United Nations Development Programme
Community-Based Adaptation Programme

A Guide to the Vulnerability Reduction Assessment

UNDP Working Paper

Andrew Crane Droesch, Nickey //Gaseb, Pradeep Kurukulasuriya, Andre Mershon, Katiella Mai Moussa, Dale Rankine, Alejandro Santos

December 2008

Introduction

The Vulnerability Reduction Assessment (VRA) approach is an important element of UNDP's monitoring and evaluation framework for climate change adaptation projects at the community, subnational, and national levels. It has been implemented in a growing number of local initiatives under UNDP's Community Based Adaptation (CBA) Programme, with funding from the Global Environment Facility. It is designed to measure the changing climate vulnerabilities of communities, and to be comparable across vastly different projects, regions, and contexts, making it possible to determine if a given project is successful or unsuccessful in reducing climate change risks.

The VRA can be compared to a guided participatory rural appraisal (PRA), focusing on community perceptions of vulnerability to climate change and capacity to adapt. The VRA is based on a composite of 4 indicator questions, tailored to capture locally-relevant issues that are at the heart of understanding vulnerability to climate change. Questions are posed during a series of 3-4 community level meetings over the period of a CBA project. Responses to the questions take the form of a numerical score, provided by the respondents during these community meetings. **Repeated evaluations of community perceptions of project effectiveness and climate change risks permit an indication of the relative change in vulnerability**. This is assessed through the degree of change in the VRA scores relative to baseline values established prior to the commencement of project activities.

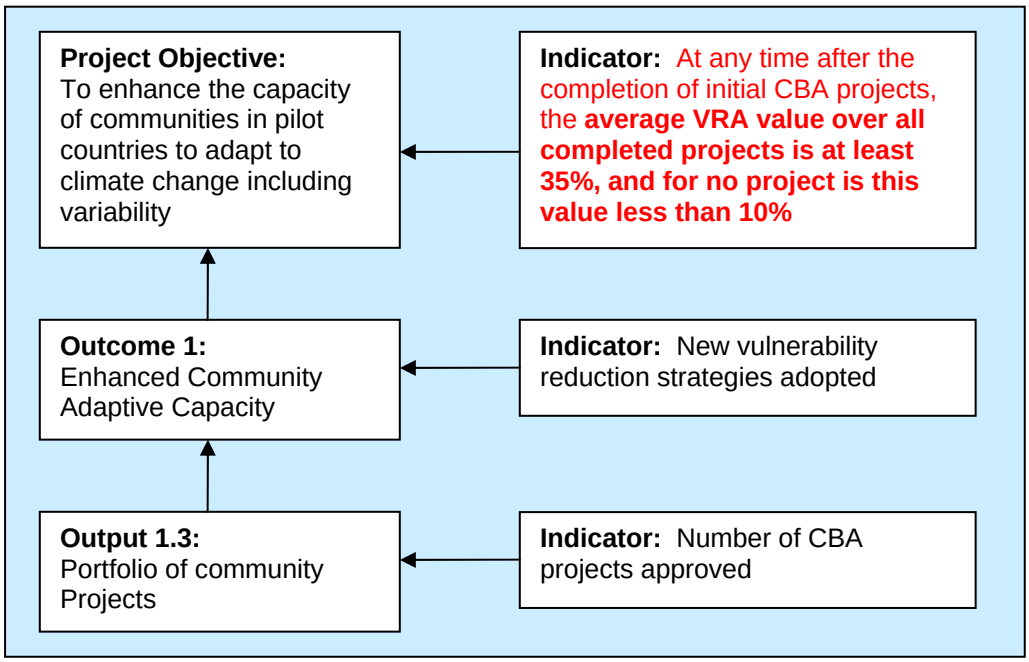

Figure 1: The VRA's fit within the CBA project's hierarchy of indicators.

The VRA's perception-based approach is a key compliment to quantitative indicators that are also used to measure project results[1]. The VRA **directly** asks communities if CBA activities are **correctly targeted** – that is, not just whether the project has successfully achieved its immediate outputs, but whether those outputs have directly contributed towards the objective and outcomes (reduction in vulnerability) that the project seeks to achieve. For example, if a CBA project is focused on piloting a new technology, the

[1] For example, for projects focusing on natural resource management or that achieve global environmental benefits in the context of adaptation, SGP's Impact Assessment System is also used.

VRA provides a means for the community to weigh in on how effective that technology is in reducing the climate risks they face – not simply whether the technology is in place or not.

In so doing, VRA performs two major functions – it holds projects accountable to the communities that they are intended to serve, and it provides information (collected during implementation) that can guide adaptive project management. If, for example, the VRA finds that the introduced technology is not being implemented in such a way that it is able to reduce the intended climate risk, project proponents can adjust implementation accordingly based on that information.

The following is a structured guide to the VRA, incorporating lessons learned from field experience with the VRA in Jamaica, Namibia, Niger and Guatemala.

National Introduction and Adaptation of the VRA Methodology

The VRA is intended to be a flexible methodology for assessing reduction in vulnerability to climate change. While it has four fixed indicator questions (listed below), the means of assessing them should be guided by local contexts, taking into account community considerations, as well as project development frameworks that may vary from country program to country program.

In UNDP's Global CBA Programme, each of the ten country programmes target different types of vulnerabilities to climate change in varying sectors and in different types of communities. For example, some CBA country programmes focus entirely on community-based organizations, such as community development councils, water users groups, women's groups, traditional local authorities, etc. In other country programmes, local NGOs are the main proponents. In addition, different CBA country programmes have different structures and modalities for identifying and developing community projects. The VRA is sufficiently flexible to be adapted to these local contexts.

In Guatemala, the CBA country programme (implemented through the SGP delivery mechanism), uses a participatory community project development tool called the *Almanario* for designing projects. The *Almanario* is a simple tool – it is an oversized booklet with about 15 pages – designed to allow semi-literate communities to define the key elements of a project. By facilitating the involvement of communities in the design phase, the tool promotes ownership, and is used to build capacity of local communities in project management skills. In Guatemala's context, the VRA is being incorporated into the *Almanario* process using pictures, simple language, and a community-driven approach to project development and management.

In other countries that work with local NGOs, a different approach has been adopted. In some cases, the approach has been similar to a traditional PRA process, and utilized a project manager or other technical staff person to develop local capacities and awareness. In both Guatemala and Niger, the VRA was introduced in a meeting of the National Coordinating Committee (NCC). These meetings raised a number of methodological and practical issues that were later incorporated into a framework agreed by the NCC members. By introducing the methodology first at the national level, the stage was set for greater understanding and buy-in by one of the key stakeholder groups in the CBA oversight structure.

Similar national-level validation of the VRA approach is an important first step in any CBA country programme, generally in the context of a meeting of the NCC.

Community-level Awareness Raising

The CBA programme is designed to accommodate very diverse types of communities. Given that proponents of CBA projects are so heterogeneous, it follows that approaches for communication with

them must be flexible and adaptable. Different communities have different levels of literacy, different gender dynamics, languages other than the national language or UN working languages, and different ways of communicating concepts (like, for example "climate.") Therefore, methods for communicating with communities about climate change need to be adapted to local contexts.

It is evident from the field experience and other projects that many communities are already experiencing climate change impacts. The target communities tend naturally to have strong views on the impact of climate variability and change since it often directly impacts their livelihoods. However, a science-based climate change understanding can be different in form and sometimes even in substance from what is experienced at the community level. While in most instances community observations are in alignment with model-based projections of climate change, this is not always the case for every factor.

One common occurrence is that community-level perceptions of climate change are confounded by things that are attributable to non-climate factors. For example, several proponent communities have noted changing hydrology in regions where rainfall patterns have not changed significantly, but which have experienced deforestation and, consequently, hydrological change. While this is undoubtedly a serious challenge (and one that in many cases could grow more serious with climate change), it is not directly attributable to climate change. In some cases, natural variability may buck a long-term climate trend for a short period, or in other cases, the worst impacts of climate change are years into the future (sea-level rise, for example). However in other cases – for example in the instance of invasions by new pests – communities may be unaware that the problems they are experiencing are in fact driven by climate change. All of these field-based examples reflect realities that communities face, and should be respected as such. However, community perceptions, while critical, need to be complimented with a science-informed perspective.

In light of the above, it is important to come to a common understanding with the community on what climate change is, and what problems it is driving, blending science-based knowledge with the local reality. For example, diversity in local micro-climates, diversity of local hydrological systems, and other location-dependent factors will modify how often-coarse GCM-based information is interpreted for local action.

As such, VRA meetings are preceded by awareness raising activities for the project's local stakeholder community on emerging climate trends and future projections. This serves as the basis for VRA discussions, establishing a baseline of vulnerability, giving context to the VRA, and establishing the context necessary for discussions. These activities normally take place as the first part of the first VRA meeting, and transition into measurement of the VRA indicators.

The format of these activities should be highly context dependent, taking into account differing levels of education, literacy, pre-existing knowledge, and history of climate impacts. It is also important to be sensitive – particularly where communities may have recently lost income or even family members to recent climate impacts such as droughts or storms. However, the outcome in all cases should be a local stakeholder body with a clear and common understanding of the climate risks that the project will seek to address (as well as the non-climate problems and prerequisites that can be addressed through co-financing). Means of raising this awareness have variously included guided walks throughout the community, group discussions, humour, and mini-theatre, among others. The appropriate method will depend on the community and the skills of the team.

It should be emphasized that it is critical to clarify all terms and remove potential biases during this phase, especially biases in scoring or biases owing to unclear communication. In order to avoid scoring biases, it is crucial to begin with a two-way discussion with the community to clarify local perceptions of climate risk, and compliment these with science-based information. After communities have informally

communicated their perceptions of climate change risk, the VRA quantitative measurement should simply be a reflection of the previous discussions, with scores attached.

The Structure of the VRA

The VRA is comprised of four indicators, upon which are based on a corresponding set of perception-based questions, which aggregate to serve as an index of adaptive capacity. The structure is based on key steps outlined in UNDP's Adaptation Policy Framework (APF)[2] for designing adaptation projects. The VRA is itself based on a similar approach called the Threat Reduction Assessment[3] methodology commonly used in biodiversity projects.

Local stakeholders/project beneficiaries will answer all questions on a scale of 1 to 5, generating a numerical score, as well as other qualitative data based on the discussions leading to the eventual score. Standard interview techniques must be employed to minimize influencing potential responses. The four VRA indicator and corresponding example questions are outlined below:

[2] More information on UNDP's Adaptation Policy Framework can be found at the following URL: http://www.undp.org/gef/adaptation/climate_change/APF.htm

[3] Richard Margolis and Nick Salafsky. *Is Our Project Succeeding: A Guide to Threat Reduction Assessment for Conservation*. Biodiversity Support Programme, Washington DC (www.BSPonline.org).

APF Step	VRA Indicator	VRA Question In these examples, we consider the case of a community facing increasing drought risks	Logic
Assessing current vulnerability	**1. Vulnerability of livelihood/welfare to existing climate change and/or climate variability.**	Example: *What happens when there is drought? How does this affect you and your community?*	• Addresses present climate-related development issues – often the main climate concern of the community. • Prepares community for the following question that is specific to anthropogenic climate change by grounding that discussion in a framework that relates it to present impacts. • During the second VRA meeting and onwards, this question will measure any immediate impacts that project outputs may have had in reducing short-term weather related risks ("no regrets" adaptation measures).
Assessing future climate risks	**2. Vulnerability of livelihood/welfare to developing climate change risks.**	Example: *What would happen if drought was twice as frequent? How would this affect you and your community?*	• Once present context of variability has been discussed, this question focuses the community on their perceptions of likely impacts of climate change. • This question relates to "likely" risks, as identified in the project proposal and CPS. • Allows the community to begin to consider long-term viability of livelihood practices in the face of climate change, leading to the following question. • During the second VRA meeting and onwards, this question will also measure the impact of project outcomes, with respect to long-term climate change risks – confidence that measures in place will help the community to manage future acute or slow-onset climate impacts.
Formulating an adaptation strategy	**3. Magnitude of barriers (institutional, policy, technological, financial, etc) barriers to adaptation.**	Example: *What stands in the way of adapting to increasing drought? What means do you or your community have to manage events occurring more frequently?*	• This question will qualify the above question, and focus on the needs of the community to successfully adapt. • This question will identify policy and practical barriers, forming useful lessons for the country and global programmes. • This question links project outputs to their respective outcomes in vulnerability reduction – given that projects aim to reduce barriers to adaptation, this question measures whether project outputs have been implemented, and if so, if they have had their desired impact.

Continuing the adaptation process	**4. Ability and willingness of the community to sustain the project intervention**	Example: *Rate your confidence that the (project activity) will continue after the project period.*	• This question measures project sustainability and community buy-in to the project intervention.

Once the interviews are completed, the VRA scores are developed by either averaging individual community member responses for each VRA question, or by arriving at a consensus score. A simple average of the four questions is used to convert participant's answers into a VRA score. However, a single VRA score is not very meaningful; it becomes meaningful as it is measured at the pre and post-project stages. **The key quantitative output of the VRA is the degree of change from the baseline score between the pre-project baseline, and at project conclusion.**

The VRA must be measured at least three times over the course of the project cycle – before project activities begin, at project conclusion, and at least once in the intervening period. This allows multiple VRA scores to be taken, making it possible to measure the change in their values over the duration of the project cycle.

The H-form

VRA meetings can be conducted in a number of ways, and should be based on locally-grounded experience with the facilitation of community members. Any method of measuring the VRA can be acceptable, provided that there is stakeholder involvement and consensus, interview bias is minimized and that all outputs generated by the H-form are captured.

The "H" form is the most common tool used for conducting the VRA. It is a tool for participatory evaluation, designed to develop a numerical score for a given question, as well as qualitative information giving the reasoning behind the resultant score. It is normally drawn on a large piece of paper or a flipchart. Potential modifications include individual H-forms for all participants or for groups of participants, or a single small H-form on a clipboard, on which the facilitator takes notes (for communities with high illiteracy rates).

Figure 2: Sample blank H-form

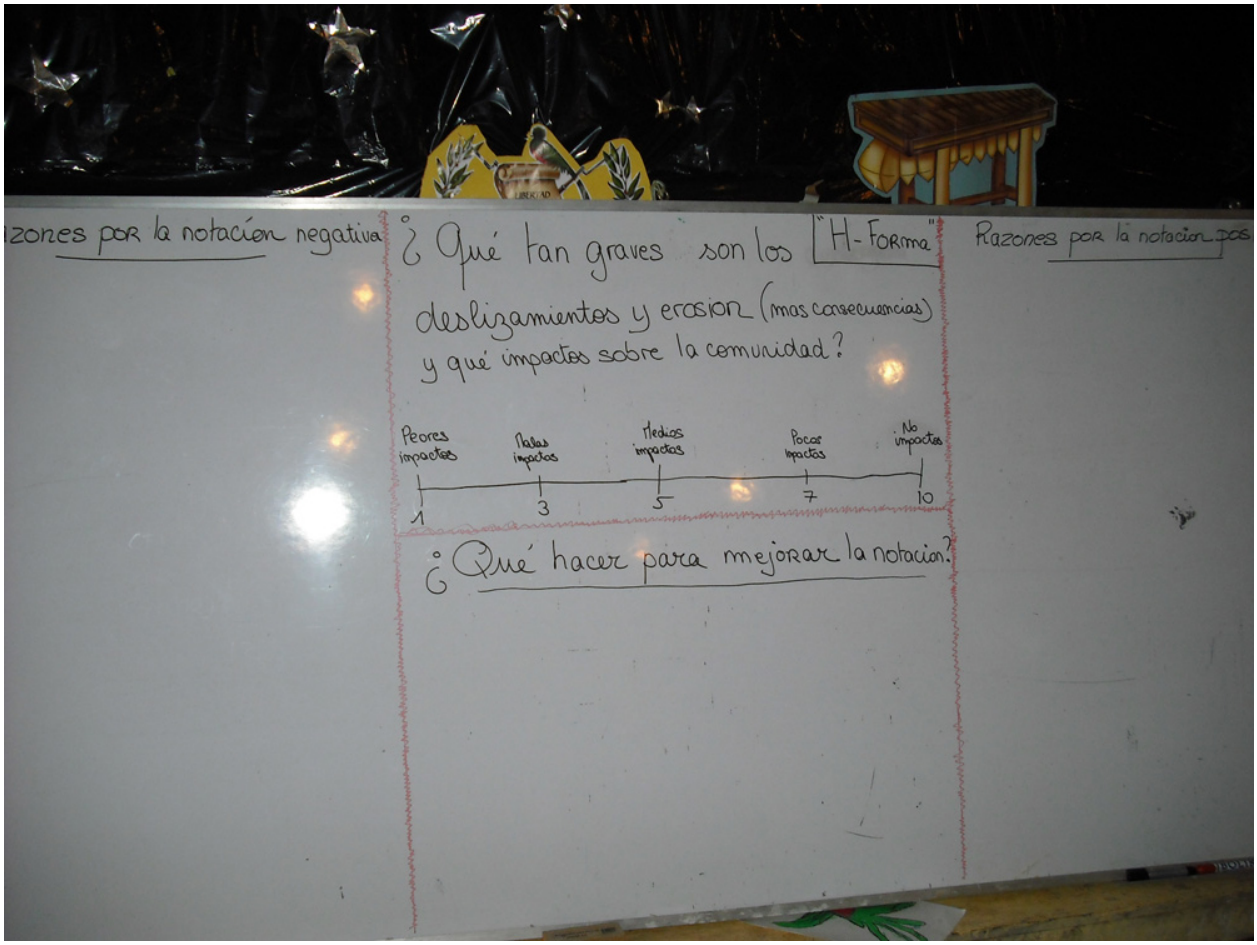

Figure 3: A blank H-Form from a UNDP-supported CBA project development session in San Marcos Province, Guatemala

The following is a generic procedure for measuring a single VRA indicator using the H-form:

1. Sketch the H-form on a large sheet of paper or on a page of a flip chart.
2. Write the question across the centre-top of the form. The questions will be formulated in such a way as to be answerable on a scale of 1-5.
    - Depending on the community and on the question, it may be sensible to reverse the order of the scores – making a response of "1" into a favourable score and "5" into an unfavourable score. If done, this would need to be reversed later, so as to avoid confounding the averaged VRA score.
    - Write guiding text to correspond to each of the scores – for example 1="very bad," 3="moderate," 5="very good," etc, depending on the question to be asked. Once determined, a consistent framework must be used in all VRA meetings so that comparison is possible between projects locally and globally.
3. Pose the question to the community, and lead a discussion about it. For example, in question 1 ask the community the VRA question as it is written, then ask it in a variety of other wordings, especially if it seems like participants may not have understood the question. Ask the community for initial responses, letting them explain how it affects them. Facilitate a discussion based on this question, **jotting down information on the various sides of the H-form as people are speaking** – positive, negative, and constructive comments on the various sides. Facilitate discussions if necessary and follow up statements with clarifying questions as appropriate.

4. Once the general discussion is ready to close, ask participants to rank their answer to the question on a scale of 1 to 5. This can be done either by:
   - Simply asking community members to provide a numerical score, or
   - Asking the question based on the textual guides for the scores. For example: "how many of you think that _____ is very bad," "how many of you think that _____is somewhat bad?" and so on (with the questions to be posed dependent on the VRA question, and the relevant textual guide). Count the number of people that raise their hand for each option, and then mark the number above each option.

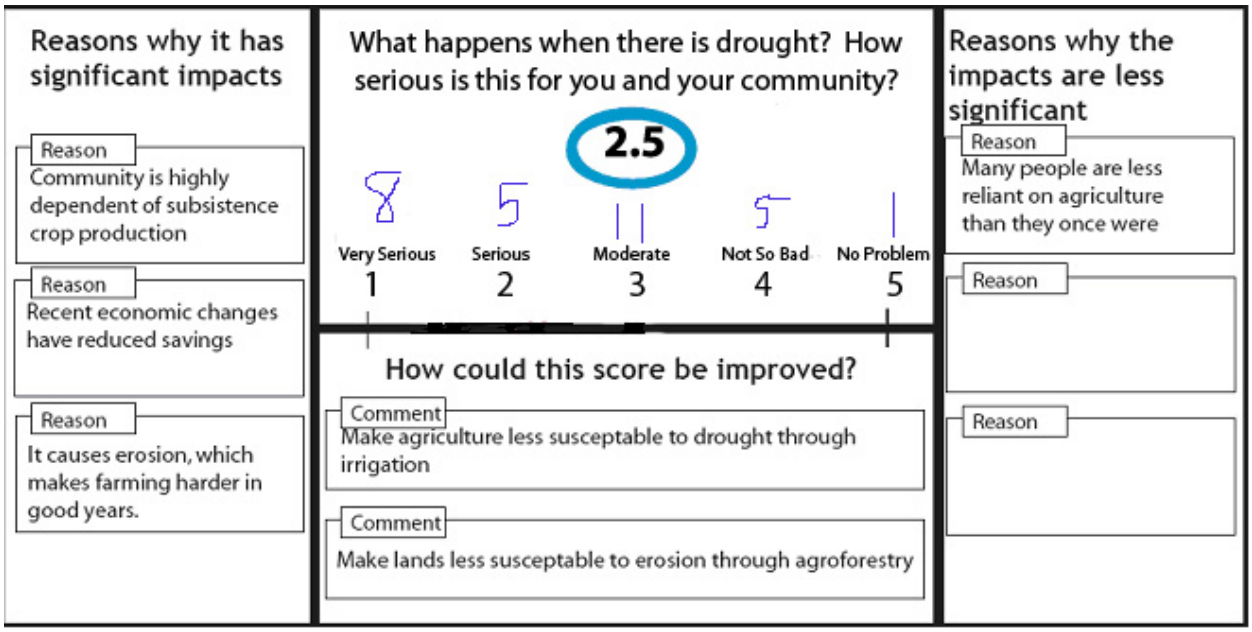

Figure 4: Sample filled-in H-form

Figure 5: H-Form being filled-in in Dakoro District, Niger

While the numerical values are the important output of the H-form for the calculation of the VRA, the qualitative information recorded on the H-form provides an important record of stakeholder perspectives and opinions. These data should guide project design and serve as a building block for project reporting and development of case studies and lessons learned. Experience from Niger suggests that a debriefing by the facilitators and other members of the project team is useful after the VRA has been completed, to compile and gather notes for future reporting, and to help guide next steps in project implantation.

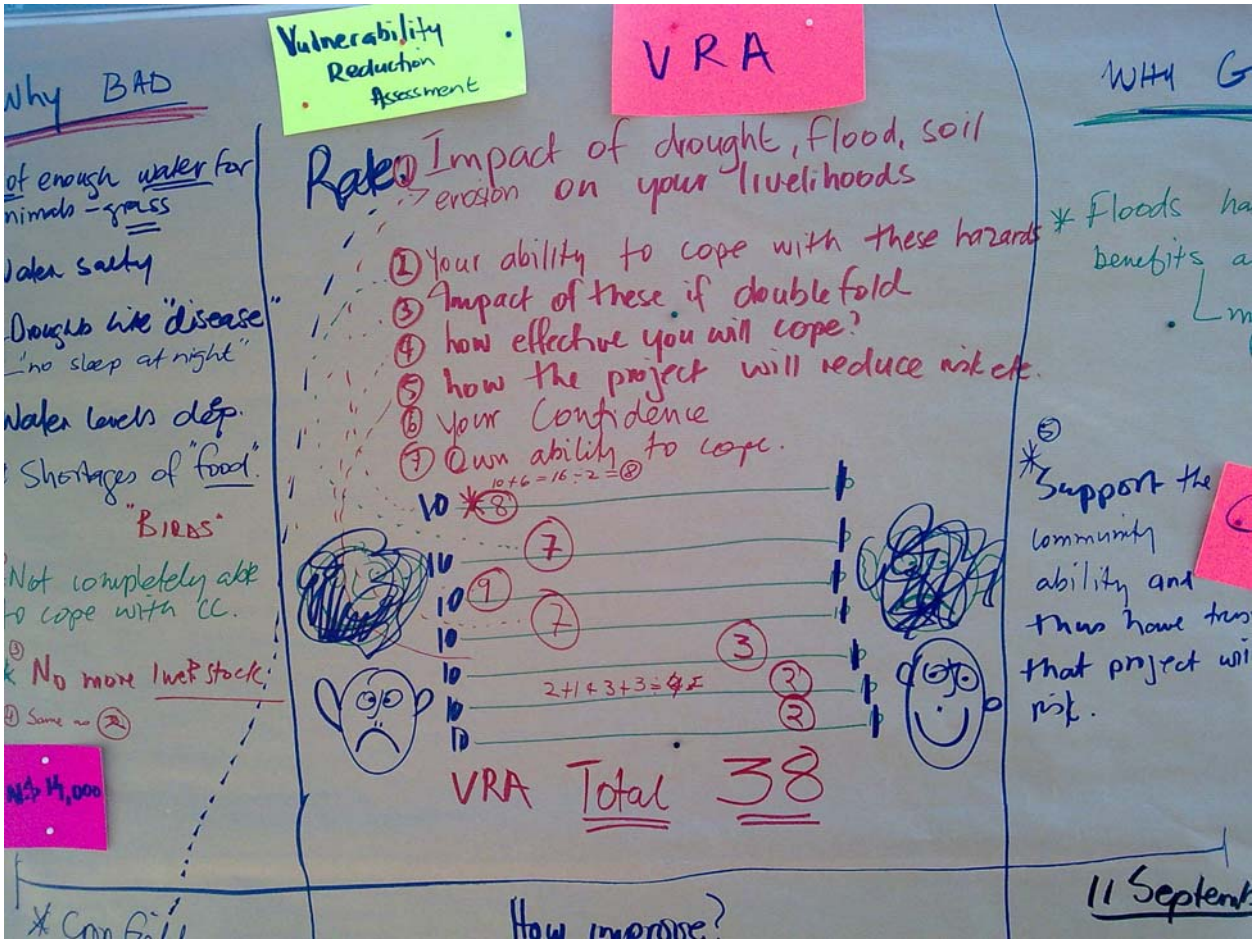

Figure 6: Filled-in VRA form from Namibia. Note that several questions were compiled on one form in this case, and note that the H-form was used as a rather rough worksheet for guiding the PRA. There is no one right or wrong way of doing the VRA – so long as the outputs are quantitative answers to the VRA indicator questions, and qualitative information on community perceptions that can adaptively guide the project.

Calculating the Final VRA Score, Measuring Change

The final VRA score from any one community meeting is simply the average of the scores of the four questions. In itself, the score is meaningless – two different communities with objectively identical adaptive capacities might arrive at different scores based on the numbers chosen. Therefore, the final VRA scores – that which is measured to show the impact of our projects – will be comprised of a degree of change from an initial VRA score with a subsequent measurement.

Thus, as adaptive capacity increases through project interventions, VRA index scores are expected to increase. By converting the difference between baseline and subsequent scores into a percentage, a VRA change score is arrived upon.

Lessons from Practice on Facilitation

Communication with Participants

- **The first question of VRA is critical and must be adapted for the target group.** It has to speak to their experience and livelihoods. If audience feels that you're directly addressing their problems, they

will respond appropriately and provide more and better information. However, it is important to not bias potential responses by leading answers in a particular direction.

- **It is important to communicate explicitly to communities that participation of the entire community – particularly women, young people, and all livelihood groups – is required.** Locally-appropriate measures to ensure that all perspectives are heard should be adopted. It may be necessary to communicate this expectation in advance of the VRA session to make sure the stakeholder group reflects the range of gender and demographic groups within the community.
- **Communities may not be immediately forthcoming with their perspectives.** Rationales behind scores indicated by the participants – reasons why they could be higher or lower – are not always readily forthcoming. This may be due to initial needs in building rapport between NGO grantees and target communities, and responses – as well as reasons for reticence – might be more forthcoming a implementation progresses.
- **Communities may downplay the significance of threats.** It was found that participants do not look at coping with climate impacts purely in the context of their current means to react to climate change impacts. Rather, they expressed confidence and determination that they would find means of meeting climate change-induced challenges. As such, the question on climate change impacts does not always reflect expected lower scores or reduced coping capacity, as compared with the question related to current vulnerability.
- **Communities may reserve judgment until they see something tangible**. It was found that many of the participants were hesitant to comment on the VRA questions related to sustainability or to barriers to adaptation at the project outset. As expected, it was a bit difficult for persons to rate the likely effectiveness of the project without seeing on-the-ground activities. This may vary from project to project, depending on the nature of the proponent (NGO versus CBO, etc) and other factors, but NCs should be prepared for low or uncertain initial scores from this type of question, especially in the initial meeting. As the VRA is conducted over time, and the project results become increasingly apparent, this is expected to change.

VRA Mechanics

- **Translations of questions into local languages need to be agreed upon beforehand by the facilitators and the national coordinator.** This is to ensure that the key messages to be communicated remain the same.
- **Need to limit participant group size in some cases.** Smaller groups are more useful for VRA meetings than other types of PRA. For example, one VRA exercise in Niger was conducted with 200 people, and was less effective due to difficulty in controlling the crowd and facilitating the discussion. A similar (relatively large) meeting with 50 people was more manageable. Expectations for group size and composition should be made in advance to avoid confusion.
- **The H-form takes at least two people to facilitate properly.** One or two should guide discussions, and another should write information on the H-form.
- **The H-forms should be prepared in advance.** Using a whiteboard can be effective, as it can be large enough for all to see, but erasing and writing new questions is tedious and can disturb the rhythm of the meeting.
- **The process should be kept short, to maintain interest of participants.** 1 hour to 90 minutes maximum should be the target duration for conducting each VRA meeting.
- **The bottom-middle part of the H-form is more appropriate to second and third VRA meetings, and less so during the initial meeting.** During later meetings, this section can be used to adaptively manage project activities. In initial meetings, participants simply stated that they need to implement the project in order to increase the scores.