the warnings received. The expression "end-to-end warning system" is also used to emphasize that warning systems need to span all steps from hazard detection through to community response (UNISDR, 2009).

Earthquakes:

A sudden motion or trembling in the earth crust caused by the abrupt release of accumulated stress along a fault (NHRP).This energy is released through seismic waves that travel to the source area, causing the earth to tremble. The level of earthquake damage depends upon various factors, including earthquake intensity, depth, the vulnerability of structures and the distance from the earthquake source.

Ecosystem:

An ecosystem is a functional unit consisting of living organisms, their non-living environment, and the interactions within and between them (IPCC, 2012). Ecosystems are nested within other ecosystems and often have no fixed boundaries. Depending upon the scientific, management, or policy question being examined, a single lake, a watershed, or an entire region could be considered an ecosystem (US EPA, 2005). In the current era, most ecosystems either contain people as key organisms, or are influenced by the effects of human activities in their environment. Ecosystems are critical in supporting human well-being, and the importance of their preservation under anthropogenic climate change is explicitly highlighted in Article 2 of the United Nations Framework Convention on Climate Change, or UNFCCC (IPCC, 2012).

Emergency Market Mapping Assessment/Analysis (EMMA):

EMMA is a rapid market analysis designed to be used in the first two to three weeks of a sudden onset crisis. Its rationale is that a better understanding of the most critical markets in an emergency situation enables decision makers (i.e. donors, NGOs, government, other humanitarian actors) to consider a broader range of responses. It is not intended to replace existing emergency assessments, or more thorough household and economic analyses such as the Household Economy Approach, but instead should add to the body of knowledge after a crisis (Turnbull et al, 2013).

Environmental Degradation:

The reduction of the capacity of the environment to meet social and ecological objectives and needs. Environmental degradation can alter the frequency and intensity of natural hazards and increase the vulnerability of communities. The types of human-induced degradation are varied and include land misuse, soil erosion and loss, desertification, wildland fires, loss of biodiversity, deforestation, mangrove destruction, land, water and air pollution, climate change, sea level rise and ozone depletion (UNISDR, 2009).

Epidemics:

The occurrence of more cases of disease than expected in a given area or among a specific group of people, affecting or tending to affect a disproportionately large number of individuals, over a particular period of time, usually short-term (days, weeks, months maximum), such as cholera, typhoid, bubonic plague, etc. (CDC and Reliefweb, 2008).

Erosion of river banks and soil:

Soil erosion is the process of soil removal and displacement caused naturally (wind, water) and/or by man. Erosion is one of the key issues that mines soils and contributes to desertification; it results in a redistribution of nutrients and a depreciation of land and soil quality (UNEP, 2011).

Exposure:

People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses (UNISDR, 2009). While UNISDR defines exposure only in relation to placement, the resilience discourse develops this term further to include magnitude, frequency and duration of the event. According to the GOAL 2016 guidance on programming for resilience, "exposure relates to the likelihood of a community experiencing a disturbance, and includes issues of placement (location and types of houses, land use, etc.), as well as the magnitude, frequency, and duration of an event (e.g., a family that has a home on steeply sloped land will generally be more exposed to the hazard of landslides than a family living on a flatter surface). Exposure is a component of vulnerability, not only to the extent to which a system is subjected to disturbance, but also the degree and duration of these disturbances." Exposure generally means physically being in, or depending on, assets, systems, institutions or other people that are in the area affected by the hazard or climatic phenomenon (Turnbull et al, 2013).

Fire spread (wildfire):

Wildfires are a growing hazard in many countries. Hotter, prolonged droughts in many parts of the world may increase the risk of wildfires in the future. Wildfires cause disaster when they pose a threat to life, property, and forage. Fire is also a natural process; often fire suppression can lead to more severe fires due to the buildup of vegetation that serves as fuel. Secondary effects of wildfires, including floods, erosion, landslides, debris flows, and changes in water quality, can be more disastrous than the fire itself (USAID, 2014).

Flooding:

The overflowing of the normal confines of a stream or other body of water, or the accumulation of water over areas that are not normally submerged. Floods include river (fluvial) floods, flash floods, urban floods, pluvial floods, sewer floods, coastal floods, and glacial lake outburst floods (IPCC, 2012).

Food Insecurity:

A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. It may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at the household level. Food insecurity may be chronic, seasonal, or transitory (Turnbull et al., 2013).

Food Security:

There is food security when all persons have, at all times, physical and economic access to sufficient safe and nutritious food to satisfy their food needs and preferences in order to lead an active and healthy life (World Food Summit, 1996). This widely accepted definition points to the following dimensions of food security: food availability; food access; utilization, and stability (FAO, 2006).

Gender-based Violence:

Violence that is directed against a person on the basis of gender or sex. It includes acts that inflict physical, mental, or sexual harm or suffering, threats of such acts, coercion, or other deprivations of liberty. While women, men, boys and girls can be victims of gender-based violence, because of their subordinate status in many places of the world, women and girls are the primary victims (Reliefweb, 2008).

Governance:

Governance is the process of decision-making and the subsequent implementation (or non-implementation) of those decisions (IRP, 2010). It is the exercise of political, economic and administrative authority in the management of a country's affairs at all levels. It comprises mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. Governance encompasses, but also transcends, the state. It encompasses all relevant groups, including the private sector and civil society organizations (UNDP, 1997).

Hazard:

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

The hazards of concern to disaster risk reduction as stated in footnote 3 of the Hyogo Framework are "… hazards of natural origin and related environmental and technological hazards and risks." Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis (UNISDR, 2009). For the purposes of this toolkit, "hazards" and "shocks" are synonymous terms.

Hazard mapping:

The process of establishing geographically where and to what extent particular hazards are likely to pose a threat to people, property, or the environment (Jha et al, 2010).

Heat wave:

Marked warming of the air, or the invasion of very warm air, over a large area; it usually lasts from a few days to a few weeks. This is a rise of atmospheric average temperature well above the averages of a region, with effects on human populations, crops, properties and services (UNISDR, 2009).

Hurricane:

See Cyclone.

Land use planning:

The process undertaken by public authorities to identify, evaluate and decide on different options for the use of land, including consideration of long-term economic, social and environmental objectives and the implications for different communities and interest groups, and the subsequent formulation and promulgation of plans that describe the permitted or acceptable uses. Land-use planning is an important contributor to sustainable development. It involves studies and mapping; analysis of economic, environmental and hazard data; formulation of alternative land-use decisions; and design of long-range plans for different geographical and administrative scales. Land-use planning can help to mitigate disasters and reduce risks by discouraging settlements and construction of key installations in hazard-prone areas, including consideration of service routes for transport, power, water, sewage and other critical facilities (UNISDR, 2009).

Landslides:

Landslide is defined as "the movement of a mass of rock, debris, or earth down a slope." The term encompasses events such as rock falls, topples, slides, spreads, and flows, such as debris flows commonly referred to as mudflows or mudslides. Landslides can be initiated by rainfall, earthquakes, volcanic activity, changes in groundwater, disturbance and change of a slope by man-made construction activities, or any combination of these factors (PreventionWeb).

Livelihoods:

The resources used and the activities undertaken in order to live. Livelihoods comprise the capabilities, assets (including both material and social resources) and activities required for a means of living linked to survival and future well-being. Assets include financial, natural, physical, social and human resources - for example, stores, land and access to markets or transport systems. A household's livelihood is sustainable or secure when it can cope with and recover from shocks, and maintain or enhance its capabilities and productive assets (Sphere, 2011).

Mitigation:

The lessening or limitation of the adverse impacts of hazards and related disasters. The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, "mitigation" is defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change (UNISDR, 2009).

Natural Hazard:

Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (UNISDR, 2009).

Natural disaster:

Natural disasters are events brought about by natural hazards that seriously affect the society, economy and/or infrastructure of a region. Depending on population vulnerability and local response capacity, natural disasters will pose challenges and problems of a humanitarian nature.

Please note: The term "natural disaster" is used for ease. In reality, the magnitude of the consequences of sudden natural hazards is a direct result of the way individuals and societies relate to threats originating

from natural hazards. The magnitude of the consequences is, thus, determined by human action, or the lack thereof (Reliefweb, 2008).

Nuclear Accidents:
Accidental release of radiation occurring in civil nuclear facilities, exceeding the internationally established safety levels (UNISDR, 1992).

Participation:
One or more processes in which an individual (or group) takes part in specific decision-making and action, and over which s/he may exercise specific controls. It is often used to refer specifically to processes in which primary stakeholders take an active part in planning and decision-making, implementation, learning and evaluation. This often has the intention of sharing control over the resources generated and responsibility for their future use (IFAD). Participation involves enabling crisis-affected people to play an active role in the decision-making processes that affect them. It is achieved through the establishment of clear guidelines and practices to engage them appropriately and ensure that the most marginalised and worst affected are represented and have influence (CHS, 2014).

Pastoralism:
A livelihood strategy based on moving livestock to seasonal pastures primarily in order to convert grasses, forbs, tree-leaves, or crop residues into human food. The search for feed is however not the only reason for mobility; people and livestock may move to avoid various natural and/or social hazards, to avoid competition with others, or to seek more favorable conditions. Pastoralism can also be thought of as a strategy that is shaped by both social and ecological factors concerning uncertainty and variability of precipitation, and low and unpredictable productivity of terrestrial ecosystems (IPCC, 2013).

Preparedness:
The knowledge and capacities […] to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions. Preparedness aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response through to sustained recovery. Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities. The related term "readiness" describes the ability to quickly and appropriately respond when required (UNISDR, 2009).

Prevention:
The outright avoidance of adverse impacts of hazards and related disasters.
Prevention expresses the concept and intention to completely avoid potential adverse impacts through action taken in advance. Examples include dams or embankments that eliminate flood risks, land-use regulations that do not permit any settlement in high risk zones, and seismic engineering designs that ensure the survival and function of a critical building in any likely earthquake. Very often the complete avoidance of losses is not feasible and the task transforms to that of mitigation. Partly for this reason, the terms prevention and mitigation are sometimes used interchangeably in casual use (UNISDR, 2009).

Protection:
All activities aimed at ensuring the full and equal respect for the rights of all individuals, regardless of age, gender or ethnic, social, religious or other background. It goes beyond the immediate life-saving

activities that are often the focus during an emergency (CHS, 2014). It is a concept that encompasses all activities aimed at obtaining full respect for the rights of the individual in accordance with the letter and spirit of human rights, refugee and international humanitarian law. Protection involves creating an environment conducive to respect for human beings, preventing and/or alleviating the immediate effects of a specific pattern of abuse, and restoring dignified conditions of life through reparation, restitution and rehabilitation (Reliefweb, 2008).

Recovery:

The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. The recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended, and should be based on pre-existing strategies and policies that facilitate clear institutional responsibilities for recovery action and enable public participation. Recovery programmes, coupled with the heightened public awareness and engagement after a disaster, afford a valuable opportunity to develop and implement disaster risk reduction measures and to apply the "build back better" principle (UNISDR, 2009).

Resilience:

GOAL defines resilience as the ability of communities and households within complex systems to anticipate and adapt to risks, and to absorb, respond and recover from shocks and stresses in a timely and effective manner without compromising their long term prospects, ultimately improving their well-being (2016).

Response:

The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. Disaster response is predominantly focused on immediate and short-term needs and is sometimes called "disaster relief". The division between this response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as the supply of temporary housing and water supplies, may extend well into the recovery stage (UNISDR, 2009).

Retrofitting:

Reinforcement or upgrading of existing structures to become more resistant and resilient to the damaging effects of hazards. Retrofitting requires consideration of the design and function of the structure, the stresses that the structure may be subject to from particular hazards or hazard scenarios, and the practicality and costs of different retrofitting options. Examples of retrofitting include adding bracing to stiffen walls, reinforcing pillars, adding steel ties between walls and roofs, installing shutters on windows, and improving the protection of important facilities and equipment (UNISDR, 2009).

Risk:

The potential for consequences where something of human value (including humans themselves) is at stake and where the outcome is uncertain. Risk is often represented as probability of occurrence of a hazardous event multiplied by the consequences if these events occur (IPCC, 2012). The word "risk" has two distinctive connotations: in popular usage the emphasis is usually placed on the concept of chance or possibility, such as in "the risk of an accident"; whereas in technical settings the emphasis is usually placed on the consequences, in terms of "potential losses" for some particular cause, place and period. It can be noted that people do not necessarily share the same perceptions of the significance and underlying causes of different risks (UNISDR, 2009). Both are used for the purposes of this toolkit.

Risk assessment:

A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend. Risk assessments (and associated risk mapping) include:

- Review of the technical characteristics of hazards such as their location, intensity, frequency and probability;
- Analysis of exposure and vulnerability including the physical social, health, economic and environmental dimensions;
- Evaluation of the effectiveness of prevailing and alternative coping capacities in respect to likely risk scenarios (UNISDR, 2009).
- Analysis of loss/impact to estimate potential losses of exposed population, property, services, livelihoods and environment, and assess their potential impacts on society (UNDP, 2010).

Shocks:

Shocks are sudden events that impact the vulnerability of the system and its components. There are many different types of disaster-related shocks that can strike at different levels. These include disease outbreaks, weather-related and geophysical events including floods, high winds, landslides, droughts or earthquakes. There can also be conflict-related shocks, such as outbreaks of fighting or violence, or shocks related to economic volatility (DFID, 2013). Note that drought is not a sudden event, as the definition would suggest, however, once a drought surpasses the tipping point into an extreme event, it is classified as a shock. See comprehensive list in Part A.

Social Protection:

In development aid and climate policy, social protection usually describes public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks, and enhance the social status and rights of the marginalized, with the overall objective of reducing their economic and social vulnerability. Social protection policies protect the poor and vulnerable against livelihood risks and enhance the social status and rights of the marginalized, as well as prevent vulnerable people from falling into poverty (IPCC, 2013).

The publication on which this toolkit is based presents social protection as "mutual assistance systems, social networks and support mechanisms, both formal (i.e. from government) and informal (between individuals or groups) that help reduce risk directly (through DRR activities) or vulnerability (through socioeconomic activities) or by being capable of extending their activities to manage emergencies when these occur" (Twigg, 2009). Examples of formal social protection include: conditional or unconditional cash transfer schemes, in-kind transfers (food, tools, and technology), school feeding programmes, social security, pensions of handicap or elderly people and insurance schemes for loss of production or accidents. Examples of informal social protection include: tilling the land for a sick farmer, helping to build or rebuild a house, childcare, paying school fees or funeral fees, giving food or money. Please note, social protection relates to transfers of resources and support, not loans to be repaid.

Storm Surge:

The temporary increase, at a particular locality, in the height of the sea due to extreme meteorological conditions (low atmospheric pressure and/or strong winds). The storm surge is defined as being the excess above the level expected from the tidal variation alone at that time and place (IPCC, 2012). According to NOAA, storm surge is water that is pushed toward the shore by the force of the winds swirling around the storm. A storm surge can come from a hurricane or an extra-tropical cyclone.

Stress:

Stresses are long-term trends that undermine the potential of a given system or process and increase the vulnerability of actors within it. These can include natural resource degradation, loss of agricultural production, urbanisation, demographic changes, climate change, political instability and economic decline (DFID, 2013). See comprehensive list in Part A.

Tornado:

A violently rotating storm of small diameter and the most violent weather phenomenon. It is produced in a very severe thunderstorm and appears as a funnel cloud extending from the base of a cumulonimbus to the ground (Reliefweb, 2008).

Tropical Storm/Depression:

See Cyclone.

Tsunamis:

Seismic sea waves (mistakenly called "tidal waves"), which are a series of enormous waves created by an underwater disturbance such as an earthquake, landslide, volcanic eruption, meteorite or underwater explosion. A tsunami can move hundreds of miles per hour in the open ocean and smash into land with waves as high as 100 feet or more. Tsunamis can have devastating effects on coastal regions (https://www.ready.gov/tsunamis).

Typhoon:

See Cyclone.

Volcanic eruptions:

Volcanoes are vents in the surface of the Earth through which magma and associated gases erupt (Preventionweb). Volcanic eruptions are often regarded as rare and mysterious events that impact few people. In reality, there are more than 1,500 potentially active volcanoes, many of which are located in developing countries. The relatively long recurrence interval for volcanic hazards, where the last eruption can pre-date societal memory, can lead to a false sense of security and complacency among at-risk communities. Since 1980, volcanic activity has killed more than 29,000 people and displaced more than 1 million others. On average, approximately 10 eruptions a year cause significant damage and casualties, while major disasters occur several times a decade. Eruptions can devastate agriculture systems and livestock, contaminate water sources, impact health, cripple economies, and destroy infrastructure and property. Effective end-to-end warning systems for volcanic eruptions can significantly reduce risk (USAID, 2014).

Vulnerability:

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard (UNISDR, 2009). Vulnerability can be determined by the interplay between exposure and sensitivity to a range of interrelated social, economic, political, governance and environmental factors (Oxfam GB, 2010). There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time (Turnbull et al., 2013).

Vulnerability Capacity Analysis (VCA):

An analytical and planning process (and associated tool of the same name), originally developed by IFRC and used to facilitate community-led assessment of local disaster risk. The process uses participatory techniques (mapping, seasonal calendars, transect walks, FGDs, interviews, etc.) to develop a comprehensive picture of exposure, vulnerability and capacities and to prioritize actions to reduce disaster risk. VCA and its variations are increasingly used for broader analysis and development planning processes, including for climate change adaptation (Turnbull et al, 2013). For more information on VCA and associated tools please refer to the GOAL DRR sectoral strategy.

Vulnerable groups:

Groups or members of groups particularly exposed to the impact of hazards, such displaced people, women, the elderly, the disabled, orphans, and any group subject to discrimination (Jha et al. 2010). "Vulnerable groups" are not a single social group, because they are comprised of many groups and are vulnerable to shocks in different ways and to different extents. Good programming will disaggregate the different groups and their vulnerabilities (Twigg, 2009).

Date: _____

Name of surveyors: _____

1. Location

Administrative division level 1 (e.g. Department):	
Administrative division level 2 (e.g. Municipality):	
Administrative division level 3 (e.g. District/Sector):	
Name of Community:	
Indicate whether community is urban, peri-urban, or rural:	

2. Population

No. of girls (younger than 18 years)		No. of boys (younger than 18 years)	
No. of women aged 18-60 years		No. of men aged 18-60 years	
No. of women older than 60 years		No. of men older than 60 years	
Total community population		Total no. of households	

3. Population characteristics

Please list relevant population categories (e.g. types of livelihoods, types of land tenure, education level, ethnic groups, religious groups, or other category considered relevant for the community's disaster resilience).	Approx. population % belonging to this category	Comments

4. Community Organisations / Governance structures

Please list organisations at community level (e.g. water management committees, council of elders, parent-teacher associations, etc.)	No. of members	Active? (Y/N, if not, explain)	Comments

5. Available plans and documents

Please mark the plans or documents that exist at community level	Mark X	Active? (Y/N, if not, explain)	Comments
Risk assessment report (hazard map, VCA, loss analysis)			
Local development plan			
DRR plan			
Land use plan			
Contingency plan			
Recovery plan			
Emergency health plan			
School safety/continuation plan			
Other (specify)			
Other (specify)			
Other (specify)			

6. Environmental Description

Please describe:
a.   The ecological zone the community is located in: climate, seasons, ecosystems and environmental assets community depends on (e.g. water bodies, vegetation types, soil conditions), etc.
b.   The condition of existing built infrastructure (housing, school, health center, sanitation, public buildings).

7. Most Vulnerable Groups

Vulnerable group categories	No. of persons		Comments
	Male	Female	
Extremely vulnerable children and youth (e.g., Child labourers, orphans, etc):			
Children under the age of 5:			
Pregnant and Lactating Women:			
Female-headed households:			
Child-headed households:			
Persons with serious illness:			
Persons with Physical Disability:			
Persons with Sensory Disability:			
Persons with Intellectual Disability:			
Other most vulnerable group (please specify):			
Other most vulnerable group (please specify):			
Other most vulnerable group (please specify):			

8. Identified Risk Scenarios

	8A. Shocks (Sudden events that impact on the vulnerability of a system and its components[1]):	Mark X	Frequency (e.g. 1 earthquake in 25 years, or 5 landslides per rainy season)	Active? (Y/N, if not, explain)	Comments
Geological shocks	Earthquake				
	Tsunami				
	Volcanic Eruption				
	Landslide				
	Other:				
Hydro-meteorological shocks	Flood				
	Cyclone/Hurricane/Typhoon				
	Tornado/Twister				
	Storm surge				
	Severe winter weather				
	Drought				
	Heatwave				
	Other:				
Biological shocks	Human disease epidemic				
	Specify human epidemic:				
	Specify human epidemic:				
	Specify human epidemic:				

1 - Drought is a slow-onset shock and not a "sudden" event as the definition suggests, however, when the event passes its tipping point and becomes an extreme event, it is considered a shock.

8A. Shocks (Sudden events that impact on the vulnerability of a system and its components[1]):	Mark X	Frequency (e.g. 1 earthquake in 25 years, or 5 landslides per rainy season)	Active? (Y/N, if not, explain)	Comments
Biological shocks				
Animal disease epidemic				
Specify animal epidemic:				
Specify animal epidemic:				
Crop infestation/disease				
Specify infestation/disease:				
Specify infestation/disease:				
Other:				
Human-caused shocks				
Economic/market crisis (severe price fluctuation, severe market disruption)				
Conflict/violence outbreak				
Inter- or intra-communal conflict (e.g. cattle rustling, gang violence, disputes over natural resources, etc):				
State-involved conflict				
Nuclear/radioactive accident				
Chemical accident				
Fire spread (including forest fires)				
Other:				
Other:				
Other:				

1 - Drought is a slow-onset shock and not a "sudden" event as the definition suggests, however, when the event passes its tipping point and becomes an extreme event, it is considered a shock.

8B. Stresses (Long-term trends that undermine the potential of a system and increase the vulnerability of actors within it.[2]):	Mark X	Comments
Environmental or Biological Stresses		
Environmental degradation (e.g. erosion, desertification, soil fertility depletion, water and air pollution etc.)		
Negative effects of climate change		
Public health concerns (HIV, malaria, malnutrition etc)		
Other:		
Economic Stresses		
Economic instability (food and fuel price fluctuation) and/or decline		
Unemployment		
Other:		
Social Stresses		
Unplanned urbanisation		
Rapid population growth		
Food insecurity and/or income insecurity		
Gender-Based Violence		
Gender Inequality		
Discrimination		
Substance abuse		
Insecurity		
Other:		
Political Stresses		
Protracted conflict		
Political Instability and/or tension		
Land disputes		
Other:		

8C. Principle Risk Scenario Analysis

Based on the above information, please identify and analyse the main risk scenarios that affect this community.

Risk scenario 1

Description

Shock
Which shock is the most devastating and, if applicable, how does it lead to other shocks?

Stresses
In what ways is the identified shock(s) exacerbated by the identified stresses?

Impact
What is the extent of impact (damage, loss, etc.) from this risk scenario (i.e. the shocks and stresses identified above)?

Coping Mechanisms
What coping mechanisms (both positive and negative) does the community use to deal with this risk scenario?

Risk scenario 2

Description

Shock
Which shock is the most devastating and, if applicable, how does it lead to other shocks?

Stresses
In what ways is the identified shock(s) exacerbated by the identified stresses?

Risk scenario 2

Description

Impact
What is the extent of impact (damage, loss, etc.) from this risk scenario (i.e. the shocks and stresses identified above)?

Coping Mechanisms
What coping mechanisms (both positive and negative) does the community use to deal with this risk scenario?

Risk scenario 3

Description

Shock
Which shock is the most devastating and, if applicable, how does it lead to other shocks?

Stresses
In what ways is the identified shock(s) exacerbated by the identified stresses?

Impact
What is the extent of impact (damage, loss, etc.) from this risk scenario (i.e. the shocks and stresses identified above)?

Coping Mechanisms
What coping mechanisms (both positive and negative) does the community use to deal with this risk scenario?

Thematic Areas	Disaster Resilience Components
1. Understanding Disaster Risk	1. Participatory community risk assessment
	2. Technical/scientific risk assessment
	3. Dissemination of DRR information
	4. Education of children on DRR
2: Strengthening Governance to Manage Disaster Risk	5. DRR in development planning
	6. Land use planning
	7. Community decision-making
	8. Inclusion of vulnerable groups
	9. Participation of women
	10. Rights awareness and advocacy
	11. Partnerships for DRR and recovery
3: Reducing Disaster Vulnerability for Resilience	12. Sustainable environmental management
	13. Water security and management
	14. Health access and awareness
	15. Secure and nutritious food supply
	16. Hazard-resistant livelihoods practices
	17. Access to market
	18. Access to financial services
	19. Income and asset protection
	20. Social protection
	21. Social cohesion and conflict prevention
	22. Critical infrastructure
	23. Housing
4: Enhancing Disaster Preparedness for Effective Response and to "Build Back Better" in Recovery	24. Contingency and recovery planning
	25. Early warning system
	26. Capacities in preparedness and response
	27. Health services in emergencies
	28. Education services in emergencies
	29. Emergency infrastructure
	30. Leadership and volunteerism in response and recovery

Understanding Disaster Risk

Component 1: Participatory community risk assessment	Key Question 1: Has the community carried out a participatory risk assessment (hazard analysis, VCA, impact analysis), shared the findings and have human resources capable of conducting/updating such assessments?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	A risk assessment has **never been carried out** in a structured and participatory way in the community. Or, if it has, it is **outdated or not in use** and community members **do not know** about it.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	A participatory risk assessment has been carried out, is **used occasionally**, but only **few community members** know about its findings. **No trained human resources** to monitor and update this assessment in the community.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	A participatory risk assessment has been carried out, is **used regularly** and **some people know its findings**. However, there are **no trained human resources** to monitor and update this assessment.
4 Actions are long-term, linked to strategy and address main aspects of the issue, out there are still deficiencies (especially systemic) in implementation	A participatory risk assessment has been carried out, is used regularly, **most community members know its findings**. There are **trained human resources capable of monitoring and updating** this assessment, but they still face **constraints** in fully carrying out their role (e.g. insufficient support from DRM system).
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	A participatory risk assessment is regularly used and **embedded in planning**, **all community members know its findings**, and there **trained human resources** capable of monitoring and updating this assessment, **supported by the national DRM system.**

Suggested Guiding Questions	Suggested Means of Verification
- Has your community conducted the following: - Hazard analysis/map? - VCA? - Projected loss/impact analysis? - Who participated in these processes? - In what ways are the findings from these assessments used? - In what ways were the findings shared in the community? How many community members know about them? - Are there people in the community who can lead and monitor these assessments? - What is their relationship to the local/national DRM system?	- Local development plans incorporating DRR measures - Local disaster risk Management plan - Local contingency plan - Project profiles that include DRR measures - Projects/works completed

Comments

Component 2: Scientific risk assessment	Key Question 2: Does the community combine local knowledge and perceptions of risk with technical and scientific knowledge, data and assessment methods?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Community uses **little or no local knowledge/perceptions of risk** and has **no access to technical and scientific knowledge** (e.g. in recent refugee camp or unplanned urbanization).
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Community **relies on local risk knowledge/perceptions** when acting to reduce risk, but this is **largely insufficient** to ensure risk reduction and recovery. Community has **limited access** to technical and scientific data and analyses.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Community **combines local** risk knowledge/perception **with some technical and scientific analysis** but this can only **address some** aspects of disaster risk awareness.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community combines local risk knowledge/perceptions with **robust, up-to-date technical and scientific analysis**. This combined knowledge is adequate to address **most aspects** of disaster risk awareness, though there are still **some constraints**.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Community combines its local risk knowledge/perceptions reinforced by robust, up-to-date technical and scientific analysis in its **planning and practices to reduce risk**. This combined risk knowledge addresses **all aspects** of disaster risk awareness.

Suggested Guiding Questions	Suggested Means of Verification
• From your experience and knowledge, which areas or households in your community will be most impacted in a disaster? • Apart from your local knowledge and experiences, what scientific and technical knowledge or studies (from actors who work on these issues) have you had access to? • When trying to understand risk and reduce risk, do you rely on your local knowledge or the scientific information? Or a combination of both? Can you give some examples?	• References to ancestral or informal DRR practices in plans or assessments • Copies of scientific studies/reports • Hazard monitoring equipment • Consultation with relevant technical/ scientific institutions

Comments

Component 3: Dissemination of DRR information	Key Question 3: Have community members been exposed to/have participated in DRR-specific awareness events (campaigns, discussions and trainings) and have improved awareness and practices as a result?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	**No one** in the community has been exposed/has participated in DRR/recovery awareness events. Community believes disasters are **beyond their control** and measures for risk reduction or recovery are the responsibility of external actors (deities, government, NGOs, etc).
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Few community members** have been exposed/have participated in DRR/recovery awareness events. These have had **little impact** in improving awareness and practices.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some community members** have been exposed/have participated in DRR/recovery awareness events. These have resulted in improving **some practices** and awareness.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Most community members** have been exposed/have participated in DRR/recovery awareness events. These have resulted in **substantial improvement in practices** and awareness.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**All community members** have been exposed/have participated in DRR/recovery awareness events. These have resulted in **substantial improvement in practices** and awareness.

Suggested Guiding questions	Suggested Means of Verification
- Who is responsible for the occurrence of disasters? Do you think people can control how bad a disaster gets? If yes, in what ways? If no, why not? - What awareness campaigns for DRR/recovery have happened in this community or have reached you? - Have there been open discussions and debates within the community on disasters? In specific: - on disaster risk and how to reduce it? - on lessons learned from previous disasters? - What training have community members received on DRR (excluding the one given to the emergency committee)? - How effective have these activities been? How many community members have an improved understanding of risk reduction, as a result of these activities? Can you give some examples of this improvement?	- Documentation of open community meetings (e.g. photos, minutes, attendance list) - Documentation of trainings (e.g. photos, attendance list) - Documentation of awareness campaigns (posters, flyers etc) - Agreements, works, photos or other evidence of community actions. - Triangulation consultations for verification

Comments

Component 4: Education of children in DRR	Key Question 4: Are DRR/recovery knowledge and capacities being passed on to children formally through local schools and informally via oral tradition from one generation to the next?
Disaster Resilience Level	Disaster Resilience Characteristic
1 — Little awareness of issues and no action	There is **minimal to no dissemination** of DRR/recovery knowledge and capacities to children, whether through formal or informal transmission.
2 — Some awareness and motivation, some action, but action is piecemeal and short-term	**Some DRR/recovery knowledge** and capacities being passed on **through oral tradition only**; **no knowledge** and capacities being transferred **through the local school**.
3 — Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some DRR/recovery knowledge** and capacities being passed on through **both oral tradition and local schools**. However **local teachers are not formally trained** in DRR/recovery.
4 — Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Substantial transmission of DRR/recovery knowledge** and capacities through **both oral tradition and local schools**, with **local teachers formally trained** in DRR/recovery**. However, these efforts are **not fully supported** by the education system.
5 — Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**Substantial transmission of DRR/recovery knowledge** and capacities through both oral tradition and local schools, with teachers formally trained in DRR/recovery and with education system support, including **DRR/recovery mainstreamed in the school curriculum.**

Suggested Guiding Questions	Suggested Means of Verification
• In what ways is DRR and recovery knowledge transmitted to children in the community? • Is oral tradition (stories, songs, arts) one of the channels? • Is the local school one of the channels? If so: • What formal DRR and recovery training have teachers received? • Are there DRR and recovery teaching materials? • Are DRR and recovery mainstreamed in the official school curriculum?	• Records of teachers' training • Teaching materials incorporating knowledge relating to DRR • Photos of school DRR activities • Triangulation consultations with students

Comments

Strengthening Governance to Manage Disaster Risk

Component 5: DRR in development planning	Key Question 5: Does the community see DRR as an integral part of plans/actions to achieve wider community goals (e.g., poverty alleviation, quality of life)?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Community has **very limited to no awareness** on the links between DRR and development. There is **no integration of the two in planning**.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Community **sees importance of DRR** for achieving wider community goals, but **has not documented** DRR actions in its local development plan (or **DRR actions documented** in local development plan but this is **not used or outdated).**
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Community sees importance of DRR for achieving wider community goals and **occasionally implements DRR actions** documented in local development plan(s). However, these DRR actions **address only some aspects of the problem**.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community sees DRR as an integral part of plans and actions to achieve wider community goals and **regularly implements DRR actions** documented in local development plan(s), which **address most aspects** of the issue.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Community sees DRR as an integral part of plans and actions to achieve wider community goals and **regularly implements DRR actions** documented in local development plan(s), which **address all aspects** of the issue.

Suggested Guiding Questions	Suggested Means of Verification
- What common goals do you have for the well-being and development of this community? - Are these documented in a plan (or otherwise available to the community members)? - What impact to you think actions to reduce disaster risk will have on these goals? - Are actions to reduce disaster risk documented in your development plan? If yes: - How often do you carry out these actions? - Are they sufficient? If not, why and what else is needed?	- Local development plans incorporating DRR measures - Local disaster risk Management plan - Local contingency plan - Project profiles that include DRR measures - Projects/works completed

Comments

Component 6: DRR in land use planning	Key Question 6: Does the community decision-making regarding land use and management take disaster risk into account?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Community has **no land use plan** and land management practices do **not consider disaster risk.**
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Community has a land use plan** that has **limited consideration** for disaster risk. OR, community has **no land use plan** and risk-informed land management practices are **sporadic and insufficient.**
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Community has a land use plan** that **considers most aspects** of disaster risk, but it is not **supported/aligned with local/central** government land use planning and there are **difficulties in its implementation**.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Community has a land use plan** that **considers all aspects** of disaster risk and it is **supported/aligned with local/central** government land use planning. However, there are **still constraints in implementation.**
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**Community has a land use plan** that **considers all aspects** of disaster risk, is **supported/aligned with local/central** government land use planning, and **fully implemented** in community land management practices.

Suggested Guiding Questions	Suggested Means of Verification

• Who owns the land in this community? Is it customarily owned or via statutory titles?
• How do you use the land? Please mention activities and designated spaces (e.g. for construction, for farming, for pasture, for industry, for forest or wetland reserves, etc).
• In what ways do you consider disaster risk when deciding how to use the land?
• Is there a community land use plan? If not, why not? If yes:
  • In what ways does it take disaster risk into account?
  • How often and in what ways is it used in the community?
  • Does everyone know about it and follow it?
  • Does it align with government land use plans at higher levels?
  • What measures do you have in place to ensure the plan is followed?
	• Hazard maps
	• Disaster risk studies
	• Documentation of land use planning decisions, if available.
	• Community land use plan incorporating DRR
	• Local authority or central government land use plans
	• Field observation

Comments

Component 7: Community Decision-Making	Key question 7: Is the community leadership committed, effective, and accountable?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Community leaders are **not effective**, show **no commitment**, they are **not accountable** (do not share information, invite participation or respond to feedback).
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Limited leadership commitment and effectiveness**, with actions being infrequent, piecemeal and short-term; leaders are **rarely accountable**.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Medium level of commitment and effectiveness**, with more **numerous and long-term actions**, but these **do not address all aspects** of the problem and **do not form part of a long-term strategy**. Leaders are **occasionally accountable** to their constituents (e.g. only on big problems).
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community leadership is **committed and regularly accountable**. Actions are more long-term and **linked to an agreed long-term strategy**, but there are **still constraints** in its effective implementation.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Leadership is **committed, regularly accountable and effective**, with actions **addressing all aspects** of the problem and linked to **an agreed and supported long-term strategy**.

Suggested Guiding Questions	Suggested Means of Verification

Commitment:
• How are decisions made in the community?
  • Who makes them?
  • Through what process?
  • How often does this process happen?
Accountability
(Participation, Info sharing, Complaints response):
• How do other community members participate in these decisions?
• Does everybody know about these decisions and usually agree?
• What happens when people don't agree, or when they have complaints or feedback?
Effectiveness:
• Do the decisions and actions taken always result in solving the problems? If not, what limitations are you faced with?
	• Documentation of existence of community organization
	• Documentation on election process of community leadership
	• Documentation of meeting and assemblies (minutes, attendance lists, photos)
	• Completed projects/works based on community decisions
	• Evidence of accountability (e.g. public announcements on how funds have been managed).
	• Triangulation consultations to verify commitment

Comments

Component 8: Inclusion of Vulnerable Groups	Key Question 8: Are the vulnerable groups in the community included/represented in community decision making and management of DRR and recovery?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Vulnerable groups **never participate** in DRR/recovery decision-making and management. Community **decisions and actions never address** their needs and priorities.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Vulnerable groups occasionally** participate/are represented in community DRR/recovery decision-making and management. Community **decisions and actions rarely address** their needs and priorities.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Vulnerable groups regularly and actively** participate/are represented in community DRR/recovery decision-making and management. Resulting decisions and actions **sometimes address** their needs and priorities.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Vulnerable groups regularly and actively** participate/are represented in community DRR/recovery decision-making and management and **some occupy leadership positions** within the decision-making body**.** Resulting decisions and actions **frequently address** their needs and priorities.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**Vulnerable groups regularly and actively** participate/are represented in community DRR/recovery decision-making and management and **some occupy leadership positions** within the decision-making body. Resulting decisions and actions **always address** their needs and priorities.

Suggested Guiding Questions	Suggested Means of Verification
[Re-iterate vulnerable groups agreed upon in the beginning of the discussion] • How do you make decisions as a community? • In what ways do vulnerable groups participate or are represented in this decision-making process? • How would you describe their participation? Is it active or inactive? Frequent or infrequent? • How many vulnerable groups participate/are represented within the bodies that make decisions regarding DRR and recovery? • In what ways do decisions and actions take into account the opinions and needs of vulnerable groups? Can you give examples?	• List or census of vulnerable people and groups • Meeting minutes • Meeting attendance lists • Photos of meetings/assemblies • List of decision making body members and their positions • Evidence of measures taken to protect and include vulnerable groups (e.g., disabled access ramps to community buildings)

Comments

Component 9: Women's participation	Key Question 9: Do women participate in community decision making and management of DRR and recovery?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Women **never participate** in DRR/recovery decision-making and management. Community **decisions and actions never address** their needs and priorities.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Women occasionally** participate/are represented in community DRR/recovery decision-making and management. Community **decisions and actions rarely address** their needs and priorities.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Women regularly and actively** participate/are represented in community DRR/recovery decision-making and management. Resulting decisions and actions **sometimes address** their needs and priorities.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Women regularly and actively** participate/are represented in community DRR/recovery decision-making and management and **occupy leadership positions** within the decision-making body**.** Resulting decisions and actions **frequently address** their needs and priorities.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**Women regularly and actively** participate/are represented in community DRR/recovery decision-making and management and **occupy high-level leadership positions** within the decision-making body. Resulting decisions and actions **always address** their needs and priorities.

Suggested Guiding Questions	Suggested Means of Verification
• In what ways do women participate in the decision-making process? • How would you describe their participation? Is it active or inactive? Frequent or infrequent? • How many women participate/are represented within the DRR decision making-body? • What kind of positions do they usually occupy? Do they occupy leadership positions? • How often do the resulting decisions and actions take into account the opinions and needs of vulnerable groups? Can you give examples?	• Meeting minutes • Meeting attendance lists • Photos of meetings/assemblies • List of decision making body members and their positions

Comments

Component 10: Rights Awareness and Advocacy	Key Question 10: Is the community aware of its rights, relevant legal mechanisms and responsible actors for their fulfilment, and does it advocate for these?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Community has **little to no awareness** of its rights, relevant legal mechanisms and responsible actors. Community **never advocates** for its rights before duty-bearers.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Community has **some awareness** of its rights, relevant legal mechanisms and responsible actors, **but takes little to no advocacy action**.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Community has **good awareness** of its rights, relevant legal mechanisms and responsible actors. It **advocates for these occasionally** through its leaders, but this is **usually insufficient**.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community has **good awareness** of its rights, relevant legal mechanisms and responsible actors. Leaders **advocate for these regularly** when interacting with government actors and these efforts are **sometimes successful**.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Community has **good awareness** of its rights, relevant legal mechanisms and responsible actors. Leaders **advocate for these rights regularly** when interacting with government actors and these efforts **always grant them the desired and necessary support.**

Suggested Guiding Questions	Suggested Means of Verification
- What rights do you have as citizens of this country that serve to protect or help you cope with a disaster? - What regulations and procedures are in place for these rights to be fulfilled? - Who are the government actors responsible for the fulfilment of these rights? - How often do leaders of your community advocate for funding or support before local or central government? - Were these advocacy efforts rooted in a discussion of your rights and their legal obligations as duty bearers (or were you "just asking for support")? - What was the outcome of this advocacy? Please give examples.	- Local plans referencing rights and/or relevant legislation - Evidence of public awareness of rights (posters, flyers). - Records of meetings with local governments. - Photos of works or services resulting from rights-based advocacy efforts.

Comments

Component 11: Partnerships for DRR and recovery	Key Question 11: Are there clear, agreed and stable partnerships between the community and other actors (local authorities, NGOs, businesses, etc.) that provide resources for DRR and recovery?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	There are **no partnerships** between the community and external actors that can provide funds/resources for DRR and recovery.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**There are partnerships** with external actors, but these are **unstable in frequency** and provide only **piecemeal and short-term** funds/resources for DRR and recovery.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	There are partnerships with external actors that provide **funds/resources for long-term** DRR and recovery actions. However, these are **unstable in frequency** and **not linked to a long-term plan** for DRR and recovery.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	There are **stable and effective** partnerships that provide funds/resources for long-term DRR and recovery actions, **linked to a long-term strategy/vision** for DRR and recovery. However, there are **still constraints** in its full implementation.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	There are **stable and effective** partnerships with external actors that **provide all funds/resources required to achieve a long-term strategy** for DRR and recovery.

Suggested Guiding Questions	Suggested Means of Verification
• What external actors does your community have strong relationships with, whether for funding, resources, coordination, training or activity implementation for DRR/recovery? Please list these partnerships and their nature. Stability • Have these partnerships been regular or irregular? • Short duration or long duration? Effectiveness: • What benefits have these partnerships brought in reducing risk and recovery? Please give specific examples? • Have these benefits been sufficient to support all necessary actions to reduce risk and recover? If not, what else is needed?	• Written agreements between community leadership and external actors (municipal actors, NGOs, etc.) • Work and activities completed as a result of partnership • Records of management of funds and resources

Comments

Reducing Disaster Vulnerability for Resilience

Component 12: Sustainable Environmental Management	Key Question 12: Does the community adopt sustainable environmental management practices that reduce disaster risk and new risks related to the effects of climate change?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	There is **little to no consideration** for sustainable environmental management practices in the community. The environment is highly degraded and/or negatively affected by climate change.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Community employs **one-off and piecemeal environmental management** measures that have **limited impact** in protecting the environment from degradation and from the negative effects of climate change.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Community employs **more long-term environmental management** measures to protect the environment from degradation and the negative effects of climate change. However, these measures **address only some aspects of the problem** and **do not form part of a long-term strategy**.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community employs **numerous and long-term** environmental management measures **linked to an agreed long-term strategy** to protect the environment from degradation and the effects of climate change. However, there are **still some constraints** in its full implementation.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Community employs numerous and long-term sustainable environmental management measures linked to a long-term strategy, which is **fully implemented** and **embedded in community behavior and practices.**

Suggested Guiding Questions	Suggested Means of Verification
• Have you noticed any loss or depletion of environmental resources over the years? Why do you think this is? • What community practices can you think of that are damaging to the environment and increase disaster risk? • What changes have you perceived in the climate, compared to years ago? • How does this affect the environment? • What measures do you take to reduce this environmental degradation and protect the environment from the negative effects of climate change? • What proportion of people in the community take these measures? • Are these measures enough to reduce disaster risk? What else is needed?	• Existence of environmental management committees • Hazard or vulnerability assessment reports • Seasonal mapping • Tangible evidence reported/ observed of measures to adapt or reduce degradation

Comments

Component 13: Water security and management	Key Question 13: Does the community have access to sufficient quantity and quality of water for domestic needs during disasters?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	There is **high water shortage** both in normal times and during emergencies. Community **shows little motivation or awareness** in protecting water sources/supply and in restoring these after a disaster.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Community is **motivated and aware**, but has **limited capacity** (skills, knowledge, resources) to protect and restore water sources/supply. **Actions are piecemeal, short-term** and largely insufficient in preventing **disruption/contamination** of water sources/supply in a disaster.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Community takes **more long-term measures** to protect and restore water sources/supply. However, these are **still insufficient** to ensure adequate water access/quality for all and are **not connected to a water source management strategy**. Significant **post-disaster impact** on the quality and/or quantity of water is likely.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community takes long-term measures to protect and rehabilitate water supply from disasters, in line with a **water source management strategy.** Water access/quality is **mostly adequate** during normal times and disasters. However, there are still **constraints to its full implementation**.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Community can **access sufficient quality and quantity of water** both in normal times and emergencies, as a result of practices and actions tied to **long-term strategy, fully supported by water authorities.**
Suggested Guiding Questions	**Suggested Means of Verification**
• What are the sources from which you obtain water, whether for drinking or domestic use? Please list the sources or water supply channels you use. • In what ways are these sources/supply channels affected in a disaster, in terms of quantity and quality? Are they affected seasonally also? • What measures do you take to protect these before a disaster? • What measures do you take to rehabilitate these after a disaster? • Which group or which people lead these measures? Is there a trained local water management committee? How does it operate (do community members pay fees)? • To what degree are these measures enough to ensure adequate quantity and quality of water before, during and after a disaster? What is still needed? • Do these measures form part of a local water source management plan? Is this plan aligned and supported by local water authorities?	• Water quality sampling • Photos/observation of improved water sources • Local water management plan • Documentation of water management committee activity (meeting minutes etc). • Records of water management training • Health statistics on water borne diseases. • Report or investigation on water sources and water availability (compared with acceptable standards e.g. Sphere or water authority). • Triangulation consultations

Comments

Component 14: Health access and awareness	Key Question 14: Do community members maintain good health in normal times through appropriate awareness and practices (adequate nutrition, hygiene and health care access)?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	**No or very few people** employ appropriate practices to **enhance health and protect life from the health risks** affecting the community. **Health status** is generally **very poor** in the community.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Few people** employ appropriate practices to enhance health and protect life from the health risks affecting the community. Health status is generally **poor** in the community.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some people** employ appropriate practices to enhance health and protect life from the health risks affecting the community. Health status is generally **somewhat good** in the community.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Most people employ appropriate practices to enhance health and protect life** from the health risks affecting the community. Health status is generally **good** in the community.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**All people employ appropriate practices to enhance health and protect life** from the health risks affecting the community. Health status is generally **very good in the community.**

Suggested Guiding Questions	Suggested Means of Verification
What are the most prevalent diseases in your community during normal times? Health awareness • How do you reduce the risk of the most prevalent diseases during normal times? • What are the most prevalent diseases threatening children under the age of 5? • What do mothers/carers have to do to reduce the risk? • Name three basic good hygiene practices. • How do you store and keep water safe for consumption? • How do you reduce the risk of malnutrition? • What estimated proportion of your community's population has this awareness? Health status: • Does the community have access to a health centre with adequate supplies, equipment and staff? Please explain. • Do health workers carry out periodic health checks in the community? • Are children under 5 routinely vaccinated? • What are the levels of malnutrition in the community? • Are there adequate sanitation facilities in the community? • Is there a functioning waste management system in the community?	• Evidence of sanitation facilities • Evidence of functioning waste management system • Water quality sampling • Health worker reporting and records • Triangulation consultations with health workers

Comments

Component 15: Secure food supply	Key Question 15: Does the community have a secure and sufficient food supply during disasters?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	**No one** in the community has or can access a secure and sufficient food supply in normal times or during disasters.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Few households** have or can access a secure and sufficient food supply in disasters.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some households** have or can access a secure and sufficient food supply in disasters.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Most households** have or can access a secure and sufficient food supply in disasters.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**All households** have or can access a secure and sufficient food supply in disasters as well as normal times.

Suggested Guiding Questions	Suggested Means of Verification
• What proportion of the population can access enough food during a disaster? • Through what actions (individual and/or communal) are they able to secure their food supply in a disaster (stockpiling reserves, preserves, communal grain bank, purchasing power, etc)? • Are these actions sufficient? What else is needed? • Does this food supply during disasters contain the staple foods you usually consume (context-specific)?	• Emergency resource inventory • Evidence of food storage system either at household or community level

Comments

Component 16: Hazard-resistant livelihoods practices	Key Question 16: Does the community employ hazard-resistant livelihoods practices for food and income security?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Most community members show **little motivation or awareness** to pursue hazard-resistant livelihoods practices. There is severe food and income insecurity during disasters.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Most community members are **motivated and aware**, but have **limited capacity to adopt** hazard-resistant livelihoods practices, with these being **piecemeal and insufficient** in ensuring food and income security during a disaster.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Most community members adopt **more numerous and long-term** hazard-resistant livelihoods practices, **though these are still insufficient** and/or **do not form part of a long-term strategy**. Significant post-disaster impact on livelihoods is still likely.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Most community members adopt **hazard-resistant livelihoods practices,** as part of a **long-term strategy to protect livelihoods** in disasters. However, there are still **constraints to the full implementation** of this strategy.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**All community members** employ hazard-resistant livelihoods practices, as part of a **long-term strategy to protect livelihoods** in disasters. **Food and income security remain protected during a disaster as a result.**

Suggested Guiding Questions	Suggested Means of Verification
• What are the livelihoods your community engages in (men and women)? Please list them. • In what ways are your livelihoods affected by disaster? • What measures do you employ to ensure that your livelihoods can resist the hazard (e.g. hazard-tolerant crops, soil and water conservation, risk diversification, etc.)? • What proportion of the community applies these measures? Are these measures applied by most of the community members? • Are these practices sufficient to protect your livelihoods and to ensure your food and income security in a disaster?	• Evidence of practices employed

Comments

Component 17: Market access	Key Question 17: Are the local market links for products, labour and services protected against shocks?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	**All** local market links that the community depends on are **extremely vulnerable** to shocks and are often cut-off and slow to recover when shocks occur.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Most** of the local market links that the community depend on are **extremely vulnerable** to shocks. Measures for their protection and restoration in the face of shocks are **piecemeal and insufficient**.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some** of the local market links that the community depends on are **vulnerable to** shocks. **Some measures** in place **to protect and restore** market links in a disaster. Considerable disruption in the face of shocks.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Most** of the local market links that the community depends on **are sufficiently protected** to **absorb shocks and/or quickly recover from them.**
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**All** local market links that the community depend on **are sufficiently protected** to absorb shocks and/or **quickly recover** in a disaster.

Suggested Guiding Questions	Suggested Means of Verification

• Which are the main products or services that community members sell in the market? List these products and services.
• In what ways is the market affected from shocks? What happens to:
  • Physical access routes?
  • Demand from buyers?
  • Support services (e.g. intermediaries, suppliers, packaging, transport, information networks etc.)?
• What measures do you or other actors put in place to protect these market relations from stopping or deteriorating during an emergency?
• Are these enough? Why not and what else is needed?
• What measures are in place to ensure that these market relations can recover quickly if affected in a disaster?
• Are these enough? Why not and what else is needed?
	• Physical works to protect transport and communications infrastructure necessary for markets.
	• Market system studies, if available.
	• Purchasing agreements including provisions for emergencies.

Comments

Component 18: Access to Financial Services	Key Question 18: Are there affordable and flexible financial services (savings and credit schemes, micro-finance), whether formal or informal?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	Community has **no access to financial services**, either formal or informal. Existing mechanisms are **unaffordable and/or exploitative.**
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Financial services are available** to the community, but are **difficult to access** (due to unaffordability, lack of knowledge, or institutional presence). These services are **not sufficient** to finance disaster risk reduction and recovery.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Community members** can access financial services. However, these can finance **only some necessary aspects** of disaster risk reduction and recovery.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Community members** can access both formal and informal services, and their capacity can finance **most necessary aspects of** disaster risk reduction and recovery.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**Community members** can access both **formal and informal financial services** which have **sufficient capacity** to finance **all necessary** aspects of disaster risk reduction and recovery.

Suggested Guiding Questions	Suggested Means of Verification
- Where do community members save or obtain loans from? - Are these services organised by the community or are they provided by external actors, or both? - Do people know about formal financial services? - What interest rates and conditions/guarantees apply to these? - Are these services affordable and flexible? - Do people in the community use these services whether on a regular basis or in a disaster? If not, why not? - Can these services provide sufficient funds to prepare, respond and/or recover from disaster? Please explain.	- Documentation evidencing existence and functioning of VSLAs or other credit schemes available to the community - Records from financial institutions

Comments

Component 19: Income and Asset Protection	Key Question 19: Are household asset bases (income, savings and convertible property) sufficiently large and diverse and protected to ensure reduced vulnerability to disaster?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	**No household** in the community has an **asset base that is sufficiently large, diverse and protected** to reduce vulnerability to disaster (by supporting coping and/or adaptive capacities).
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Few households** in the community have an **asset base sufficiently large, diverse and protected** to reduce vulnerability to disaster (by supporting coping and/or adaptive capacities).
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some households** in the community have an **asset base sufficiently large, diverse and protected** to reduce vulnerability to disaster (by supporting coping and/or adaptive capacities).
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Most households** in the community have an **asset base sufficiently large, diverse and protected** to reduce vulnerability to disaster (by supporting coping and/or adaptive capacities).
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**All households** in the community have an **asset base sufficiently large, diverse and protected** to reduce vulnerability to disaster (by supporting coping and/or adaptive capacities).

Suggested Guiding Questions	Suggested Means of Verification
• What are your sources of cash (remittances, salary/revenue, savings, things you can sell or trade)? • How do you use these assets to cope in a disaster? • What measures do you take to diversify these assets so that you can cope in a disaster? • Are there any obstacles that prevent you from diversifying? • What measures do you take to protect these assets (e.g. insurance policies, physical protection measures etc) to be able to cope in a disaster? • Are there any obstacles that prevent you from protecting these assets?	• Evidence of collective savings schemes, e.g. VSLAs • Insurance policies for the protection of asset bases • Evidence of measures to protect assets

Comments

Component 20: Access to Social Protection	Key Question 20: Does the community have access to informal and formal social protection schemes that support disaster risk reduction and recovery?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Community has **limited informal social protection** (mutual assistance systems) and **no access to formal social protection** schemes that can support risk reduction and recovery.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Social cohesion/solidarity within community provides **informal social protection arrangements** that support risk reduction at a **small scale**. **Few** community members can access **formal social protection schemes** that support risk reduction and recovery**,** though these are **inconsistent, piecemeal and short-term**.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Community** members can access **both informal and formal** social protection schemes, though these **can support only some necessary aspects** of risk reduction and recovery.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Community** members can access both informal and formal social protection schemes that can support **most necessary aspects** of risk reduction and recovery.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**Community members** can access both informal and formal social protection schemes that can support **all necessary aspects** of risk reduction and recovery.

Suggested Guiding Questions	Suggested Means of Verification
• In what ways do community members help each other out during emergencies? In what ways are the most vulnerable persons helped out? • What formal social protection schemes provided by central government or other agencies (such as farmer associations) are available to the community members who need them? • Are these informal/formal social protection measures adequate to support disaster mitigation measures (e.g. house improvements or livelihoods protection)? If not, why and what else is needed? • Are these informal/formal social protection measures adequate to effectively prepare for and/or recover from disaster? If not, why and what else is needed?	• Photos of informal social protection arrangements • Documentation on available formal social protection schemes • List of vulnerable groups benefitting from formal social protection schemes • Photos, works or resources showing benefit from such schemes

Comments

Component 21: Social cohesion and conflict prevention	Key Question 21: Are there a sense of peace/security and effective conflict prevention/mitigation mechanisms, both within the community and with other communities?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	There are **low levels** of **peace and social cohesion, widespread sense of insecurity** and **frequent violence** within the community and/or with other communities. **No actions to mitigate/prevent violence** and **little to no motivation** to establish these.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	There is **some social cohesion and peace,** but **frequent tensions (threat of violence)** within the community and/or with other communities often **escalate to violence**. Conflict prevention and mitigation **actions piecemeal and one-off**.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	There is a **good level of social cohesion and peace** within the community and/or with neighboring communities. **Some tensions occasionally escalate into violence**. There are more **long-term actions** to prevent and mitigate conflict, however, these are **not always effective or sufficient to address all tensions.**
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	There is a **sense of security and peace** among community members, with **occasional tensions** within the community and/or with other communities **rarely escalating to violence** and **resolved peacefully** and in **a timely manner**.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	There is a **widespread sense of security and peace** in the community. There are **rarely tensions** within the community or with other communities, and these **never escalate to violence**. There are **effective mechanisms** in place **to prevent violence outbreak** within and between communities.

Suggested Guiding Questions	Suggested Means of Verification
• Do community members generally feel safe here? If not, why not? • How frequently do disputes or tensions emerge in the community and/or with other communities? • Do these disputes/tensions escalate to violence? • What measures do you take to ensure these disputes do not escalate to violence (prevention)? Are these effective? • In what ways do you react and resolve incidents of violence when they do break out (mitigation)? Are these effective?	• Evidence of violence prevention measures • Evidence of violence mitigation and resolution measures

Comments

Component 22: Critical Infrastructure	Key Question 22: Are the community's critical infrastructure and basic services resilient to disaster (being located in low-risk areas, using hazard-resistant construction methods and structural mitigation measures)?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	**All critical infrastructure and basic services** in the community are **highly vulnerable to disaster. None of them are adequately protected** from hazards (via hazard-resistant construction, structural mitigation and/or being located in low-risk areas).
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Most critical infrastructure and basic services** in the community are **highly vulnerable to disaster. Few of them are adequately protected** (via hazard-resistant construction, structural mitigation and/or being located in low-risk areas).
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some critical infrastructure and basic services** in the community are **highly vulnerable to disaster. The remaining structures are adequately protected** (via hazard-resistant construction, structural mitigation and/or being located in low-risk areas).
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Few critical infrastructure and basic services** in the community are **vulnerable to disaster. Most of them are adequately protected** (via hazard-resistant construction, structural mitigation and/or being located in low-risk areas).
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**No critical infrastructure and basic services in the community is vulnerable to disaster. All of them are adequately protected** (via hazard-resistant construction, structural mitigation and/or being located in low-risk areas).

Suggested Guiding Questions	Suggested Means of Verification
• What is the public social infrastructure in your community? List e.g. school, health center, access routes, electrical supply, telecommunications, drainage and other key basic services. • What proportion of this infrastructure is located in areas that are vulnerable to disaster? • What is the effect of disasters on this infrastructure? How does this affect your access to critical services? Are some structures more vulnerable than others? • Have mitigation works been undertaken to reduce risk to the infrastructure located in unsafe areas? • Are construction methods used in the community that increase resistance to disaster?	• Hazard maps • Infrastructure works • Evidence of hazard mitigation works • Works execution reports

Comments

Component 23: Housing	Key Question 23: Is the community's housing resilient to disaster (including being located in low-risk areas, using hazard-resistant construction methods and structural mitigation measures)?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	**All housing structures** in the community are **highly vulnerable to disaster. None of them is adequately protected** from hazards (via access to housing insurance; quality hazard-resistant construction and repair services; structural mitigation measures and/or being located in low-risk areas).
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Most housing structures** in the community are **highly vulnerable to disaster**. **Few of them** are **adequately protected** (via access to housing insurance; quality hazard-resistant construction and repair services; structural mitigation measures and/or being located in low-risk areas).
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Some housing structures** in the community are **highly vulnerable to disaster**. **The remaining structures** are **adequately protected** (via access to housing insurance; quality hazard-resistant construction and repair services; structural mitigation measures and/or being located in low-risk areas).
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	**Few housing structures** in the community are **vulnerable to disaster. Most of them** are **adequately protected** (via access to housing insurance; quality hazard-resistant construction and repair services; structural mitigation measures and/or being located in low-risk areas).
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	**No housing structures** in the community are **vulnerable to disaster. All of them** are **adequately protected** (via access to housing insurance; quality hazard-resistant construction and repair services; structural mitigation measures and/or being located in low-risk areas).

Suggested Guiding Questions	Suggested Means of Verification
• What proportion of housing infrastructure is located in areas that are vulnerable to disaster? • What is the effect of disasters on housing? • What construction methods are used to increase the resistance of your houses to disaster? • What mitigation works are used to reduce risk to housing located in unsafe areas? • Who carries out or has carried out these works? • How many people in the community know how to build, maintain and repair their houses? • Have they been formally trained? Are their services sufficient? • Do households have any form of home insurance policy to repair or rebuild their house if damaged?	• Hazard maps • Inspection reports of housing structures. • Evidence of hazard mitigation works • Training records / certification of community members in house reparation

Comments

Enhancing Disaster Preparedness for Effective Response and to "Build Back Better" in Recovery

Component 24: Contingency and recovery planning	Key Question 24: Does the community use a communally developed contingency and recovery plan(s) that is widely understood and includes measures to protect vulnerable groups?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	Community has **no contingency (and recovery) plan** (or, if it does, very few community members know about it and/or the plan is outdated and not in use).
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Community **has a contingency (and recovery) plan,** but it is **not aligned with higher-level contingency planning or an early warning system (EWS)** and it **poorly addresses the unique needs of vulnerable groups**. **Few community members know its content** and the plan **has never been applied** (in a simulation) and updated.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Community has a **communally developed contingency (and recovery) plan**. It is **somewhat aligned** with higher-level contingency planning and with the EWS It **somewhat addresses** the unique needs of some vulnerable groups and **some community members** know its content. It is **rarely applied** (in simulations) and updated.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community has a communally developed contingency (and recovery) plan that is **mostly aligned with EWS, higher-level contingency planning** and **mostly addresses** the unique needs of vulnerable groups**. Most community members** know its content however it is only **occasionally applied and updated**.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Community has a communally developed contingency and recovery plan, **fully aligned with EWS, higher-level contingency planning** and **fully addresses** unique needs of vulnerable groups. **All community members** know its content and it is **regularly applied and updated.**

Suggested Guiding Questions	Suggested Means of Verification
• Does the community have a disaster contingency plan? • Do you have recovery plan (or does your contingency plan include recovery activities)? • Who participated in the preparation of this plan? • What proportion of the community knows and understands the plan? • What activities does the plan include to protect the vulnerable groups? • Does the plan align with any existing EWS? • Does the plan align with higher-level contingency planning? • How often do you carry out simulation drills to test and update this plan? Are improvements made after simulations?	• Contingency plan • Recovery plan (or mention of recovery actions in the contingency plan) • Evidence that content of contingency plan has been shared with wider community • Clearly signed evacuation routes • Maps of alternative water sources • Photos and/or reports of simulation drills • If possible, perform an evacuation exercise

Comments

Component 25: Early Warning System	Key Question 25: Is there an operational Early Warning System in the community?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	In spite of the local knowledge of some people, the community **rarely knows about the coming of a hazard** that could significantly impact the community.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	**Due to local knowledge,** the community often knows when a hazard may occur, but they **do not (or cannot) take the appropriate measures** (e.g. alert dissemination, evacuation, response to warning etc) to protect themselves and their livelihoods.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	**Additional to local knowledge**, the community has **hazard monitoring and alert dissemination tools** and **trained personnel in their O&M.** However, these tools are **not always effective/reliable** and the EWS is **not fully harmonized with the local contingency plan** or with **higher-level EWS. No simulation drills** to test the effectiveness of the EWS.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Additional to local knowledge, the community has **effective and reliable tools** to monitor hazards and communicate alerts. The EWS is **integrated** with the **local contingency plan and higher-level EWS.** The EWS is **supported by higher-level risk authorities** (including for O&M). However, there are **still constraints** with its functioning. Only **occasional simulation drills** with poor follow-up and review of the EWS.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	The community is equipped with a **functioning Early Warning System** with reliable and effective hazard monitoring and alert dissemination mechanisms, fully integrated with the local contingency plan and **supported by regional/national** risk management authorities (including for O&M). Simulation **drills** are **regularly** carried out and **weaknesses addressed.**

Suggested Guiding Questions	Suggested Means of Verification
• Are the community members aware of hazards might occur? • What mechanisms does the community have in place to monitor hazards (e.g. river flood level monitors)? • What tools are used to (receive and) disseminate alerts in this community? Are these effective? What else is needed? • Are people at risk alerted with sufficient time in advance? • Have community members been trained in operation and maintenance of the EWS for their community? • Is the EWS system integrated into your contingency plan? In what ways?	• Early Warning System community operation manual/ plan • Evidence of monitoring equipment and tools • Communication and warning tools • Reports on dissemination the Early Warning System

Comments

Component 26: Capacity in preparedness, response and early recovery	Key Question 26: Does the community have a trained and operating organisation in disaster preparedness, response and early recovery?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	The community **does not have an organisation** responsible/capable of emergency preparedness, response and early recovery. OR there is an established organisation **but it is inactive.**
2 Some awareness and motivation, some action, but action is piecemeal and short-term	There is a responsible community organisation (for preparedness, response and early recovery) but its **operational capacity is weak** and **only some of its members** formally trained in preparedness, response and early recovery.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	There is a responsible community organisation, **most its members** have been **trained** in preparedness, response and early recovery, with **improved operational capacity**. However, operations are **not always consistent** with the local contingency plan, or supported by external/government actors and **can address only some aspects** of the issue.
4 Actions are long-term, linked to strategy and address main aspects of the issue, out there are still deficiencies (especially systemic) in implementation	There is a **fully trained** responsible community organisation, which **regularly carries out** preparedness activities and can perform response/early recovery **in line with the local contingency plan.** However, there are **still constraints** fully carrying out its role.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	There is a fully trained responsible community organization, which **regularly carries out** preparedness activities and can perform response/early recovery **in line with the local contingency plan** and **effectively coordinates with/is supported by external agencies and government.**

Suggested Guiding Questions	Suggested Means of Verification
• Is there a community emergency committee trained and certified (or otherwise validated by higher bodies)? • What topics is the committee trained on (e.g. search and rescue, first aid, management of emergency shelters, needs assessment, relief distribution, fire-fighting, debris clearing, reconstruction)? • Are these skills adequate for the committee to fulfil its role? If not, what other training is needed? • Do they have the necessary equipment to carry out their roles in emergency preparedness, response and early recovery? • What regular preparedness activities does the emergency committee carry out? Are these in line with the contingency/recovery plan? • How effective has the committee been (or is likely to be) in disaster relief and early recovery? • In what ways does this committee coordinate / receive support from district/regional emergency committees or other actors?	• Meetings minutes of local emergency committee • Documentation of constitution and membership of local emergency committee • Tangible prevention or preparedness actions • Equipment inventory for preparedness and response • Damage analysis and needs assessment reports. • Evidence of relevant training for local emergency committee (attendance list, photos) • Evidence that shows knowledge acquired is put into practice, as applicable • Simulation drill evaluation reports

Comments

Component 27: Health services in emergencies	Key Question 27: Does the community have access to health care facilities and health workers equipped and trained to respond to physical and mental health consequences of disasters?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	There is **no access to trained/qualified healthcare services** in the community or the surrounding area to respond to the health consequences of disasters.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	There is a healthcare facility in the area, but **access** and/or **quality of service** (including extension services and referrals) **is poor/fragmentary.**
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	There is an accessible healthcare facility staffed with **basic trained health staff, medicines and equipment**. Services (including extension services and referrals) are **not sufficient** for all health issues during emergencies and only **partially coherent with the relevant national strategy** for health in emergencies (if applicable).
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	There is an accessible healthcare facility staffed with **all the necessary** trained personnel, equipment and medicines. Services (including extension services and referrals) are **coherent with the relevant national strategy**, though there are **still constraints** in its implementation.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	There is an accessible healthcare facility staffed with **all the necessary** trained personnel, equipment and medicines. Services (including extension services and referrals) are **highly coherent** with the relevant national strategy and **adequate** to deal with the health consequences of shocks.

Suggested Guiding Questions	Suggested Means of Verification
- What are the most prevalent diseases or injuries in emergencies? - Is there a health center which you can access (in terms of distance-wise, safety-wise and financially)? - In emergencies, does this health center have adequate supplies (e.g. therapeutic food, water reserves), medicines, equipment, and trained staff? Please explain. - What kind of health services does this center provide during emergencies? Does it include: - referral mechanisms? - extension services (community health workers)? - mental health services? - How would you describe the quality of health services during emergencies? - Do these comply with national health guidelines for emergencies? If not, what are the main gaps?	- Health center reports - Equipment inventory - Medicine/supply inventory - List of health center staff and their qualifications - Records of training for health centre staff and community health staff - Evidence of referral system (vehicles, referral protocol, etc) - Maps to verify accessibility of health centers - List of community health workers

Comments

Component 28: Education services in emergencies	Key Question 28: Do education services have the capacity to continue operating in emergencies?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	Education services are **always suspended** as a result of shocks. Community shows **little awareness or motivation** to plan/organise for ensuring their continuation.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Education services **usually experience extended disruption** as a result of shocks. The community is **aware and motivated** to act, but measures to ensure continuation of education services are **sporadic and piecemeal.**
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Education services **sometimes experience short disruption** in the face of shocks. Community takes more **long-term actions** to ensure education is not disrupted by shocks. However, these **do not address all aspects** of the problem, and there is **no school safety/continuation plan in place** or a responsible body to oversee its implementation (**OR these do exist** but are inactive or operate fragmentarily).
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Education services in the community are **rarely disrupted** as a result of a shock. The community implements **long-term measures** to ensure continuous education, as part of an agreed **school safety/continuation plan, overseen by a school emergency committee**, but there are still constraints in its full implementation.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Education services in the community are **never disrupted** as a result of a shock. The community **fully implements** an agreed **school safety/continuation plan, overseen and periodically reviewed and updated by a responsible committee.**

Suggested Guiding Questions	Suggested Means of Verification
• How often is the school impacted by emergencies? • In what ways are school activities affected? • What measures do you take to ensure the continuous operation of education activities in emergencies (e.g. protection of materials and supplies, teacher or substitute availability, mobile education services etc.)? • Are these measures enough? If not, what else is needed? • Do these form part of a school safety or school continuation plan? • Which group oversees the implementation of this plan? • If applicable: Are these simulation drills and periodic reviews of the plan?	• School safety and/or continuation plan • Documentation of the existence of a school emergency committee • School emergency committee meeting minutes

Comments

Component 29: Emergency Infrastructure	Key Question 29: Are emergency shelters (purpose-built or modified) accessible to the community and have adequate facilities to meet basic needs for all of the affected population?
Disaster Resilience Level	**Disaster Resilience Characteristic**
1 Little awareness of issues and no action	**All of community housing is unsafe** for any emergency (small-scale and large-scale) and there is **no physical space to evacuate** to.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	In small scale emergencies, community members can house themselves in **homes of relatives/neighbours** or use **school buildings**. There is **no other community building** to serve as an evacuation shelter. **Conditions are inadequate** to meet basic needs of affected people and protect vulnerable groups.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Additional to the homes of relatives and neighbours, the community **has a structure** (**other than the school**) that can serve as shelter in emergencies but its **facilities are can meet the basic needs of some** affected persons and protect **some vulnerable groups**.
4 Actions are long-term, linked to strategy and address main aspects of the issue, out there are still deficiencies (especially systemic) in implementation	Additional to the homes of relatives and neighbors, the community **has a structure** (other than the school) that serves as a shelter with **adequate conditions** to **meet the basic needs of most** affected persons and **protect most vulnerable groups.**
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Additional to the homes of relatives and neighbours, the community has a **purpose-built emergency shelter in optimal conditions** to meet **basic needs of all affected persons** and **to protect all vulnerable groups**.

Suggested Guiding Questions	Suggested Means of Verification
• Is housing infrastructure in the community adequately safe? • In an emergency, do community members stay in their homes? If not, do they take shelter in community buildings, or in neighbouring houses? • Are schools used as emergency shelters? • Are there community buildings which have adequate conditions (in terms of water supply, sanitation, first aid, sleeping, food storage) during the time necessary to recover from a disaster • Do these community buildings include access for persons with disability? Are latrines clearly signed for men and women and in well-lit areas? Are there designated areas for women and girls? • How many people can these community buildings shelter? Does it cover the needs of the community?	• Photos of buildings used as emergency shelters • Manual for operating the shelter • Inventory of resources in the emergency shelter

Comments

Component 30: Leadership and volunteerism in response and recovery	Key Question 30: Does the community play a leading role in coordinating preparedness, response and recovery, reaching all affected (inc. the most vulnerable) people, through an organised and trained group of volunteers?
Disaster Resilience Level	Disaster Resilience Characteristic
1 Little awareness of issues and no action	Community plays a **passive role** in preparedness, response and recovery, with the needs of affected and vulnerable people **remaining unattended**. There is **negligible or no community volunteerism**.
2 Some awareness and motivation, some action, but action is piecemeal and short-term	Community plays a **somewhat active role** in preparedness, response and recovery, but **few or some of the affected** people and vulnerable groups are reached. Community volunteers **too few, disorganised and untrained**.
3 Awareness and long-term actions, but these are not linked to a long-term strategy and/or not all aspects of the problem are addressed	Community plays an **active role** in coordinating preparedness, response and recovery; **some of the affected** and vulnerable groups are reached. Community volunteers **generally organised but untrained**.
4 Actions are long-term, linked to strategy and address main aspects of the issue, but there are still deficiencies (especially systemic) in implementation	Community plays a **leading role** in coordinating preparedness, response and recovery; **most of the affected** and vulnerable people reached; Volunteers are **organised and trained** and **most of them** act according to the **established plan/protocol**.
5 Actions long-term, linked to strategy, addressing all aspects of the issue, embedded in society and sustainable	Community plays a **leading role** in coordinating preparedness, response and recovery, **reaching all affected people and vulnerable groups**. Volunteer group is **robust, organised and trained**, acting in **full accordance** with the established plan/protocol.

Suggested Guiding Questions	Suggested Means of Verification
- How active would you describe the role of your community in an emergency? - Is it the community that drives preparedness, response and recovery or is it external agencies (INGOs, government etc.)? - What examples of community volunteerism can you give for preparedness, response and recovery? - How are the volunteers organised? - What training (or appropriate instruction) have these volunteers received? - What plan or guidance do they follow? - Is this level of community leadership and participation adequate to meet the needs of affected people in an emergency? If not, why and what else is needed? - In what ways do these volunteers ensure the protection of vulnerable persons?	- Contingency plan (including mention of role of volunteers) - Census of vulnerable groups - VCA reports - Risk maps - Inventory of resources and equipment for emergency response - Evacuation routes - Inventory list of volunteers - Training attendance lists trainings - Evidence of actions implemented by volunteers (photos, works)

Comments

Welcome to the digital data gathering (DDG) component of the ARC-D toolkit.

This is a step-by-step guide on setting up your CommCare database and Excel dashboard. Transitioning this and other monitoring tools from paper to digital form increases the scale and quality of data collection, since DDG saves time, paper, human resource costs and prevents errors that can occur from transferring data from paper to digital.

Most steps outlined in this guide are accompanied by links to the CommCare help page where you can find additional information and illustrations. However, if there is any inconsistency between the steps outlined here and those on the CommCare help page, please always follow the ones outlined here, as they correspond to the specific design of the ARC-D survey app and its Excel dashboard.
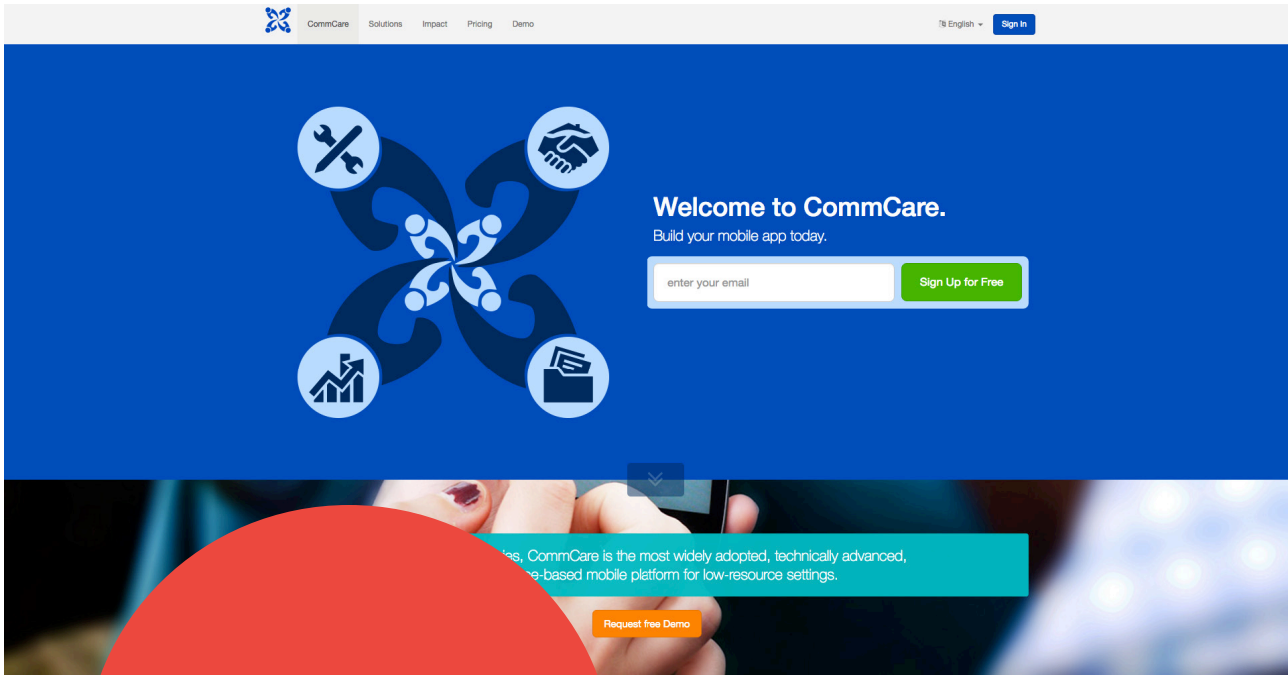
Steps 1 through 7 are directed to the designated CommCare database administrator. This is the person who sets up the CommCare database, has access to received data, and connects the database to the Excel dashboard, which can then be disseminated to the programme and technical staff who can interpret and analyse the data.
In an NGO setting, this person is usually an IT staff member or, alternatively, the MEAL manager, with IT support. However, different agencies will want to make different arrangements, according to their capacity and staffing. Step 6 is directed to both administrator and mobile workers (field users).

Please note, due to continual upgrades of the CommCare interface as well as improvements made to the ARC-D app and Excel dashboard, it is likely that this manual will be periodically updated.
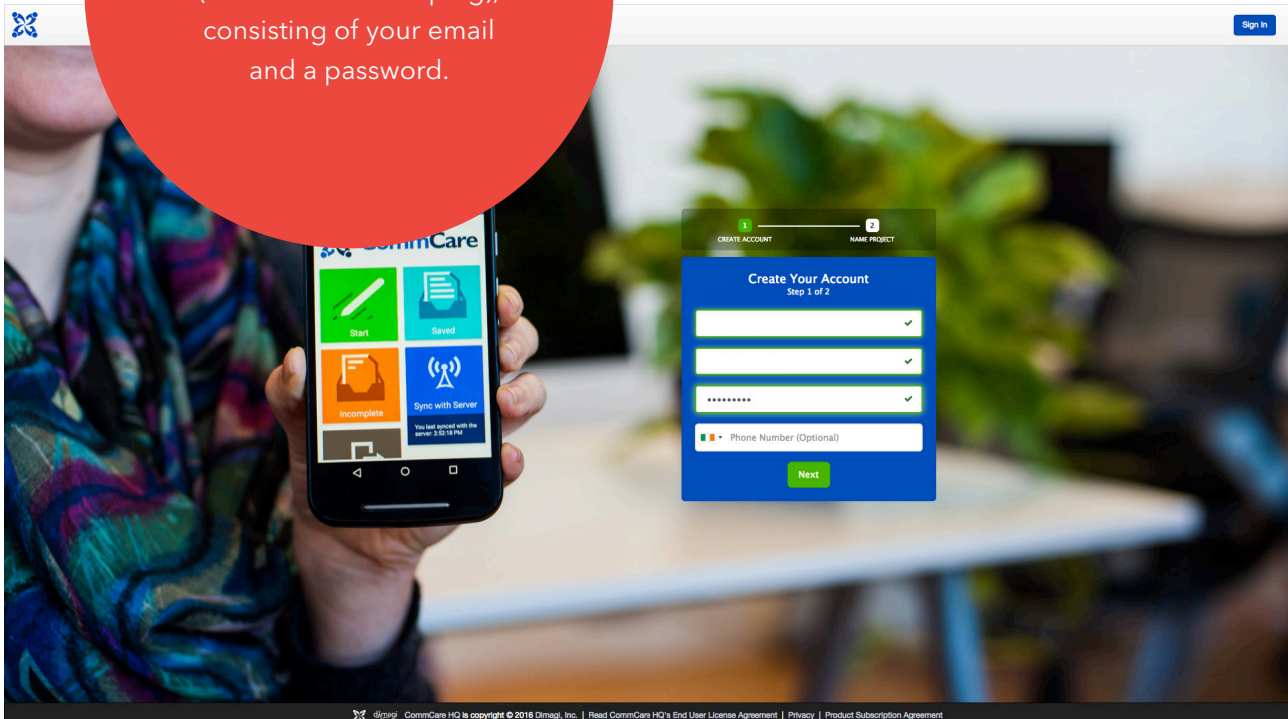
For this reason, please check the ARC-D website at: goalglobal.org/disaster-resilience for the most up-to-date version of this instruction guide or email us at resilience@goal.ie.

1. Create an Account and Project space

Create an account on CommCareHQ (www.commcarehq.org), consisting of your email and a password.

Please note that these account details will be shared with MEAL and technical programmes staff, since these staff will be using the Dashboard often for the purposes of data analysis, and the Dashboard can only be accessed and updated by inputting these details. For this reason, please make sure you are not using a personal and/or inapporpiate password. You will then be asked to name your Project Space. Remember to set the project to your specific time zone, as this will allow CommCare to regularly sync at an appropriate time (i.e. late at night). Project names should not contain spaces.

2. Download the ARC-D App from CommCare Exchange to your Project space

Having created your account and project space, you can now download the ARC-D toolkit application from CommCare Exchange into your Project Space, where you can modify it and deploy it to a smartphone (see Step 5).The confirmation email will take you back to CommCare HQ.

See next steps:
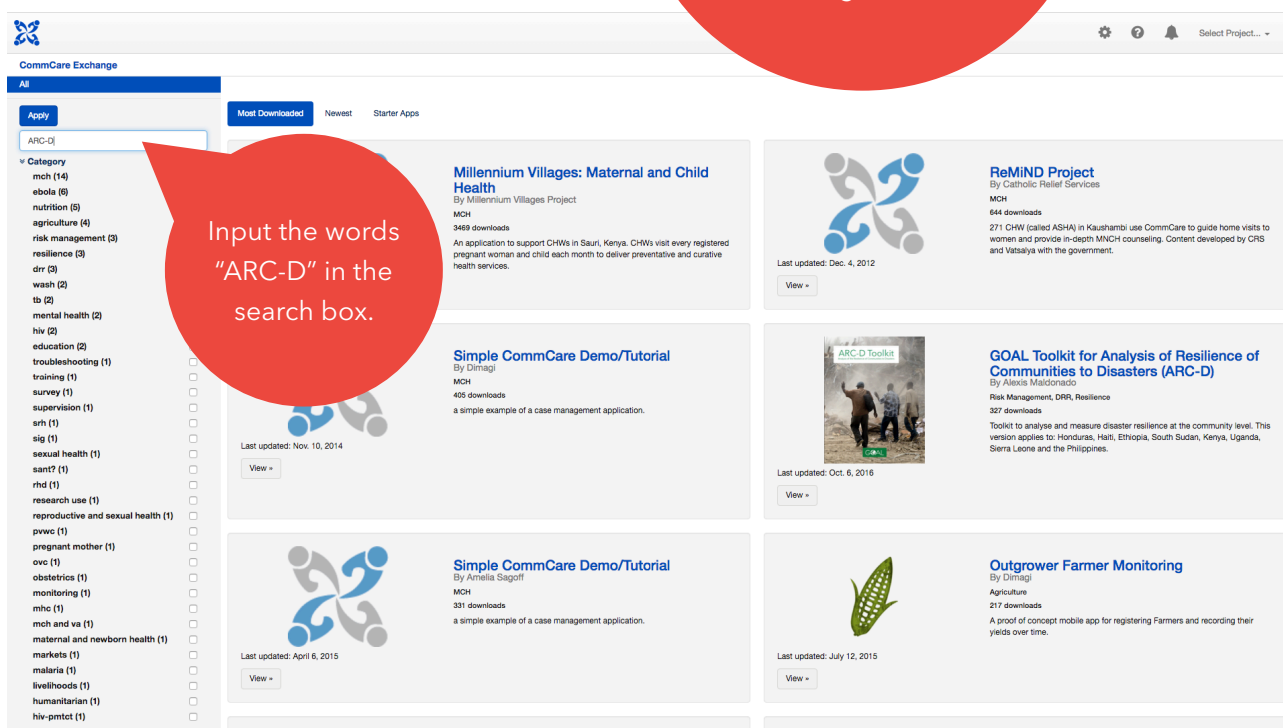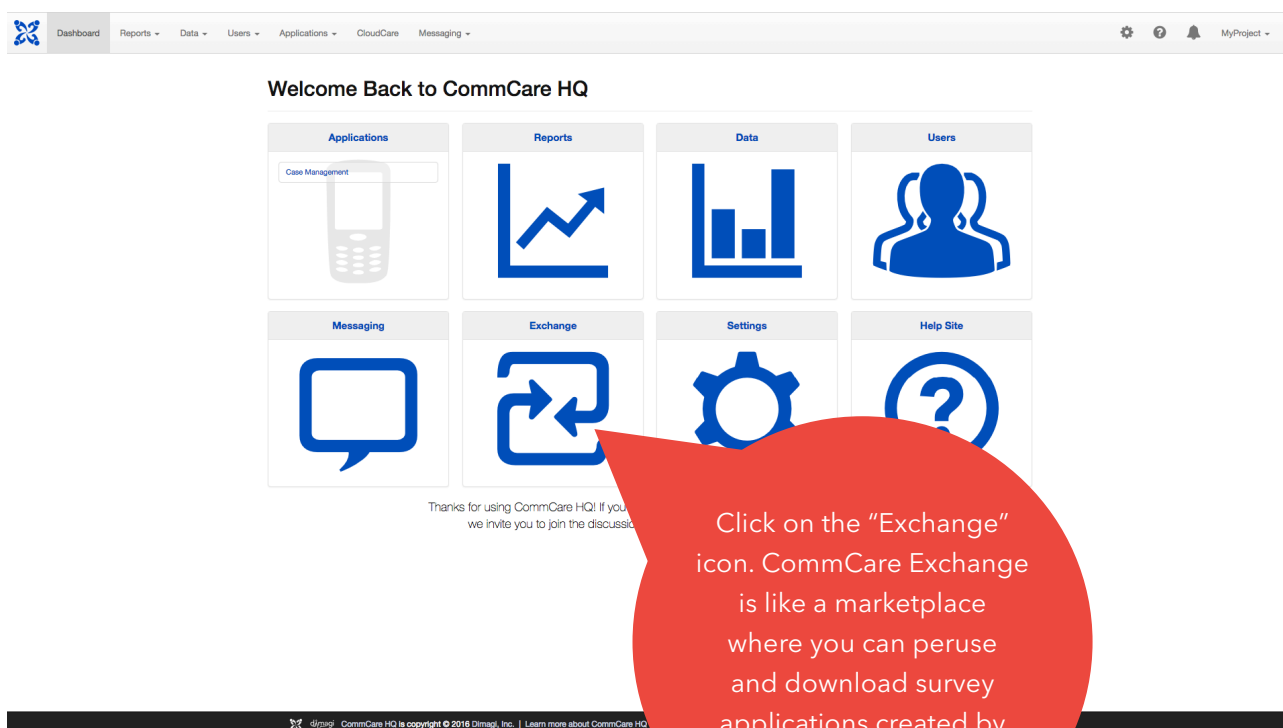
Click on the "Exchange" icon. CommCare Exchange is like a marketplace where you can peruse and download survey applications created by other organisations.

Input the words "ARC-D" in the search box.

Toolkit to analyse and measure disaster resilience at the community level. This version applies to: Honduras, Haiti, Ethiopia, South Sudan, Ke...

Description The GOAL ARC-D toolkit was designed as a concise and user-friendly tool...
These relate to 30 resilience components, spanning 4 thematic areas th...
1. Understanding disaster risk;
2. Strengthening governance to manage disaster risk
3. Reducing disaster vulnerability for improved resilience;
4. Enhancing disaster preparedness for effective response an...

The ARC-D toolkit builds on the disaster resilience work co...
Resilient Communities" (Twigg, 2009). The toolkit's devel...
Easter and Southern Africa, and extensive field testing...

The ARC-D toolkit is comprised of three sections:
1) The questionnaire, the primary data collection too...
2) The CommCare platform, which collates the dat...
3) The user guidance manual, outlining the history,...

The most significant section is used to determine...
• Part A assesses the general context of the com...
and major risk scenarios.
• Part B assesses the community's disaster resil...
to a particular resilience component.
Each question has 5 possible characteristics tha...
indicating a strong resilience characteristic (assi...
means during the field assessment.

The toolkit also provides for the flexibility to deci...
(if relevant) to each one.

Detailed instructions on applying the ARC-D, setti...
more information.

Category Risk Management, DRR, Resilience
Published on Oct. 6, 2016
Languages English
License Creative Commons Attribution (CC BY)
Downloads 327

Browse Multimedia
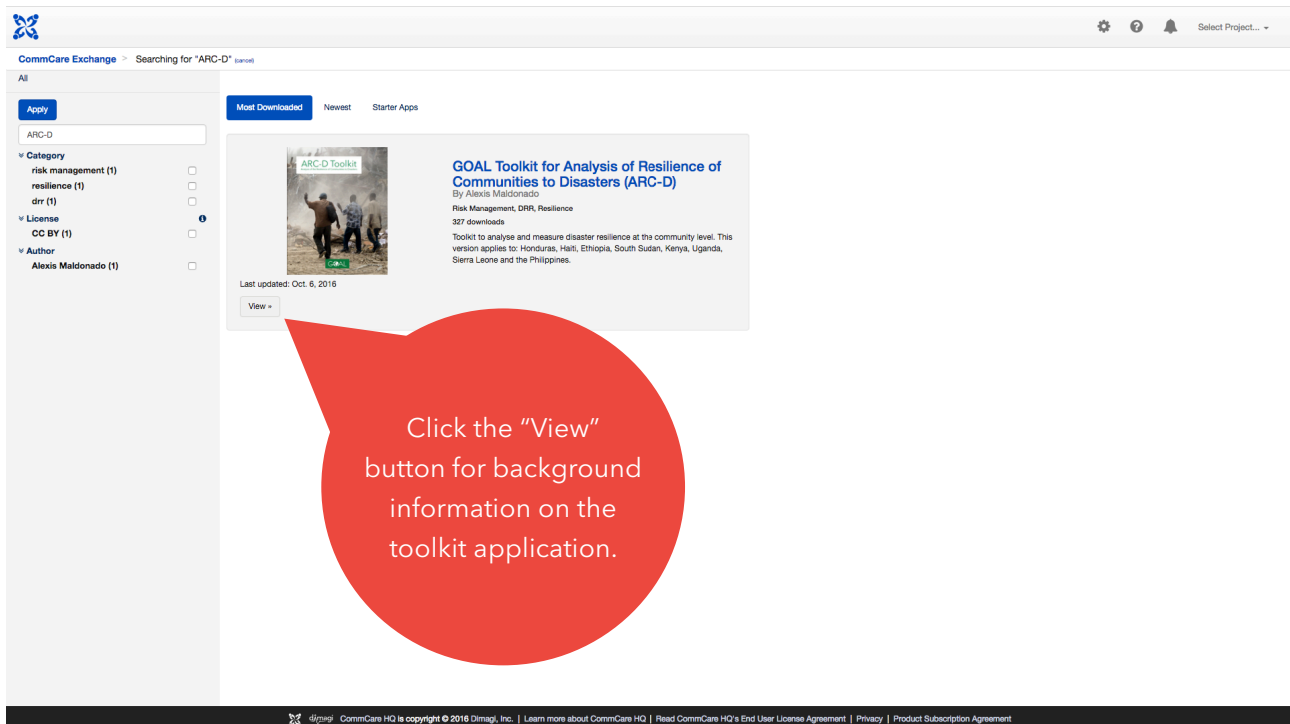
Application ARC-D Toolkt
Media Yes
Description Toolkit to analyse and measure disaste...
Philippines.

Download

New project name | **Download As New Project** | or | Download to Existing Project

At the bottom of this page you will see a "Download" section. If you created a project space(s) as part of Step 1, you can click "Download to Existing Project" and choose which of your project spaces to download to. If for any reason you did not create a project space previously on HQ, you can do so easily here. Write in a name for your project space and click "Download As New Project".

CommCare Exchange > Searching for "ARC-D" (cancel)

All

Apply

ARC-D

▼ Category
risk management (1)
resilience (1)
drr (1)
▼ License
CC BY (1)
▼ Author
Alexis Maldonado (1)

Most Downloaded | Newest | Starter Apps

GOAL Toolkit for Analysis of Resilience of Communities to Disasters (ARC-D)
By Alexis Maldonado

Risk Management, DRR, Resilience
327 downloads
Toolkit to analyse and measure disaster resilience at the community level. This version applies to: Honduras, Haiti, Ethiopia, South Sudan, Kenya, Uganda, Sierra Leone and the Philippines.

Last updated: Oct. 6, 2016

View »

Click the "View" button for background information on the toolkit application.

Check the "Case-Sharing"
box and then hit "Save"
on the top right.
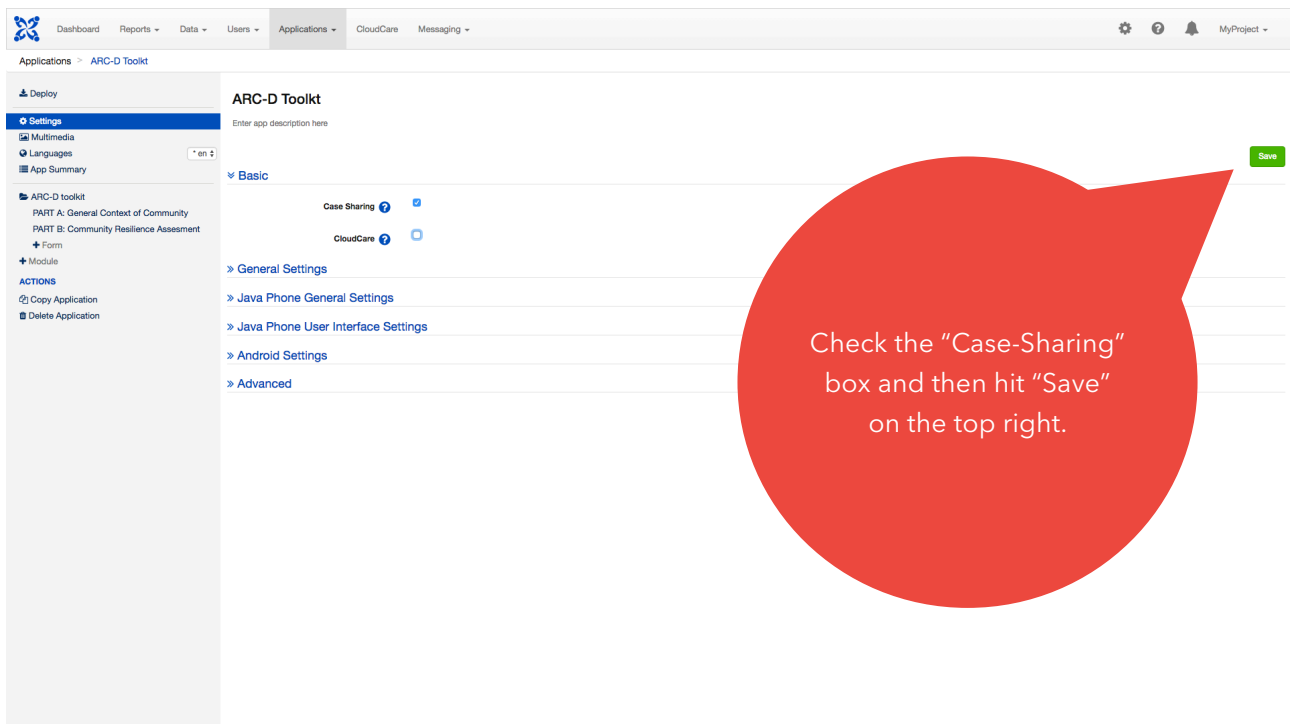
TIP:

Please look for your country in the description of the ARC-D before selecting, since we now have two versions: one for Honduras, Ethiopia, South Sudan, Kenya, Uganda, Philippines, Sierra Leone and Haiti – and another for Nicaragua, Niger, Sudan, Malawi, Zimbabwe, Syria, Turkey, Nepal and India.
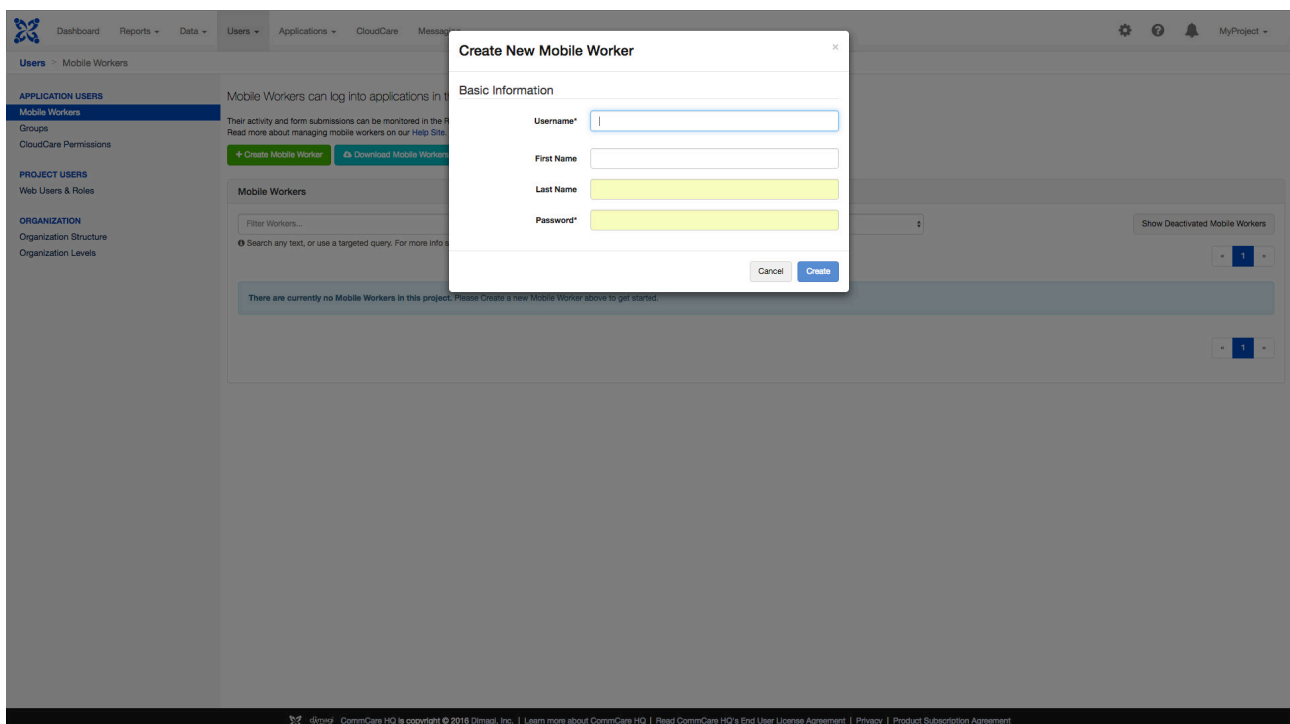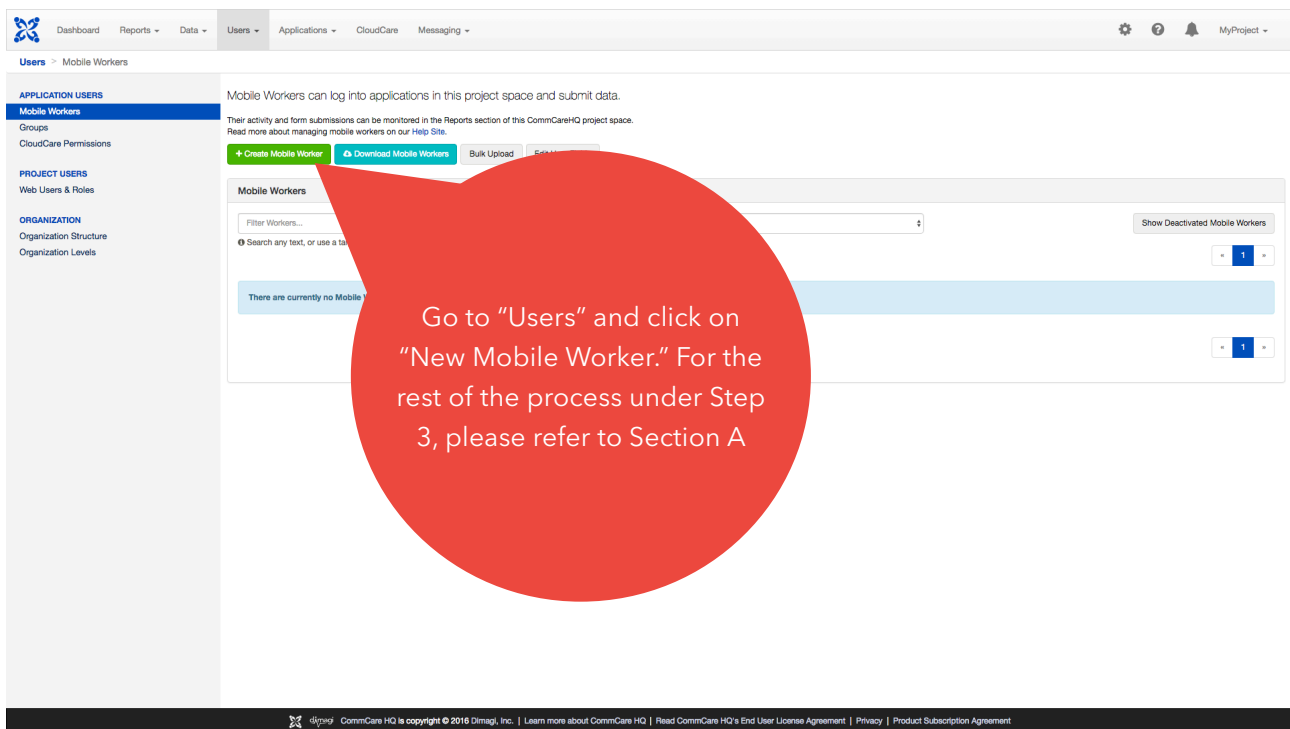
You will be prompted to read and agree to any relevant licenses.
For more info: https://confluence.dimagi.com/display/commcarepublic/CommCare+Exchange

After having imported the ARC-D application into your Project Space, you will be brought to the Application Settings page.

3. Create Mobile Workers (Users)
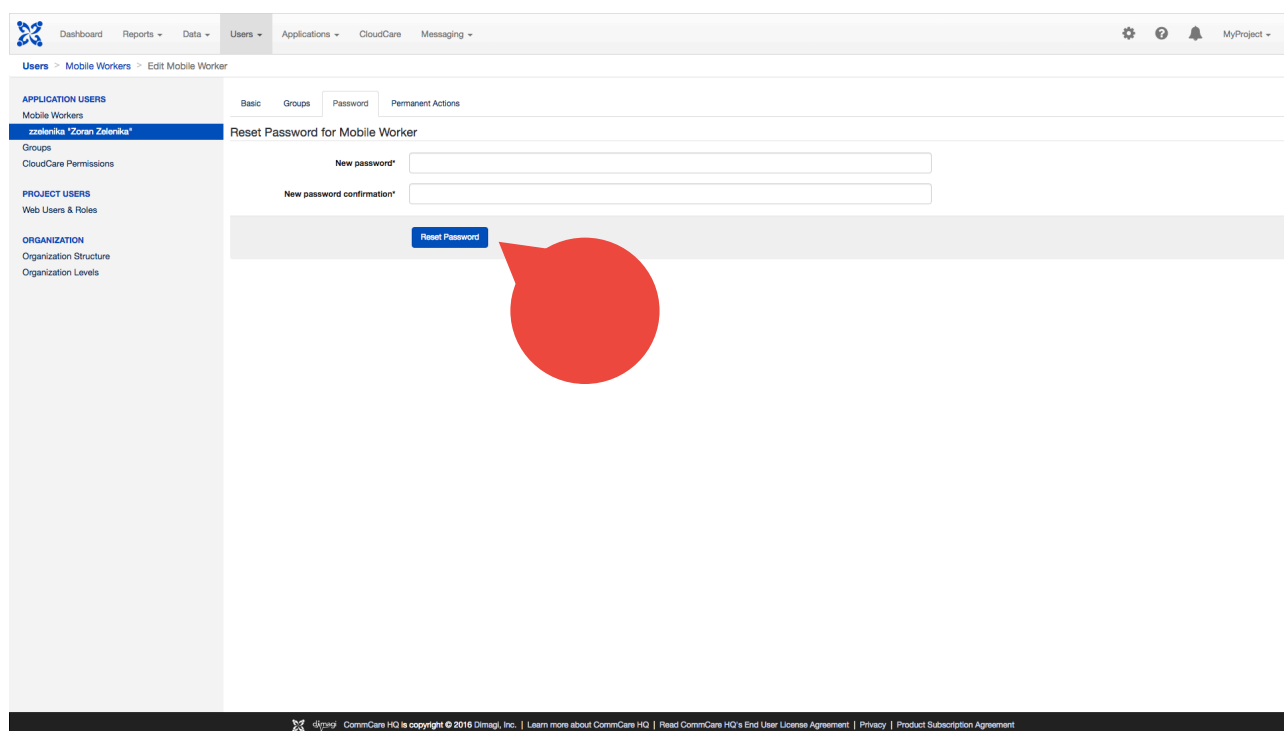
After having created your Project space and activated case-sharing, you can enable the surveyors who will be applying the toolkit in the field to download the survey on their mobile phones, by sending them a unique access code that corresponds to your project space. To do this, you must first create an account for each field surveyor, or "mobile worker" in CommCare-speak.

Go to "Users" and click on "New Mobile Worker." For the rest of the process under Step 3, please refer to Section A

Please note:

Mobile workers must be created one by one. The "bulk upload" option described in Section B is not available in the community plan (free-of-charge version) of CommCare, within which the ARC-D operates.

Please note also that you should document and safely store the passwords you have assigned to mobile workers, as you will not be able to retrieve them from CommCare if you forget/lose them, though you can always reset a password. You can do this by clicking on the mobile worker and then the "Password" tab (third above).

4. Create group and activate case sharing

For the rationale and instructions to create a group, read Section 1 in this link:
https://confluence.dimagi.com/display/commcarepublic/Mobile+Worker+Groups

Case-sharing is an important feature that will enable one mobile worker to access the toolkit surveys carried out by other mobile workers (rather than these surveys being confined to the devices used). Do not forget to activate this feature.

To ensure that case-sharing has in fact been activated, look for the "tick" icon that should appear next to your group, as in the case of Group B shown here.

5. Deploy Toolkit Application to a mobile device

After having created all your mobile worker accounts and the case-sharing group(s) they belong to, you are ready to provide them with the unique URL code corresponding to your project space that will enable them to download the toolkit survey on their Android mobile phones.

Go to "Applications" and click on the ARC-D toolkit. Click on "Deploy" on the top left and then on "Make New Version" (you will see a notice that your application is building).
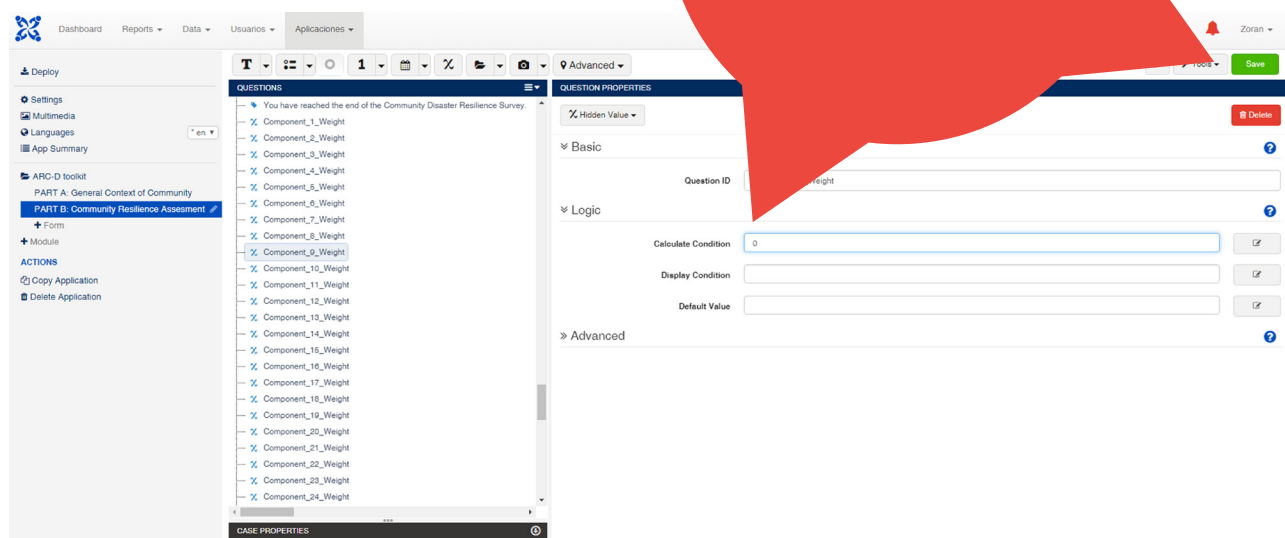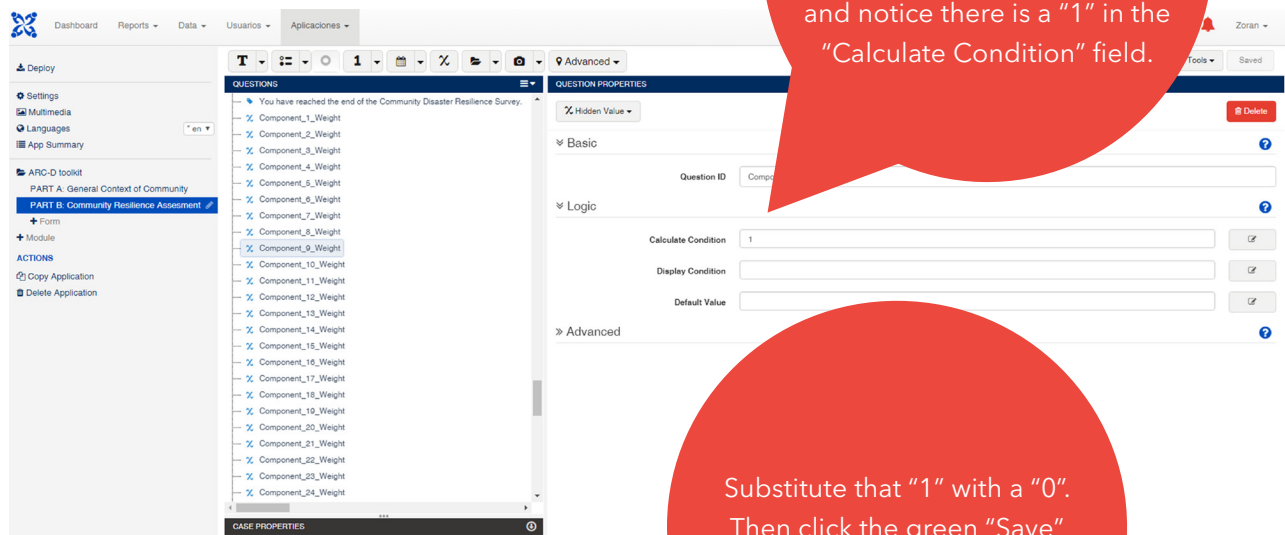
Go to the Comment box and call this version "Original". Then press the green tick button.

This "Original" version is the "untouched" version of the survey and you should always keep one deployable "original" version in your project space. From this point, "making new versions" refers to any changes you make to the survey on CommCare before deploying it. These can include changes in wording, typos, and the assignation of weighting (see below).

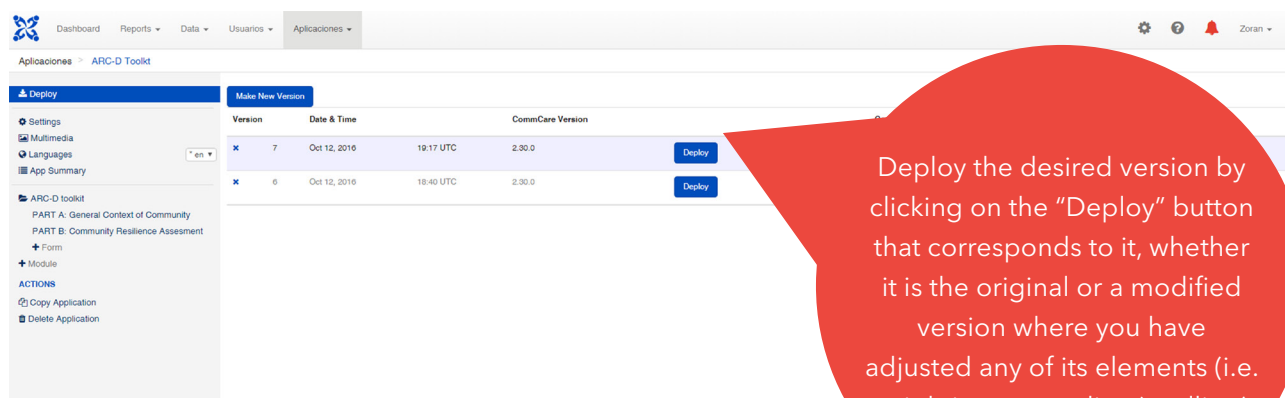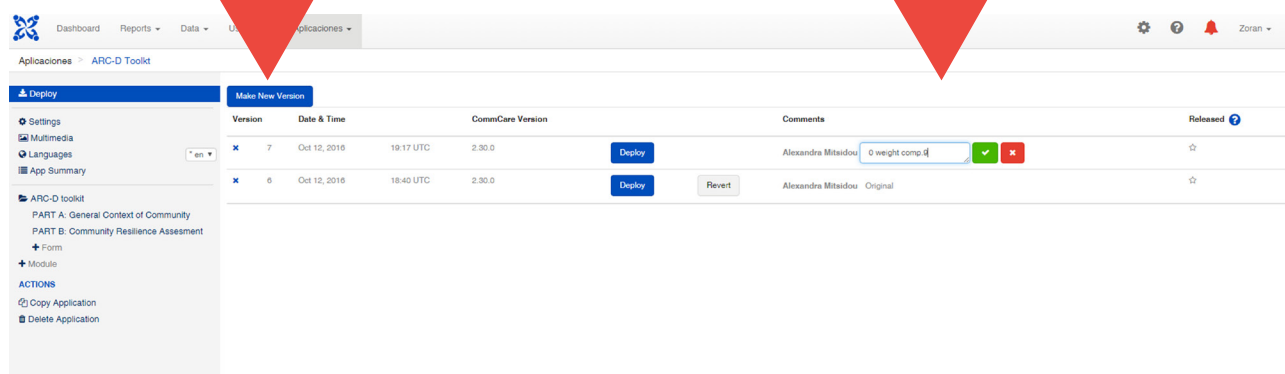## Adjusting the weighting of the 30 key components

You may decide (or receive instructions) to assign a "zero" weighting to one or more of the 30 components that do not apply to the communities to be surveyed. To do this, click on the pencil ("edit") icon on "Part B: Community Resilience Assessment", which you will find on the left-hand side bar on the "Applications" page. The question tree will load shortly, as you can see in the screenshot below.

Scroll down the Question Tree until you get to the 30 key component weights (see below).

Let's assume you want to zero component 9 of the survey. To do this, click on this component ("Component_9_Weight") and notice there is a "1" in the "Calculate Condition" field.

Substitute that "1" with a "0". Then click the green "Save" button at the top right.

With this process, this component will not appear in the deployed survey on the smartphone and the component will not be factored in the final resilience score calculation. Click the "Deploy" button on the top right to get back to the Deployment page.

Click on "Make a New Version" so that CommCare can create a deployable version of the survey you have just saved changes to (this acts as a "Save As"). For version control purposes, don't forget to include a short description of the changes you made in the comments box, in this case, for example, "0 weight comp.9" and to mark this as the "latest" version by clicking on the star at the far right. Click the green tick button to save.

Deploy the desired version by clicking on the "Deploy" button that corresponds to it, whether it is the original or a modified version where you have adjusted any of its elements (i.e. weighting or wording/spelling).
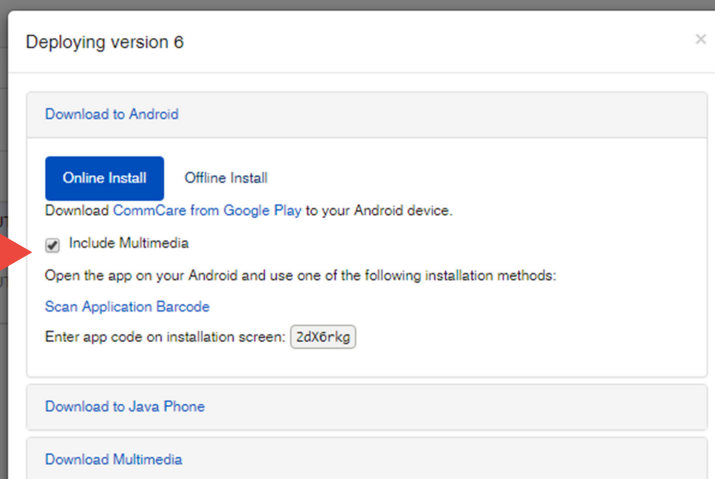
If in the future you would like to deploy the original version (or any previous version), all you have to do is choose that version and click on "Revert". Alternatively you can create yet another new version where you adjust all of the components (or however many you want) to have a value of 1 again.

Important notes regarding Step 5

With the exception of adjusting the weighting for certain components, it is highly recommended that you generally do not tamper with survey, as certain fields are sensitive and would misconfigure the whole survey.

Once you click the "Deploy" button, please ensure "Include Multimedia" is checked, otherwise you will not be able to download the survey to your phone. Click the second option "Enter app code" and note down the unique code that is being shown on the screen.

Deploying version 6

Download to Android

Online Install   Offline Install

Download CommCare from Google Play to your Android device.

☑ Include Multimedia

Open the app on your Android and use one of the following installation methods:

Scan Application Barcode

Enter app code on installation screen: 2dX6rkg

Download to Java Phone

Download Multimedia

Remember there are two levels of logging in the phone application:

a) inputting the access code and
b) inputting your mobile worker username and password.

The access codes are project-specific.
This means that if mobile worker Jane is logged into Project A from her phone and her colleague Sarah needs to use that same phone to do the toolkit survey in the field, it is possible for Jane to log out and Sarah to log in using her unique mobile worker account details (provided, of course, that Sarah is signed up as mobile worker for Project A, just like Jane).

However, if Sarah needs to use this same phone for a new Project B, the only way to input the code that is specific to Project B, is by uninstalling the app and re-downloading it from the Play Store. This must happen every time for a new Project.

6. Install the Application on your phone

Instructions for Administrator

Before distributing the phones to the mobile workers, please ensure that:
•   the phones are fully charged and labelled,
•   you have documented which phone has gone to which mobile worker,
•   the mobile workers will have internet connection
•   the Google play store is not firewalled, or preferably, the CommCare ODK application is already installed on each of the phones to be used.

Leaving these critical steps to the mobile workers to sort out in the field has proven to be bad practice.
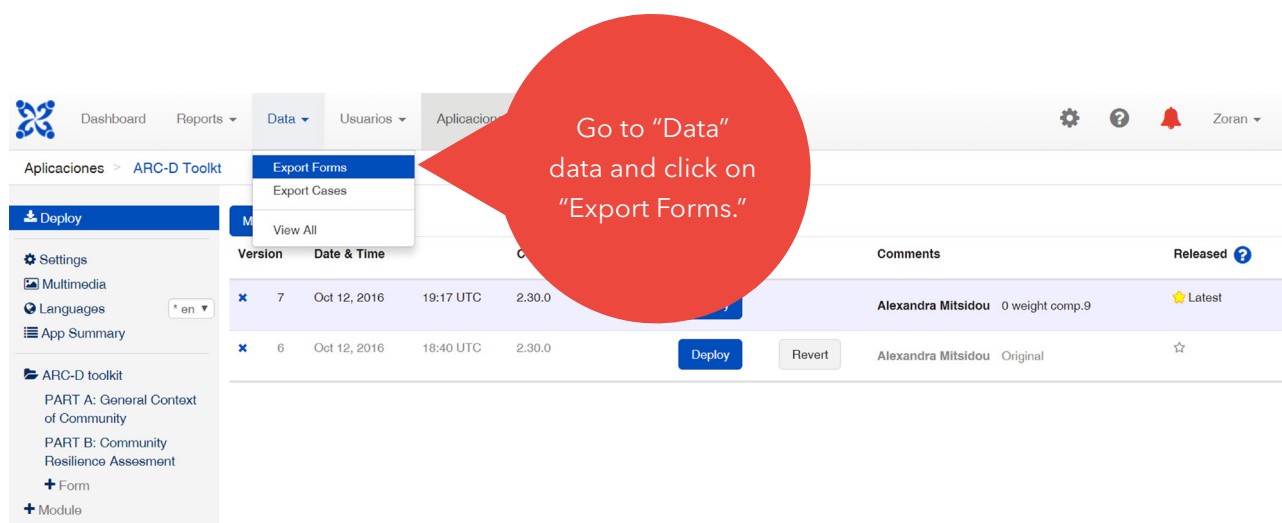
Instructions for mobile workers

Install CommCare on your Android Smartphones from the Play Store. Enter the unique access code given to you by the administrator and then login with the mobile worker account data that you have been given (username and password), also provided by the administrator. https://confluence.dimagi.com/display/commcarepublic/Install+CommCareODK+for+Android+Smartphones

You can now apply the ARC-D survey in the field from your Android phone! Click on the "Get Started" button.

Remember that Part A for a given community needs to be submitted (sent from the phone. If you don't have connection, this is not a problem) to be able to access the Part B survey for that community.

<div style="background-color:#e8503a; color:white; padding:20px; text-align:center; font-size:1.2em;">
7. Connect received CommCare data to the project's unique Excel dashboard
</div>

Your Project's CommCare database will now begin to populate with the completed surveys (forms) sent from the field, which arrive in a raw data form.
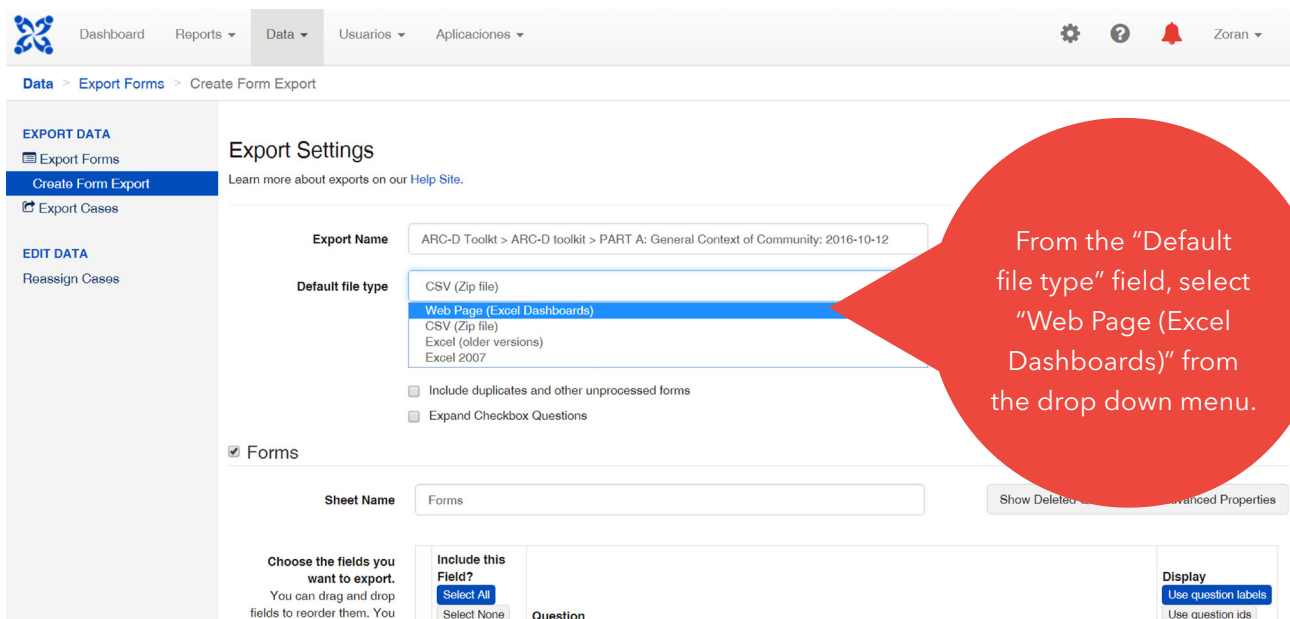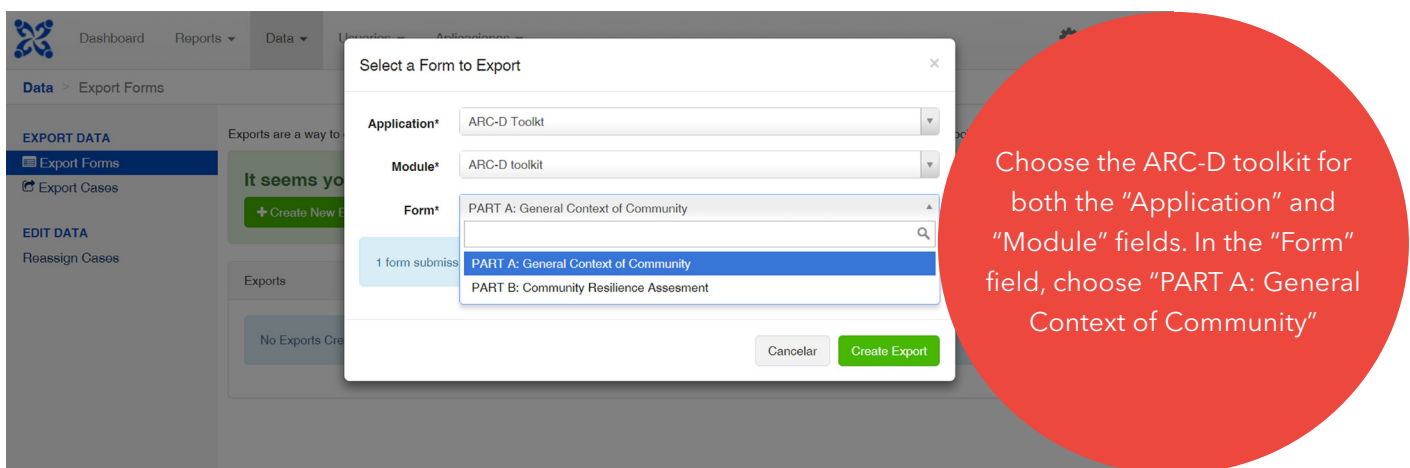

This is the space where you can check if the survey forms from the field were successfully synced with the server and therefore received by CommCare. This is also where you can create exports of the forms that download to your project's unique Excel dashboard, where you can analyse your data.

TIP:
Remember that each project database needs to have its own dashboard.

Click on the "Create New Export" button.

Choose the ARC-D toolkit for both the "Application" and "Module" fields. In the "Form" field, choose "PART A: General Context of Community"

From the "Default file type" field, select "Web Page (Excel Dashboards)" from the drop down menu.

Dashboard   Reports ▾   Data ▾   Usuarios ▾   Aplicaciones ▾   ⚙   ?   🔔   ToolkiResilience(ARC2)V2 ▾
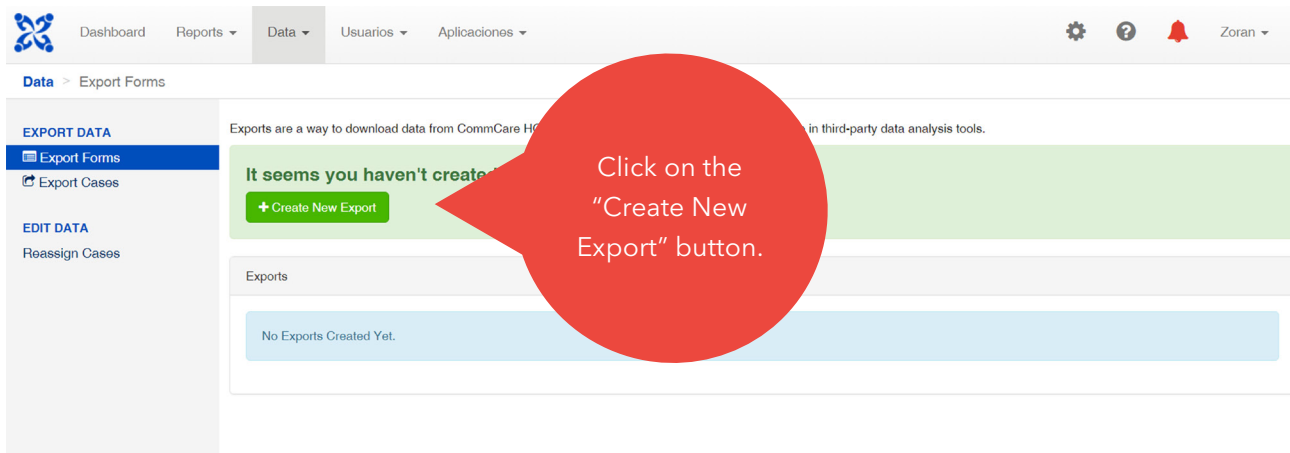
Data > Export Forms > Create Form Export

EXPORT DATA
⊞ Export Forms
　 Create Form Export
↗ Export Cases

EDIT DATA
　 Reassign Cases

Export Settings

Learn more about exports on our Help Site.

| Export Name | ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community: 2016-1 |
| Default file type | Web Page (Excel Dashboards) |

☑ Automatically convert dates and links for Excel
☑ Create a Daily Saved Export
☐ Include duplicates and other unprocessed forms
☐ Expand Checkbox Questions

☑ Forms

Ensure that the boxes "Automatically convert dates and links for Excel" and "Create a Daily Saved Export" are checked (the latter is happens automatically upon selecting "Web Page (Excel Dashboards)."

↕ ☑ `form.ers.Risk_Scenario_Analysis.scenari_3.Description_scena_3`   `rm.ers.Risk_S`
↕ ☑ `form.ers.Risk_Scenario_Analysis.scenari_3.description2_scena_3`   `form.ers.Risk_S`
↕ ☑ `form.ers.Risk_Scenario_Analysis.scenari_3.Impact1_scena_3`   `form.ers.Risk_S`
↕ ☑ `form.ers.Risk_Scenario_Analysis.scenari_3.Coping_Mechanism_scena_3`   `form.ers.Risk_S`
↕ ☑ `form.ers.Risk_Scenario_Analysis.scenari_3.short_title_scenar_3`   `form.ers.Risk_S`
↕ ☑ `form.total_population`   `form.total_popu`
↕ ☑ `form.today`   `form.today`
↕ ☑ `info` `completed_time`   `completed_time`
↕ ☐ `info` `started_time`   `started_time`
↕ ☑ `info` `username`   `username`
↕ ☐ `server` `received_on`   `received_on`
↕ ☑ `case` `caseid`   `caseid`
↕ ☐ `case` `case_name`   `case_name`

For Part A only, you will scroll down and untick the fields "started_time", "received_on" and "case_name," as shown above. Click Create.

Create   Cancelar

ARC-D toolkit > ARC-D toolkit > PART A: General
Context of Community: 2016-10-12   ✎ Edit   **Export**   ☐
🗋 **Form:** ARC-D toolkit > ARC-D toolkit > PART A: General
Context of Community

✉ Saved for Daily Report ⟳ Update Data

No data is available yet.
Please click 'update data' if the automatic sched
picked up the changes in a while.

You now have your Part A export! Click on "Updata data". This feature ensures that your data updates daily. Then refresh your page.

ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community: 2016-10-12

📄 **Form:** ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community

✏️ Edit   **Export**

✉️ Saved for Daily Report   🔁 Update Data

⬇️ Download   **Size:** 58.4 KB   **Last Updated:** hacen 4 minutos

You will see that your Part A export now contains a "Download" button.

Select a Form to Export   ✕

Application*	ARC-D toolkit ▾
Module*	ARC-D toolkit ▾
Form*	Select Form ▴

🔍

PART A: General Context of Community
PART B: Community Resilience Assesment

Data > Export Forms

EXPORT DATA
📋 Export Forms
🔀 Export Cases

EDIT DATA
Reassign Cases

Exports are a way to …

➕ Create New Exp…

Exports

Name   Bulk Export: Todo ○ Ninguno

ARC toolkit >
2016-09-27

📄 Form: ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community

✉️ Saved for Daily Report   🔁 Update Data

⬇️ Download   **Size:** 58.4 KB   **Last Updated:** hacen 37 minutos

ARC toolkit > ARC toolkit > PART B: Community Resilience Assesment: 2016-09-28   ✏️ Edit

📄 Form: ARC-D toolkit > ARC-D toolkit > PART B: Community Resilience Assesment

✉️ Saved for Daily Report   🔁 Update Data

⬇️ Download   **Size:** 11.3 KB   **Last Updated:** hacen 37 minutos

ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community: 2016-10-12   ✏️ Edit

📄 Form: ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community

We must now repeat the same process for Part B. Click on the "Create new Export" button. Choose Part B: in the "Form" field

Choose "Web Page (Excel Dashboards)" as your default file type and ensure once more that the two boxes under it are checked.

↕	☑	form.nivel_5	
↕	☑	form.percentage	
↕	☑	form.category	
↕	☑	form.Short_tittle1	form.Short_tittle1
↕	☑	form.Short_tittle2	form.Short_tittle2
↕	☑	form.Short_tittle3	form.Short_tittle3
↕	☑	form.Scenario	form.Scenario
↕	☑	info completed_time	completed_time
↕	☐	info started_time	started_time
↕	☑	info username	username
↕	☐	server received_on	received_on
↕	☑	case caseid	caseid
↕	☑	case case_name	case_name

For Part B only, you will scroll down and untick the fields "started_time" and "received_on".

Create   Cancelar

⚏ ☑		`form.nivel_5`	form.nivel_5
⚏ ☑		`form.percentage`	form.percentage
⚏ ☑		`form.category`	form.category
⚏ ☑		`form.Short_tittle1`	form.Short_tittle1
⚏ ☑		`form.Short_tittle2`	form.Short_tittle2
⚏ ☑		`form.Short_tittle3`	form.Short_tittle3
⚏ ☑		`form.Scenario`	form.Scenario
⚏ ☑		case `case_name`	case_name
⚏ ☑		info `completed_time`	completed_time
⚏ ☐		info `started_time`	started_time
⚏ ☑		info `username`	username
⚏ ☐		server `received_on`	received_on
⚏ ☑		case `caseid`	caseid

Then you will take the "case_name" field and drag it up, releasing it right under the field "form.scenario". Click Create.

Create   Cancelar

ARC-D toolkit > ARC-D toolkit > PART B: Community Resilience Assesment: 2016-10-12

📄 **Form:** ARC-D toolkit > ARC-D toolkit > PART B: Community Resilience Assesment

✉ Saved for Daily Report ⟳ Update Data

No data is available yet.
Please click 'update data' if the automatic sche
while.

✏ Edit   **Export**   ☐

You now have your Part B export too. Click on "Update data", refresh your page and note the new "Download" button for the Part B export also.

ARC toolkit > ARC toolkit > PART B: Community Resilience
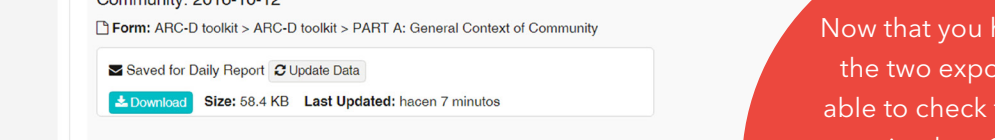2016-09-28

📄 **Form:** ARC-D toolkit > ARC-D toolkit > PART B: Community Resilience Assesment

✉ Saved for Daily Report ⟳ Update Data

⬇ Download   **Size:** 11.3 KB   **Last Updated:** hacen 41 minutos

✏ Edit   **Export**   ☐

ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community: 2016-10-12

📄 **Form:** ARC-D toolkit > ARC-D toolkit > PART A: General Context of Community

✏️ Edit   Export

✉️ Saved for Daily Report 🔄 Update Data

⬇️ Download   **Size:** 58.4 KB   **Last Updated:** hacen 7 minutos

ARC-D toolkit > ARC-D toolkit > PART B: Community Resilience Assesment: 2016-10-12

📄 **Form:** ARC-D toolkit > ARC-D toolkit > PART B: Community Resilience Assesment

✏️ Edit

✉️ Saved for Daily Report 🔄 Update Data

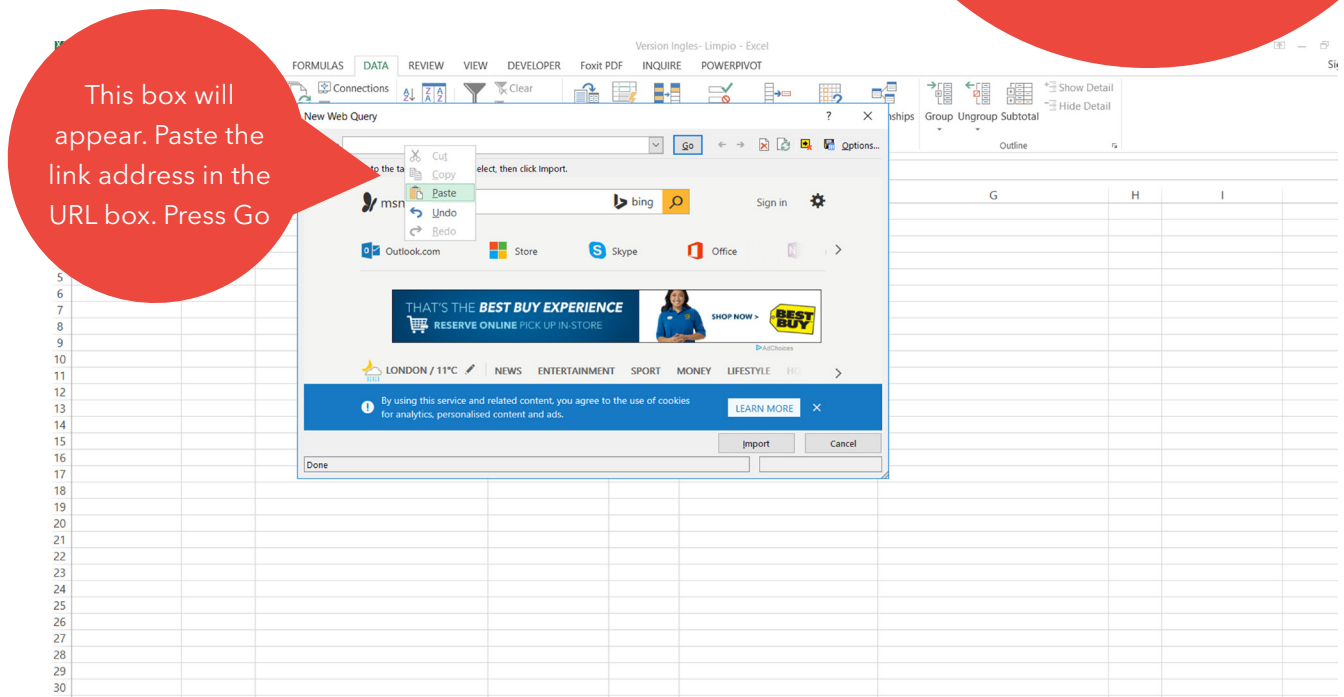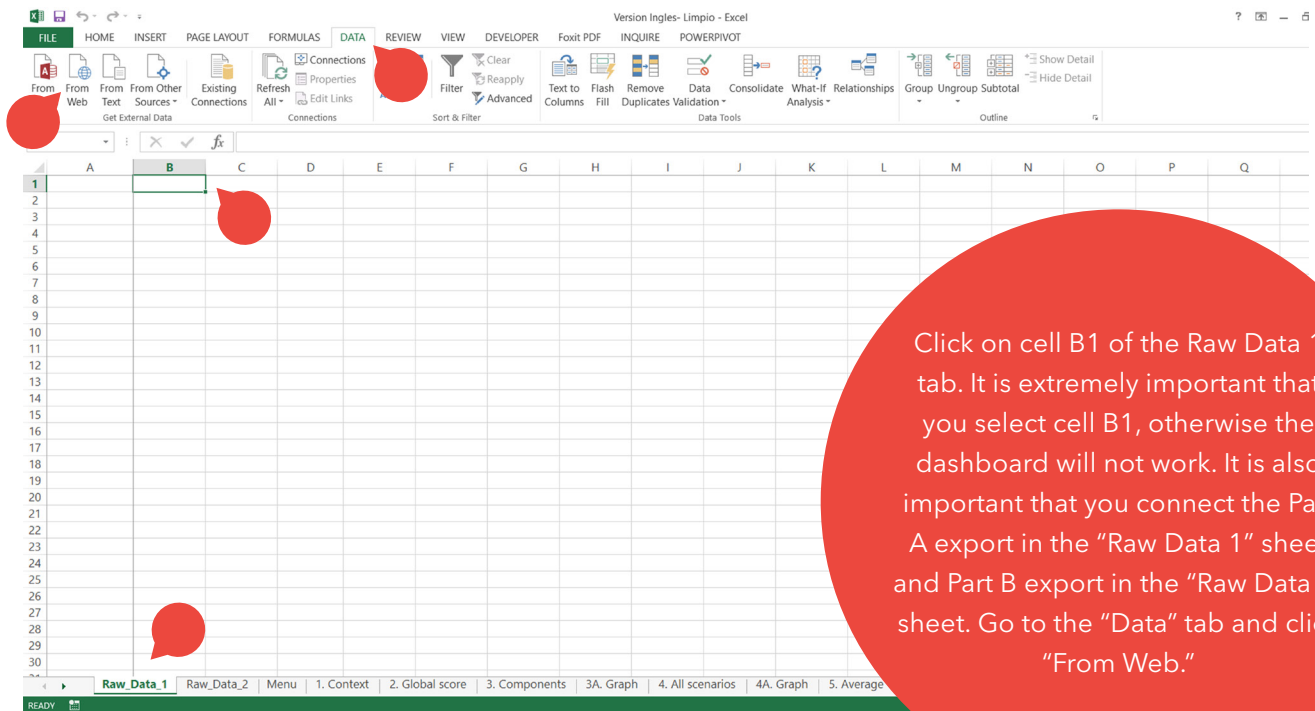⬇️ Download   **Size:** 11.3 KB   **Last Updated:** hacen 57 segundos

Now that you have created the two exports you are able to check the raw data received on CommCare. To do this, right-click the "Download" button of the export you want to see and open in another tab.
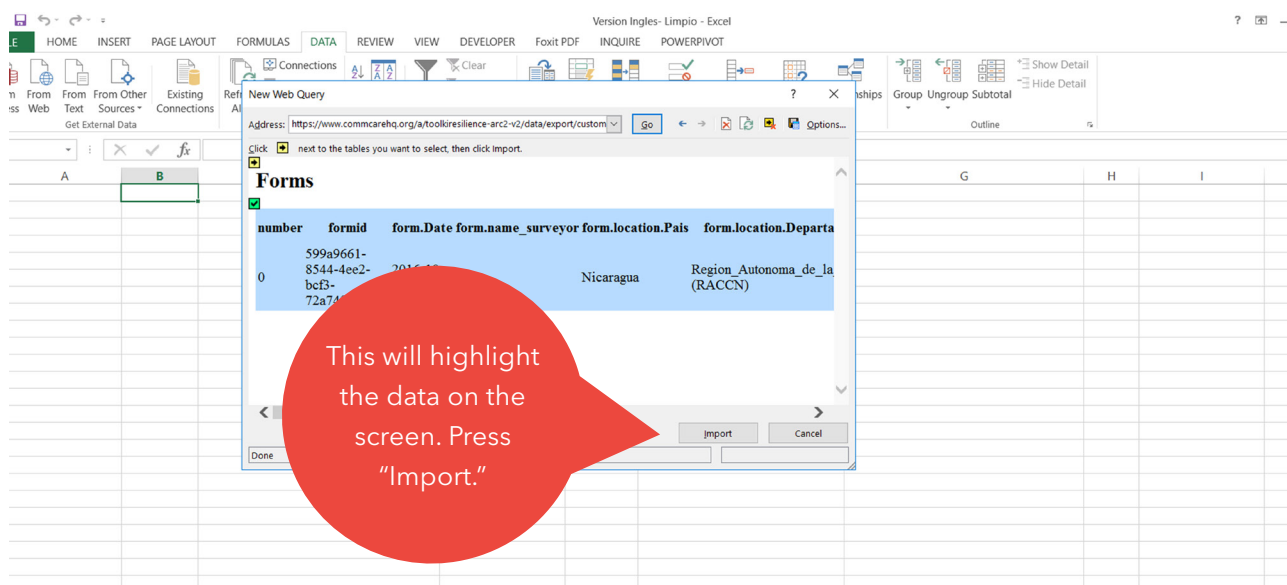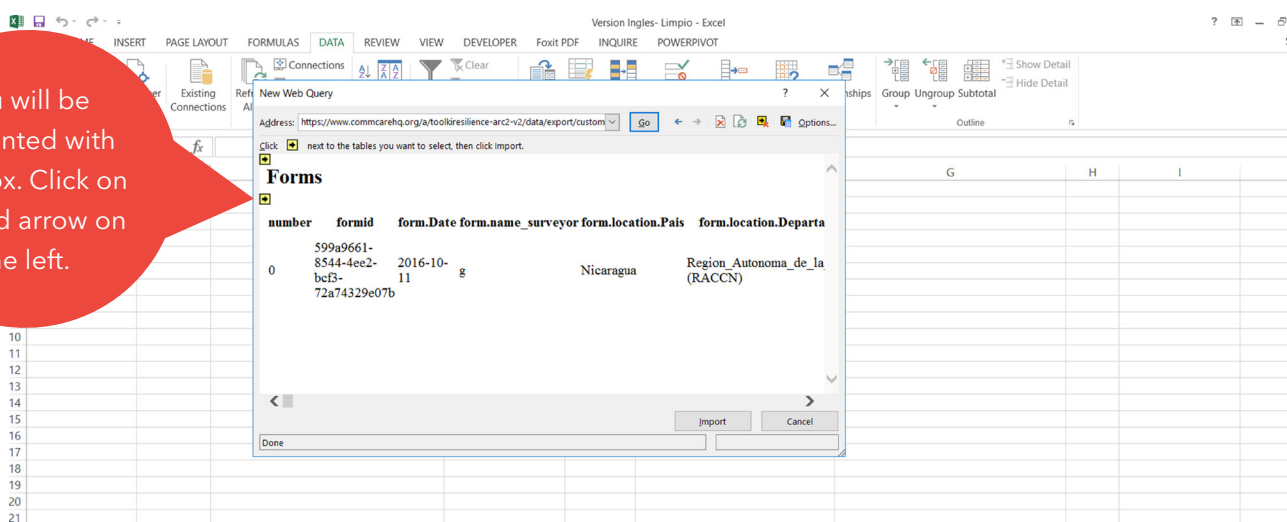
Forms

row.number	info.formid	Date	name_surveyor	location.Pais	location.Departamentos_Honduras	location.Municipios_Honduras_Atlantida	location.Municipios_Honduras_Colon	locat
0	964bd23e-de83-4f71-8928-ce507843d68a	2016-09-21	madina	Kenya	---	---	---	---
1	2c2ce080-13ed-4e95-835b-29decaa8ba2e	2016-09-19	Guyo Golicha Michael Kabacia Nyabena Susan	Kenya	---	---		
2	ce409c65-7bf1-4a23-ad60-dbf46b12bf32	2016-09-21	SALIM	Kenya	---	---		
3	7504bf78-94cc-44fa-85d7-98a49a65265e	2016-09-22	SALIM	Kenya	---	---		
4	b17ed48a-009a-4899-933f-0223e0be40f8	2016-09-24	SORA ADANO	Kenya	---	---	---	
5	9d4635e1-ca37-40b2-a741-50b4743d897a	2016-09-18	Golompo	Kenya	---	---	---	---
6	7a59d3e4-ecf2-4f4a-8dcb-94437383ce66	2016-09-25	Guyo Golicha Michael Kabacia Nyabena Susan	Kenya	---	---	---	---
7	4c6b89b9-6486-4de0-a19a-	2016-09-20	Guyo Golicha	Kenya	---	---	---	---

The page on the new tab will look like this. All the raw data can be seen by scrolling to the right.

✉️ Saved for Daily Report 🔄 Update Data

⬇️ Download   **Size:** 58.4 KB   **Last Updated:** hacen 44 minutos

ARC toolkit > ARC toolkit > PART B: Community Resilience Assesment: 2016-09-28

📄 **Form:** ARC-D toolkit > ARC-D toolkit > PART B: Community Resilience Assesment

✏️ Edit   Export

✉️ Saved for Daily Report 🔄 Update Data

⬇️ Download   **Size:** 11.3 KB   **Last Updated:** hacen 44 minutos

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You are now ready to connect to your Excel dashboard! Right click the Download button for Part A Daily Saved Export and click on "Copy link address."

Now, open the Excel Dashboard workbook (please obtain a blank template from the ARC-D website at goalglobal.org/disaster-resilience or request one at resilience@goal.ie). Note that the first time you open your (still unconnected) dashboard, you will not be asked to provide your administrator account details. However, once your dashboard is connected to your project's CommCare database, you will be asked to provide these every time you open your dashboard.

Click on cell B1 of the Raw Data 1 tab. It is extremely important that you select cell B1, otherwise the dashboard will not work. It is also important that you connect the Part A export in the "Raw Data 1" sheet and Part B export in the "Raw Data 2" sheet. Go to the "Data" tab and click "From Web."

This box will appear. Paste the link address in the URL box. Press Go

Enter your CommCare administrator account details. Press OK.

You will be presented with this box. Click on second arrow on the left.

This will highlight the data on the screen. Press "Import."

This "Import Data" box will pop up. Click "Properties."

The "External Data Range" window will appear. Untick "Enable background refresh." Choose "Overwrite existing cells with new data, clear unused cells." Choose "Fill down formulas in columns adjacent to data."

Supporting info can be found here:
https://confluence.dimagi.com/display/commcarepublic/
Tutorial%3A+Create+an+Excel+Dashboard (but do not change name and orders of fields)

The "External Data Range" window should look like this. Click OK

You will be taken back to the "Import Data" box. Now you can click "OK" You will be asked to provide your CommCare administrator details once more.

This will populate your Raw_Data_1 sheet with the data entries you have. The example here is of one data entry (i.e. on assessed community).

Repeat this exact process for Export B (starting from copying the link address of that export)

This concludes the process of connecting your Excel Dashboard to the CommCare database!
Hit the "Update Dashboard" button in the Menu (the two Raw_Data sheets will disappear) to finalize. Every time you open your Dashboard, you will be asked to login with the CommCare HQ Administrator account details, so that it connects and syncs to the CommCare database.

Troubleshooting

1. To erase a form, go to "Reports" > "Submit History" > "View Form". Click on "Archive this form." Note that on CommCare you never permanently "delete" a form, you just "archive" it, which is a form of reversible deletion.

   Please note, if you erased a Part A form, it will disappear from your Web Preview, and the Part B associated with that Part A form (remember there is a Part A and Part B form for EACH community) will also be deleted.

   This means that when you enter "Web Preview" for your Part A custom exports, the Part A form you just deleted will not show up. Similarly, this means that when you enter "Web Preview" for your Part B custom exports, you will still see all the raw data of that form BUT the community name (scroll to the very right) will show up as a blank, and that's how you know that the Part B associated to the deleted Part A form has also been deleted. Deleted forms do not show up on your dashboard.

2. To restore an erased form, you have the option of instantly restoring an archived form as soon as you archive it (by pressing the same button, once it turns into "Restore") but if you decide to restore after leaving this page, you can look for it under "Raw Forms, Errors & Duplicates" > "Archived Forms" > "View Form". Full instructions on archiving and restoring forms here: https://confluence.dimagi.com/display/commcarepublic/Archive+Forms

3. If you open your Excel dashboard and it is not updated, go to "update data" or wait until the next day (preferable).

4. Please note there is currently no way to delete or remove a Project on CommCare, but you can send a request for this to CommCare: https://confluence.dimagi.com/display/commcarepublic/Delete+or+Remove+a+Project

For any other issues, please send us an email at resilience@goal.ie

This table maps the correspondence between the disaster resilience components and thematic areas contained in this version of the ARC-D with those contained in the previous (2015) version. It also maps how each of these components connect to the main reference source for this toolkit, the "Characteristics of a Disaster-Resilient Community" guidance note by John Twigg (2009).

Component 1: Participatory community risk assessment	
Component(s) in previous (2015) ARC-D version	7. Hazard assessment 8. Vulnerability/capacity assessment
Thematic Area in previous (2015) ARC-D version	Thematic Area 2: Risk Assessment (HFA Pr. 2)
Corresponding Twigg report (2009) components	1. Hazard/risk data and assessment 2. Vulnerability/capacity and impact data and assessment
Corresponding Twigg report (2009) characteristics	1.1, 1.2, 1.3, 1.6 2.1, 2.2, 2.3, 2.6
Component 2: Scientific and technical risk assessment	
Component(s) in previous (2015) ARC-D version	9. Local and scientific methods for risk awareness
Thematic Area in previous (2015) ARC-D version	Thematic Area 2: Risk Assessment (HFA Pr. 2)
Corresponding Twigg report (2009) components	3. Scientific and technical capacities and innovation
Corresponding Twigg report (2009) characteristics	3.2.
Component 3: Dissemination of DRR information	
Component(s) in previous (2015) ARC-D version	10. Public awareness, knowledge and skills 12. Cultural attitudes and values
Thematic Area in previous (2015) ARC-D version	Thematic Area 3: Knowledge and Education (HFA Pr. 3)
Corresponding Twigg report (2009) components	1. Public awareness, knowledge and skills 4. Cultures, attitudes, motivation
Corresponding Twigg report (2009) characteristics	1.2*, 1.4*, 1.5 4.2.

Thematic Area 1: Understanding Disaster Risk (SFDRR Pr. 1)

Thematic Area 1: Understanding Disaster Risk (SFDRR Pr. 1)	Component 4: Education of children in DRR	
	Component(s) in previous (2015) ARC-D version	11. Dissemination of DRR knowledge
	Thematic Area in previous (2015) ARC-D version	Thematic Area 3: Knowledge and Education (HFA Pr. 3)
	Corresponding Twigg report (2009) components	3. Education and training
	Corresponding Twigg report (2009) characteristics	3.1. Fused with Tearfund question
Thematic Area 2: Strengthening Governance to Manage Disaster Risk (SFDRR Pr. 2)	Component 5: DRR in development planning	
	Component(s) in previous (2015) ARC-D version	3. Integration with development planning
	Thematic Area in previous (2015) ARC-D version	Thematic Area 1: Governance (HFA Pr. 1)
	Corresponding Twigg report (2009) components	3. Integration with development policies and planning
	Corresponding Twigg report (2009) characteristics	3.1
	Component 6: DRR in land use planning	
	Component(s) in previous (2015) ARC-D version	23. Land use and planning
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
	Corresponding Twigg report (2009) components	7. Planning régimes
	Corresponding Twigg report (2009) characteristics	7.1
	Component 7: Community decision-making	
	Component(s) in previous (2015) ARC-D version	1. Community leadership
	Thematic Area in previous (2015) ARC-D version	Thematic Area 1: Governance (HFA Pr. 1)
	Corresponding Twigg report (2009) components	1. Policy, planning, priorities and political commitment
	Corresponding Twigg report (2009) characteristics	1.5

Thematic Area 2: Strengthening Governance to Manage Disaster Risk (SFDRR Pr. 2)	Component 8: Inclusion of vulnerable groups	
	Component(s) in previous (2015) ARC-D version	5. Inclusion of vulnerable groups
	Thematic Area in previous (2015) ARC-D version	Thematic Area 1: Governance (HFA Pr. 1)
	Corresponding Twigg report (2009) components	7. Accountability and community participation
	Corresponding Twigg report (2009) characteristics	7.6
	Component 9: Participation of women	
	Component(s) in previous (2015) ARC-D version	6. Women's participation
	Thematic Area in previous (2015) ARC-D version	Thematic Area 1: Governance (HFA Pr. 1)
	Corresponding Twigg report (2009) components	7. Accountability and community participation
	Corresponding Twigg report (2009) characteristics	N/A
	Component 10: Rights awareness and advocacy	
	Component(s) in previous (2015) ARC-D version	2. Rights awareness and advocacy
	Thematic Area in previous (2015) ARC-D version	Thematic Area 1: Governance (HFA Pr. 1)
	Corresponding Twigg report (2009) components	2. Legal and regulatory systems
	Corresponding Twigg report (2009) characteristics	2.2, 2.1*
	Component 11: Partnerships for DRR and recovery	
	Component(s) in previous (2015) ARC-D version	4. Access to funding and partnerships
	Thematic Area in previous (2015) ARC-D version	Thematic Area 1: Governance (HFA Pr. 1)
	Corresponding Twigg report (2009) components	5. Institutional mechanisms, capacities and structures; allocation of responsibilities 6. Partnerships
	Corresponding Twigg report (2009) characteristics	2.2, 2.1* 5.6

*Twigg 2009 report characteristics that were incorporated in this new version.

Thematic Area 3: Reducing disaster vulnerability for resilience (SFDRR Pr. 3)	Component 12: Sustainable environmental management	
	Component(s) in previous (2015) ARC-D version	13. Sustainable environmental management
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction
	Corresponding Twigg report (2009) components	1. Environmental and natural resource management
	Corresponding Twigg report (2009) characteristics	1.2.
	Component 13: Water security and management	
	Component(s) in previous (2015) ARC-D version	**New**
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction
	Corresponding Twigg report (2009) components	2. Health and well being
	Corresponding Twigg report (2009) characteristics	2.4*
	Component 14: Health access and awareness	
	Component(s) in previous (2015) ARC-D version	15. Health access and awareness in normal times
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
	Corresponding Twigg report (2009) components	2. Health and well being
	Corresponding Twigg report (2009) characteristics	2.1, 2.5
	Component 15: Secure food supply	
	Component(s) in previous (2015) ARC-D version	16. Food and water supplies
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
	Corresponding Twigg report (2009) components	2. Health and well being
	Corresponding Twigg report (2009) characteristics	2.3

*Twigg 2009 report characteristics that were incorporated in this new version.

Component 16: Hazard-resistant livelihoods practices	
Component(s) in previous (2015) ARC-D version	17. Hazard-resistant livelihoods practices
Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
Corresponding Twigg report (2009) components	3. Sustainable livelihoods
Corresponding Twigg report (2009) characteristics	3.5.

Component 17: Access to market	
Component(s) in previous (2015) ARC-D version	18. Access to market
Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
Corresponding Twigg report (2009) components	3. Sustainable livelihoods
Corresponding Twigg report (2009) characteristics	3.7.

Component 18: Access to financial services	
Component(s) in previous (2015) ARC-D version	20. Access to financial services
Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
Corresponding Twigg report (2009) components	5. Financial instruments
Corresponding Twigg report (2009) characteristics	5.3.

Component 19: Income and asset protection	
Component(s) in previous (2015) ARC-D version	21. Income and asset protection
Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
Corresponding Twigg report (2009) components	5. Financial instruments
Corresponding Twigg report (2009) characteristics	5.1.

Thematic Area 3: Reducing disaster vulnerability for resilience (SFDRR Pr. 3)

Thematic Area 3: Reducing disaster vulnerability for resilience (SFDRR Pr. 3)	Component 20: Social Protection	
	Component(s) in previous (2015) ARC-D version	19. Social protection
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
	Corresponding Twigg report (2009) components	4. Social protection
	Corresponding Twigg report (2009) characteristics	4.1, 4.2*, 4.3*
	Component 21: Peace and conflict prevention	
	Component(s) in previous (2015) ARC-D version	**New** (previously partly addressed in comp. 12)
	Thematic Area in previous (2015) ARC-D version	N/A
	Corresponding Twigg report (2009) components	N/A
	Corresponding Twigg report (2009) characteristics	N/A
	Component 22: Critical infrastructure	
	Component(s) in previous (2015) ARC-D version	22. Infrastructure and basic services
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
	Corresponding Twigg report (2009) components	6. Physical protection; structural and technical measures
	Corresponding Twigg report (2009) characteristics	6.3, 6.4, 6.6.
	Component 23: Housing	
	Component(s) in previous (2015) ARC-D version	**New**
	Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
	Corresponding Twigg report (2009) components	6. Physical protection; structural and technical measures
	Corresponding Twigg report (2009) characteristics	6.3, 6.4, 6.6, 6.7

*Twigg 2009 report characteristics that were incorporated in this new version.

Component 24: Contingency and recovery planning	
Component(s) in previous (2015) ARC-D version	27. Contingency planning
Thematic Area in previous (2015) ARC-D version	Thematic Area 5: Preparedness and Response (HFA Pr. 5)
Corresponding Twigg report (2009) components	3. Preparedness and contingency planning
Corresponding Twigg report (2009) characteristics	3.2., And TA 3, Component 2, Char. 2.2*
Component 25: Early Warning System	
Component(s) in previous (2015) ARC-D version	26. Early warning system
Thematic Area in previous (2015) ARC-D version	Thematic Area 5: Preparedness and Response (HFA Pr. 5)
Corresponding Twigg report (2009) components	2. Early warning systems
Corresponding Twigg report (2009) characteristics	2.1., 2.8.*
Component 26: Capacities in preparedness, response and early recovery	
Component(s) in previous (2015) ARC-D version	25. Capacities in preparedness and response
Thematic Area in previous (2015) ARC-D version	Thematic Area 5: Preparedness and Response (HFA Pr. 5)
Corresponding Twigg report (2009) components	1. Organisational capacities and coordination
Corresponding Twigg report (2009) characteristics	1.2.
Component 27: Health services in emergencies	
Component(s) in previous (2015) ARC-D version	14. Access to healthcare in emergencies
Thematic Area in previous (2015) ARC-D version	Thematic Area 4: Risk Management and Vulnerability Reduction (HFA Pr. 4)
Corresponding Twigg report (2009) components	2. Health and well-being
Corresponding Twigg report (2009) characteristics	2.7

Thematic Area 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery (SFDRR Pr. 4)

*Twigg 2009 report characteristics that were incorporated in this new version.

Component 28: Education services in emergencies	
Component(s) in previous (2015) ARC-D version	24. Operation of education services in emergencies
Thematic Area in previous (2015) ARC-D version	N/A
Corresponding Twigg report (2009) components	N/A
Corresponding Twigg report (2009) characteristics	N/A

Thematic Area 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery (SFDRR Pr. 4)

Component 29: Emergency infrastructure	
Component(s) in previous (2015) ARC-D version	28. Emergency infrastructure
Thematic Area in previous (2015) ARC-D version	Thematic Area 5: Preparedness and Response (HFA Pr. 5)
Corresponding Twigg report (2009) components	4. Emergency resources and infrastructure
Corresponding Twigg report (2009) characteristics	4.3.

Component 30: Leadership and volunteerism in response and recovery	
Component(s) in previous (2015) ARC-D version	29. Emergency response and recovery 30. Volunteerism and accountability
Thematic Area in previous (2015) ARC-D version	Thematic Area 5: Preparedness and Response (HFA Pr. 5)
Corresponding Twigg report (2009) components	5. Emergency response and recovery 6. Participation, voluntarism, accountability
Corresponding Twigg report (2009) characteristics	5.2, 5.3 6.4

The following is a suggested format to help users analyse the collected data from an ARC-D assessment. Users can expand or modify as necessary

Assessment date: _____

Facilitator: _____

Note-taker: _____

1. Community: _____
Disaster resilience for whom?

2. Risk scenario: _____
Disaster resilience to what?

Please include a full description of the chosen risk scenario, as captured in Part A.

3. Community General Context

This is the opportunity to explain in more detail the items captured in Part A, if nothing to add, then copy paste your pro-forma Part A report here and continue to next section.

Population characteristics, esp. subgroups of interest	
Vulnerable groups	
Physical and natural environment description	
Governance and organisation (inc. planning)	
Other critical risk scenarios (excluding the one assessed).	

4. Disaster resilience characteristics and capacities (Resilience through what?)

Please complete the table below with the qualitative notes recorded in the assessment of the disaster resilience components. Where appropriate, please explain how selected stresses influence the resilience characteristics.

Component	Level	Community characteristics / comments
Thematic Area 1: Understanding Disaster Risk		
1. Participatory community risk assessment		
2. Scientific risk assessment		
3. Dissemination of DRR information		
4. Education of children on DRR		
Thematic Area 2: Strengthening Governance to Manage Disaster Risk		
5. DRR in development planning		
6. DRR in land use planning		
7. Community decision-making		
8. Inclusion of vulnerable groups		
9. Participation of women		

Thematic Area 2: Strengthening Governance to Manage Disaster Risk		
10. Rights awareness and advocacy		
11. Partnerships for DRR and recovery		
Thematic Area 3: Reducing Disaster Vulnerability for Resilience		
12. Sustainable environmental management		
13. Water security and management		
14. Health access and awareness		
15. Secure and nutritious food supply		
16. Hazard-resistant livelihoods practices		
17. Access to market		
18. Access to financial services		
19. Income and asset protection		
20. Social protection		

Thematic Area 3: Reducing Disaster Vulnerability for Resilience		
21. Peace and conflict prevention		
22. Critical infrastructure		
23. Housing		
Thematic Area 4: Enhancing Disaster Preparedness for Effective Response and to "Build Back Better" in Recovery		
24. Contingency and recovery planning		
25. Early warning system		
26. Capacities in preparedness and response		
27. Health services in emergencies		
28. Education services in emergencies		
29. Emergency infrastructure		
30. Leadership and volunteerism in response and recovery		

5. Sectors and system considerations

Please give a brief and high-level description of the sectors/systems explored in the assessment. Please ensure to identify the ones that seem to be the most critical in improving the resilience of the community to the assessed scenario. Supporting visual data from the dashboard can also be incorporated here.

Disaster Risk Management

Based on findings in components 1, 2, 3, 4, 6, 11, 16, 24, 25, 26, 29

Education

Based on findings in components 4, 28

Economic

Based on findings in components 11, 15, 16, 17, 18, 19, 20

Health

Based on findings in components 13, 14, 22, 27

Environment

Based on findings in components 6, 12, 15, 16, 19

Political / Governance

Based on findings in components 5, 6, 7, 10

Infrastructure

Based on findings in components 22, 23, 29

Social / Cultural

Based on findings in components 3, 4, 7, 8, 9, 19, 20

6. Additional comments

Common themes

Please document instances where participants did not agree and/or where significant difference in experience was perceived. Please note any components that presented difficulty in assigning a score.

Contrasting stories

Please document instances where participants did not agree and/or where significant difference in experience was perceived. Please note any components that presented difficulty in assigning a score.

Comments on the assessment process

Please comment on the assessment exercise: level of community participation, credibility of KII interviews, representativeness FGD group, or any other factor that obscure or add weight to certain findings.

Any other comments or lessons from the process

7. Recommendations for action

Please describe recommended actions based on the findings in this assessment. These actions can be short-term or long-term or both. These can relate to direct programming interventions, partnership-building, or advocacy (or the need for further assessments, if applicable).

If preferred, the following table could be divided in the 8 sector systems instead of the four thematic areas.

Category	Recommended Actions
1. Understanding Disaster Risk	
2. Strengthening governance to manage disaster risk	
3. Reducing vulnerability to improve resilience	
4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery	

8. Annexes

Please attach copies of the following to this report:

- Attendance list
- Original hand-written notes from the assessment
- Part A dashboard report
- Part B dashboard reports
- Photos of the assessment

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