ARC-D Toolkit

Analysis of the Resilience of Communities to Disasters

GOAL

Resilience

"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."

GOAL, 2015

Why measure disaster resilience with the ARC-D?

- Because the lives and livelihoods of the world's most vulnerable populations are constantly threatened and affected by hurricanes, earthquakes, drought, landslides and other hazards; and because stresses like the negative impacts of climate change and population growth are expected to increase the frequency, intensity and impact of these hazards.

- Because the ARC-D informs the transition of humanitarian interventions to longer term development programming and to build back better in the recovery stage.

- Because it can facilitate the adoption of a systems approach to resilience building, by providing a snapshot of 30 resilience components related to eight critical systems.

- Because it can inform decision makers in humanitarian and development programs to do no harm to existing disaster resilience capacities at community level.

"A focus on resilience means putting greater emphasis on what communities can do for themselves and how to strengthen their capacities, rather than concentrating on their vulnerability to disaster or environmental shocks and stresses, or their needs in an emergency."

Dr. John Twigg, 2009

What does the ARC-D consist of?

The ARC-D consists of three sections: a two-part disaster resilience survey, accompanied by a user guidance manual and software.

How is disaster resilience measured?

The ARC-D survey is used to determine the level of a community's disaster resilience, in two parts:

Part A assesses the general context of the community, capturing local population data, governance structures, built environment and ecosystem attributes, vulnerable groups, and major risk scenarios.

Part B assesses the community's disaster resilience level to a chosen risk scenario through a consensus-based focus group discussion, guided by 30 key questions, each linked to a particular resilience component.

The 30 components are categorised into four thematic areas, in line 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
4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery

They are also framed along 8 key systems:
Education, Health, Economic, Environmental, Infrastructure, Political/Governance, Social/Cultural, and Disaster Risk Management system (see *Figure 1*).

Figure 1: The eight systems examined in an ARC-D assessment (with corresponding components)

Each question has 5 possible characteristics that indicate a level of resilience for that component, with 1 indicating a weak resilience characteristic (assigned 1 point) and 5 indicating a strong resilience characteristic (assigned 5 points). The chosen characteristic is substantiated by the documented community answers and verified through specific means during the field assessment.

At the end of the assessment process an indicative resilience score is assigned, indicating the community's resilience level, as per the following table:

Score Range	Level	Category	Description
0% - 30% (0 – 45 points)	1	Minimal Resilience	Little awareness of the issues or motivation to address them. No or minimal action.
31% - 50% (46 – 75 points)	2	Low Resilience	Some awareness of the issues and motivation to address them. Some action undertaken that is nevertheless piecemeal, one-off and short-term.
51% - 70% (76 – 105 points)	3	Medium Resilience	Awareness, motivation and improved capacity to act. More long-term actions that are nevertheless not linked to a long-term strategy and/or not all aspects of the problem are addressed.
71% - 90% (106 – 135 points)	4	Approaching Resilience	Actions are long-term, linked to a long-term strategy and address main aspects of the issue. Certain deficiencies (especially systemic) still exist in implementation.
91% - 100% (136 – 150 points)	5	Resilience	Actions long-term, linked to a long-term strategy, addressing all aspects of the issue, embedded in society (both behaviour and policy) and sustainable.

Software

The ARC-D uses a mobile-based application connected to an open-source data collection platform called CommCare. The CommCare mobile app runs on any mobile device with an Android operating system and can work offline. Upon completion of the survey, the app displays the community's total resilience score (Figure 2), before sending the full assessment results to the CommCare server once connected to the Internet, via wi-fi or mobile data.

These data can be exported for analysis to Excel and other files and/or to the Excel dashboard developed by GOAL, which allows for community resilience monitoring in almost real-time as data is collected and submitted from the field. This dashboard generates pro-forma reports consisting of graphs and tables that compare resilience scores over several assessments in one community, among various communities and for various risk scenarios (see Figure 3). These simple and informative visuals can be readily understood and shared with key stakeholders involved in community disaster resilience building.
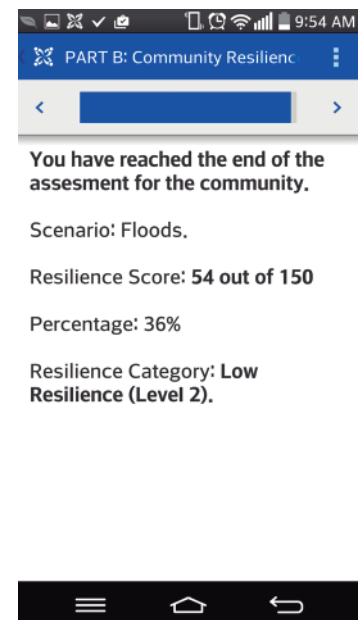

Figure 2: At the end of the assessment the CommCare app displays the community's disaster resilience score in point and percentage form.
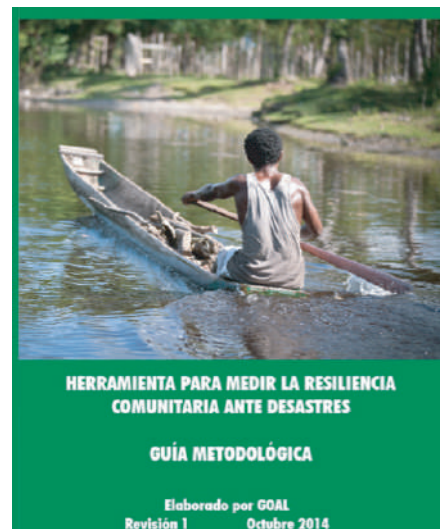
1. Community leadership
2. Rights awareness and advocacy
3. Integration with Development Planning
4. Access to funding and Partnerships
5. Accountability - Inclusion of Vulnerable Groups
6. Accountability: Womens Participation
7. Hazard assessment
8. Vulnerability/capacity assessment
9. Local and scientific methods for risk awareness
10. Public awareness and knowledge
11. Education and training - Dissemination of DRR knowledge
12. Cultures, attitude and motivation - Cultural Attitudes and Values
13. Sustainable environmental management
14. Access to health care in emergencies
15. Health and health awareness and awareness in normal times
16. Food and water supplies
17. Hazard-resistant livelihoods practices
18. Access to market
19. Social protection
20. Access to financial services
21. Income and Asset protection
22. Physical Protection: Infrastructure and Basic Services
23. Land use and planning
24. Education in emergencies
25. Capacities in preparedness and response
26. Early warning systems
27. Contingency planning
28. Emergency Infrastructure
29. Emergency response and recovery
30. Volunteerism and accountability

■ Baseline Resilience   ■ Final Resilience

Figure 3: An example of one of the GOAL dashboard reports, showing the before and after resilience levels for a group of communities.

"Resilience is the capacity that ensures adverse stressors and shocks do not have long-lasting adverse development consequences."

Mark A. Constas, 2013

Guidance Manual

The guidance manual is available in English, French and Spanish. It provides users with a detailed description of the toolkit, containing the justification and background to its development and an explanation of the methodology for applying it in the field and analysing the findings.

HERRAMIENTA PARA MEDIR LA RESILIENCIA
COMUNITARIA ANTE DESASTRES

GUÍA METODOLÓGICA

Elaborado por GOAL
Revisión 1   Octubre 2014

"There is compelling evidence that resilience, risk management and early action saves lives and livelihoods."

Christos Stylianides
EU Commissioner for Humanitarian Aid and Crisis Management, 2015

Utility of the ARC-D

While it does not aim to replace existing in-depth assessment tools for community capacities and vulnerabilities, the ARC-D uniquely provides a holistic snapshot of a community's disaster resilience status, obtained through a rapid assessment that empowers both communities and field staff to understand and operationalise resilience. This snapshot can be used to guide strategy, programming, and advocacy efforts, and, where appropriate, to orient more detailed follow-up assessments.

Benefits of this tool

1. It is a practical way to measure disaster resilience at the community level.

2. Directs the actions that are necessary to increase the disaster resilience of a community.

3. Informs systems approach to disaster resilience building.

4. Enables comparisons of the change of community disaster resilience over time.

5. It is flexible and adaptable and can be applied in rural, urban and peri-urban contexts, in both development and emergency situations.

6. Increases capacity of both communities and field staff in understanding resilience and taking actions to improve it.

7. Minimal resources for implementation are required.

"A community is resilient when it can function and sustain critical systems under stress; adapt to changes in the physical, social, and economic environment; and be self-reliant if external resources are limited or cut off."

USAID, 2015

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