

Social Vulnerability, Sustainable Livelihoods and Disasters

**Report to DFID
Conflict and Humanitarian Assistance Department
(CHAD) and
Sustainable Livelihoods Support Office**

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Social Vulnerability, Sustainable Livelihoods and Disasters

Linking the Sustainable Livelihoods approach with reducing disaster vulnerability

The adoption by DFID of the 1997 White Paper priorities has brought a new determination to focus on poverty reduction in UK assistance to developing and transition countries. The White Paper recognised the significance of socio-economic factors in making people vulnerable to disaster. It sets out the objectives of protecting and rebuilding livelihoods and communities after disasters, and reducing vulnerability to future disasters. It also promises that ‘Disaster preparedness and prevention will be an integral part of our development co-operation programme’. (p.44). A key component of this is the promotion of sustainable livelihoods as the means by which people – especially the poor – improve their living conditions.

DFID has also stated that its humanitarian policy is to:

- save lives and relieve suffering;
- hasten recovery, and protect and rebuild livelihoods and communities
- reduce risks and vulnerability to future crises.

(DFID Policy Statement on Conflict Resolution and Humanitarian Assistance, 1999, p.4)

The humanitarian policy is largely implemented by CHAD, which works under considerable pressure to address the first two of the above tasks, since out of necessity it must respond to a wide range of emergencies with limited resources. It is therefore less able to give attention to the future reduction of risks and vulnerability (either directly or through guidance to other DFID departments), and is limited in its ability to link relief to sustainability and the enhancement of livelihoods.

This may mean that priorities for poverty reduction through the sustainable livelihoods approach need to be supported in the disaster context, so as *to strengthen the links between the sustainable livelihoods approach and vulnerability reduction*. At present there is DFID support for poverty reduction and for sustainable livelihoods (which to be sustainable should not be ‘vulnerable’). Yet the focus of humanitarian effort continues to support victims rather than build up preparedness, resistance and resilience through reductions in vulnerability (with concomitant improved sustainable livelihoods). The DFID Strategy Paper *Halving World Poverty by 2015* (2000) identifies ‘natural disasters’ as one of many threats to achieving the poverty reduction target, and states that ‘the vulnerability of poor people to shocks needs to be reduced’ (pp. 14 and 12). It argues that natural disasters are frequent in the poorest countries. The poor are usually hardest hit ‘because they often only have access to low cost assets (for example land or housing) which are more vulnerable to disasters.’ (p.26). Moreover, the Strategy Paper states that reducing vulnerability to shocks is one of the three ‘fundamental requirements’ for meeting the poverty reduction target.

The need to analyse and prepare for peoples’ vulnerability to natural hazards could be rooted in the sustainable livelihoods (SL) approach, and in development work which aims to reduce the elements of vulnerability that are a result of poverty. As such, **vulnerability analysis** (VA) may help to bring humanitarian work in line with DFID’s other main objectives and tie it in with the sustainable livelihoods approach. From the other side of DFID’s work, the

promotion of sustainable livelihoods and poverty reduction also needs to incorporate the reduction of vulnerability to hazards as part and parcel of such assistance. At the moment the SL approach incorporates shocks as a highly significant component of the ‘vulnerability context’. But there is little analysis of how shocks affect livelihood assets and outcomes, and in most ‘normal’ DFID development work there appears to be very little or no attempt to reduce peoples vulnerability to hazards and disasters.

Vulnerability analysis can:

- be incorporated into all aspects of sustainable livelihoods support policies, such that reduction of vulnerability to natural hazards is included in ‘normal’ pro-poor development activities,
- become an integral part of humanitarian work, so that there is a shift from disaster relief to hazard preparedness which is better integrated with the mainstream of development support.
- enable DFID’s humanitarian work to be more closely integrated with the SL approach, by using vulnerability analysis in both the operation of emergency preparedness and reducing poverty.

The purpose of this report is to provide CHAD and DFID generally with an enhanced capability to develop policy for reducing social vulnerability to hazards. It contains

- information, analysis and resources to improve the incorporation of disaster vulnerability awareness into mainstream development assistance, and
- suggestions for an improved basis for the inclusion of vulnerability analysis in humanitarian policies.
- an initial survey and assessment of various vulnerability analysis methods and analyse their relevance to policy design in humanitarian and development work;
- an inventory of existing work on vulnerability analysis and their links to sustainable livelihoods approaches;

What is vulnerability?

To conduct vulnerability analysis, we need a clear idea what vulnerability is. It is not the same as poverty, marginalization, or other conceptualisations that identify sections of the population who are deemed to be disadvantaged, at risk, or in other ways in need. Poverty is a measure of current status: *vulnerability* should involve a *predictive* quality: it is supposedly a way of conceptualising what may happen to an identifiable population under conditions of particular risks and hazards. Precisely because it should be predictive, VA should be capable of directing development aid interventions, seeking ways to protect and enhance peoples’ livelihoods, assist vulnerable people in their own self-protection, and support institutions in their role of disaster prevention.

In order to understand how people are affected by disasters, it is clearly not enough to understand only the hazards themselves. Disasters happen when a natural phenomenon affects a population that is inadequately prepared and unable to recover without external assistance. But the hazard must impact on groups of people that are at different levels of preparedness (either by accident or design), resilience, and with varying capacities for recovery. *Vulnerability* is the term used to describe the condition of such people. It involves much more than the likelihood of their being injured or killed by a particular hazard, and includes the type of livelihoods people engage in, and the impact of different hazards on them.

It is especially important to recognise this *social* vulnerability as much more than the likelihood of buildings to collapse or infrastructure to be damaged. It is crucially about the characteristics of *people*, and the differential impacts on people of damage to physical structures. Social vulnerability is the complex set of characteristics that include a person's

- *initial well-being* (nutritional status, physical and mental health, morale);
- *livelihood and resilience* (asset pattern and capitals, income and exchange options, qualifications);
- *self-protection* (the degree of protection afforded by capability and willingness to build safe home, use safe site)
- *social protection* (forms of hazard preparedness provided by society more generally, e.g. building codes, mitigation measures, shelters, preparedness);
- *social and political networks and institutions* (social capital, but also role of institutional environment in setting good conditions for hazard precautions, peoples' rights to express needs and of access to preparedness).

In the case studies below, and in other VA methods we are aware of, there is a clear sense of comparability and convergence in the analysis of these different components of vulnerability. There is also a clear realisation that the vulnerability conditions are themselves determined by processes and factors that are apparently quite distant from the impact of a hazard itself. These 'root causes', or institutional factors, or more general political, economic and social processes and priorities are highlighted in much of the VA work that has been done. The apparent absence of such analysis in DFID's own approach to disaster preparedness may indicate why it is difficult for the SL approach and disaster preparedness to become better integrated. Just as peoples' livelihood opportunities and their patterns of assets and incomes are determined by wider political and economic processes, vulnerability to disasters is also a function of this wider environment. All the vulnerability variables are inherently connected with peoples' livelihoods (lower vulnerability is likely when livelihoods are adequate and sustainable), and with poverty (in most disasters, it is mostly the poor who are disproportionately more vulnerable than other groups, and much less capable of recovering easily).

Vulnerability analysis and sustainable livelihoods: what are we trying to achieve?

There is generally a very high – but not absolute – correlation between the chance of being harmed by natural hazard events and being poor. In which case, it should follow that development work that reduces poverty should also be instrumental in reducing disaster vulnerability. But the relationship does not seem to be that straightforward, and there seems to be general acceptance that advances made in development projects and programmes can be wiped out in a matter of minutes or hours by a sudden hazard impact, or over months by persistent drought. And in any case, much disaster relief and recovery assistance fails to take account of the need to support livelihoods and future resistance to hazards by reducing vulnerability as well as dealing with peoples' immediate needs.

Simply put, development work should aim to protect and reinforce livelihoods in such a way that people are able to become more resilient to hazards, and be better protected from them. This protection must come either through

- the strengthening of peoples' 'base-line' conditions (nutrition, health, morale and other aspects of well-being),
- reinforcement of their livelihood and its resilience to possible hazard impacts;
- peoples' own efforts ('self protection') to reinforce their home and workplace against particular hazards,
- or by access to proper support ('social protection') by institutions of government or civil society.

Livelihoods and social protection are also influenced by *social and political networks* (including social and political capital), given that different groups may have access to different networks and sources of alleviation. These networks may have varying levels of cohesion and resilience in the face of hazards, and may also engage in rivalry and disputes, especially over aid and the recovery process.

When disasters occur, the key point will be to ensure that *relief and recovery is tied into the restoration and reinforcement of livelihoods*, and also to the strengthening of self-protection and the reinforcement of social protection (e.g. through support to relevant institutions). However, there are issues that go much deeper than this, as recognised in most of the case studies of different types of vulnerability analysis below. In these examples, the NGOs or authors concerned have highlighted the fact that people are vulnerable because of processes and conditions that are quite 'remote' from the household or livelihood itself. How vulnerable someone is, is determined by how weak or strong their livelihoods are, how good their access is to a range of assets that provide the basis for their livelihood strategy, or how useful different institutions are in providing social protection.

All these aspects are determined by social, economic and political systems that reflect the power relations of any given society. These have to be traced from the immediate assets and livelihood base of a household along a 'chain of causation' back to the processes and institutions that determine the distribution of safety and vulnerability in society. Vulnerability can be seen as a term that encompasses all levels of exposure to risk, from high levels of vulnerability to low. But there has been some opposition to the use of the term in this way, because of its implication that disasters always produce victims who have no strengths or capacities to resist and recover. In this sense, the opposite of being vulnerable is being capable (or having capacities to cope and recover).

Vulnerability and Capacity

There appear to be two separate approaches to the terms vulnerability and capacity. The first conceives of them being the two ends of a spectrum, so that people who have a high degree of vulnerability are low in capacity (and vice versa). In this approach, there is no separate set of factors that should be considered capacities or capabilities: these are simply scales on which high levels indicate low vulnerability. The second perceives them as two distinct (or only partly inter-related) sets of factors. This is potentially confusing, since someone with a good nutritional status might be considered as having a high capacity, while poor nutritional status is considered highly vulnerable: the same measure is interpreted using two different terms. But other factors are captured by the term capacity/capability, so it may be a useful distinction. A capacity might include institutional membership, group cohesion, or literacy. Vulnerability can include poverty, house quality, or illiteracy. The implication is that some capacities are not the opposite of vulnerabilities, and that some low-level vulnerability characteristics are not amenable to being considered capacities when they are at the higher

end of the scale. For example, is being rich a ‘capacity’ or a part of the problem for poor people? Is being part of a particular network a capacity, or a denial of capacity to others (as with caste behaviour in India).

The use of the concept of capabilities emerged in response to the supposed negativity of the term vulnerability: it was suggested that to speak of people as being vulnerable was to treat them as passive victims and ignore the many capacities that make them competent to resist hazards. And yet logically there is no reason that the term vulnerability cannot include capacities as its scalar ‘opposite’. Some characteristics may be considered capacities when they score well, and vulnerabilities when they score badly, even when they are in fact opposite ends of a scale (like literacy/illiteracy). The problem is the title of the scale that is used: there can be high and low levels of vulnerability without implying that this means victim-hood in using the label.

One of the reasons that capacities seem to be often separated from vulnerability is that capacities are regarded as dependent on groups or some form of social organisation, while vulnerabilities are socially-determined but the characteristic of individuals or households. In all the case studies below, we can observe the analytical stresses that surround the way the methods try to deal with this issue. One way round the problem is simply to acknowledge that where capacities are high, it is likely that vulnerability is reduced. If we accept that measuring vulnerability includes any factor or process that can alter the exposure of a person or household to risk, then capacities can also be considered as scaled factors that lead to greater danger (vulnerability) when they are low, and reduced danger when they are high.

DFID’s task: convergence and integration?

Vulnerability analysis offers DFID the opportunity to integrate development work using the SL approach with disaster preparedness, prevention and recovery. By its focus on assets, livelihoods, and vulnerability components such as self and social protection, VA (along with the recognition of support for enhancing of capacities) can be properly integrated into pro-poor development work. CHAD’s work requires that it deal with disastrous events where by definition vulnerability had not been sufficiently reduced. Relief and reconstruction work is likely to continue to be a significant feature of its work, as vulnerability can only be reduced slowly. But by adopting a VA approach, disaster prevention, preparedness and recovery work should be capable of integration with development work. But this depends on the acceptance that reducing disaster vulnerability must be properly integrated with ‘normal’ development work. In other words, disaster preparedness should be seen as a part of development, through the tools of vulnerability analysis.

Given that many of the issues involved in this integration have been considered by other authors, NGOs, and international organisations like the Red Cross, there is also scope for DFID to learn from these methods. But in its own engagement with VA as a means of integrating its development and disaster work, DFID may also be able to foster the better integration and convergence of the wide range of vulnerability and capacity methods developed by these organisations and authors. This will assist in its work of creating partnerships and enable a much better ‘fit’ between DFID objectives and the activities of its partners.

Case Study

Capacities and Vulnerabilities Analysis (CVA)

Background

The CVA method was designed and tested in the late 1980s by an inter-NGO initiative, the International Relief/Development Project (IRDP). Its stated purpose is to ‘help the givers of aid learn how to give it so that it supports the efforts of people to achieve social and economic development’¹ (i.e. how to make relief interventions more developmental) but it has been used more widely in disaster preparedness and mitigation. It is a practical tool but above all a diagnostic one: it is not prescriptive.

The CVA format and basic concepts have since been adopted by or absorbed into other vulnerability assessment methodologies and used in training courses and manuals to varying degrees.² The extent of its use on the ground is not clear although it does appear to be widely known. The best documented and perhaps most significant adoption of the CVA method has been in the Philippines by the Citizens’ Disaster Response Center and Network (CDRC/N) of NGOs since the early 1990s, as part of their Citizenry-Based and Development-Oriented Disaster Response (CBDO-DR) approach that emphasises a developmental approach to disaster management together with community participation in project planning and implementation. Much of the following discussion about the application of CVA is based on experience in the Philippines, where CDRC/N has progressively reviewed and revised its methods over more than a decade.

Lessons learnt in the development and application of the CVA approach have been documented. The methodology and 11 of the 30 case studies of its application under the IRDP were published in 1989 in the book *Rising from the Ashes* by Mary Anderson and Peter Woodrow, which was republished in 1998 due to continuing demand. Experiences of using CVA in the Philippines have recently been written up by Annelies Heijmans and Lorna Victoria as part of a broader review of the CBDO-DR approach: their book *Citizenry-Based and Development-Oriented Disaster Response* was published in 2001 but is still not widely available outside the Philippines. An analysis of the use and effectiveness of methods for risk and vulnerability analysis used by CRDC/N, including CVA, was carried out in a recent research project on community-based vulnerability analysis managed by South Bank University in the UK. The South Bank University project’s findings have not been published but were made available to this study. Full references for these documents are given below.

¹ Anderson and Woodrow 1998 [1989]: 1.

² For its use in other vulnerability analysis methods, see e.g. IFRC n.d. *Tool Box for Vulnerability and Capacity Assessments*. Geneva: IFRC. For its use in manuals and training, see e.g. Hugo Slim, John Harris and John Seaman 1995 *A Regional Resource Pack for Disaster Management Training in South Asia*. Kathmandu: Save the Children (UK); Astrid Von Kotze and Ailsa Holloway 1996 *Reducing Risk: Participatory learning activities for disaster mitigation in Southern Africa*. Oxfam/IFRC.

Description

Anderson and Woodrow's *Rising from the Ashes* explains the CVA approach in detail. The basis of the CVA framework is a simple matrix for viewing people's vulnerabilities³ and capacities in three broad, interrelated areas: physical/material, social/organisational and motivational/attitudinal (see Figure 1).

Figure 1: CVA matrix

	Vulnerabilities	Capacities
Physical/material What productive resources, skills and hazards exist?		
Social/organisational What are the relations and organisation among people?		
Motivational/attitudinal How does the community view its ability to create change?		

Each of the three categories comprises a wide range of features:

Physical/material vulnerability and capacity. The most visible area of vulnerability is physical/material poverty. It includes land, climate, environment, health, skills and labour, infrastructure, housing, finance and technologies. Poor people suffer from crises more often than people who are richer because they have little or no savings, few income or production options, and limited resources. They are more vulnerable and recover more slowly. To understand physical/material vulnerabilities, one has to ask what made the people affected by disaster physically vulnerable: was it their economic activities (e.g. farmers cannot plant because of floods), geographic location (e.g. homes built in cyclone-prone areas) or poverty/lack of resources?

Social/organisational vulnerability and capacity. How society is organised, its internal conflicts and how it manages them are just as important as the physical/material dimension of vulnerability, but less visible and less well understood. This aspect includes formal political structures and the informal systems through which people get things done. Poor societies that are well organised and cohesive can withstand or recover from disasters better than those where there is little or no organisation and communities are divided (e.g. by race, religion, class or caste). To explore this aspect, one has to ask what the social structure was before the disaster and

³ CVA makes a distinction between 'vulnerabilities' and 'needs': vulnerabilities are long-term factors that affect a community's ability to respond to events or make it susceptible to disasters; needs (in a disaster context) are immediate requirements for survival or recovery after disaster.

how well it served the people when disaster struck; one can also ask what impact disasters have on social organisation.

Motivational/attitudinal vulnerability and capacity. This area includes how people in society view themselves and their ability to affect their environment. Groups that share strong ideologies or belief systems, or have experience of co-operating successfully, may be better able to help each other at times of disaster than groups without such shared beliefs or those who feel fatalistic or dependent. Crises can stimulate communities to make extraordinary efforts. Questions to be asked here include what people's beliefs and motivations are, and how disasters affect them.

Five other factors can be added to the CVA matrix to make it reflect complex reality. These are: disaggregation by gender, disaggregation by other differences (e.g. economic status), changes over time, interaction between the categories, and different scales or levels of application (e.g. village or national levels).

Application of the method

CVA was designed principally for NGOs, to help them consider when and how to respond to a disaster by understanding what impact interventions will have on capacities and vulnerabilities. It is intended to provide concepts, tools and guidance on decisions and choices in project design and implementation throughout the project cycle. It is seen as a simplified (but not simplistic) framework for mapping complex situations by identifying critical factors and the relationships between them.

It was first applied by the IRDP to 30 projects in Asia, Africa and Latin America, implemented by a diverse set of NGOs (large/small, technical/general, relief/development, North/South) and different disasters (drought, flood, earthquake, typhoon, volcano, tsunami, refugees). This application was largely retrospective, so whilst it provided many lessons about how particular interventions had affected capacities and vulnerabilities, it had relatively little to teach about how to use the method in project design. However, the IRDP cases did demonstrate that CVA could be applied in a wide variety of contexts (including conditions of social and political upheaval or polarisation, and in countries where the régime in power imposes limits on NGO work), and that it could generate valuable insights into vulnerabilities and capacities for use in planning and implementing projects.

As in the IRDP, CVA's use in the Philippines has been confined to individual NGO projects. Most CVA applications have been at community level, in organised communities that already have some kind of disaster response structure as the result of earlier CDRC/N training and technical support. CVA has largely been used post-disaster, to identify appropriate approaches to rehabilitation and mitigation that will support development, but in the past few years it has been increasingly used for pre-disaster project planning in conjunction with other diagnostic tools. Its applicability to different phases in the disaster and project cycles is seen as one of its strengths. Because the Philippines is a highly disaster-prone country and many communities are exposed to recurring disasters, CDRC/N feels that the standard distinction between pre- and post-disaster phases makes little sense.

CVA and the other tools form part of CDRC/N's ongoing counter-disaster programming with communities at risk. A typical initiative at community level involves discussion of disaster issues and approaches with the community, training and analysis of hazards, capacities and

vulnerabilities, leading to the development of a counter-disaster plan (sometimes also called a community development plan).

The components of the implemented plan are likely to include organising a disaster response committee to manage preparedness and mitigation measures, raising public awareness, establishing early warning systems, planning and practising evacuations, training for emergency response, and identification of a range of mitigation measures. The mitigation undertaken may include a number of actions to reinforce existing livelihood and coping strategies (mostly through a food security and nutrition programme) such as crop and livelihood diversification, propagation of disaster-resistant crops, establishing seed banks and nurseries, production of crops with different nutritional values, improved post-harvest facilities, improved land management and sustainable agriculture, community health, village pharmacies and herb gardens, functional literacy, and collective marketing of products. CDRC/N's rehabilitation initiatives similarly involve livelihood support. They include: rebuilding houses; providing seeds, farm tools, machinery, fishing gear, working animals and livestock; rehabilitation of irrigation works, foot-bridges, trails and water supply systems; negotiation and networking; and ongoing capacity-building and advocacy.

It is significant that CDRC/N applies CVA in conjunction with three other diagnostic tools. This is principally because it feels that CVA alone cannot provide sufficient information for counter-disaster planning (see the discussion of data below). All of these methods are informed by and build upon each other.

CDRC/N points out that CVA should not necessarily be undertaken at one go because the situation in a community varies during the year and people may not have time to attend meetings and group discussions. It can therefore be spread over several months and be continued while initial disaster response measures are being implemented. In practice, however, it is applied – like the other methods used by CDRC/N – principally at the start of individual projects or project phases to provide baseline data. Data limitations (see below) also limit its use beyond individual projects and communities, to inform other partners or in advocacy. Nevertheless, the application of CVA does enable CDRC/N to take a broad view of the longer-term impact of their pre- and post-disaster interventions on vulnerabilities and capacities – which is the main purpose for which the method was designed.

Data and data collection

CVA collects information to assist projects. Information is a critical element in control – over conditions and plans or programmes for addressing them. Overall, the CVA method is a robust tool for data-gathering, at least at project or community levels. Its main strengths and weaknesses in this regard are considered here, particularly insofar as they affect the range and depth of coverage of vulnerabilities, capacities and livelihoods.

Methods

The participation of vulnerable people is an essential component of CVA. In Anderson and Woodrow's words, 'This is a powerful way to help them increase their understanding of their own situation, and, therefore, their capacities to effect desired change.' (Anderson and Woodrow 1998 p.21). They also argue that much of the information that agencies need is either already available or can be easily obtained from local people ('After all, local people usually already "know" what the situation is. Only the outside agency needs this

information.’) (Anderson and Woodrow 1998 p.45). But it is acknowledged that local people do not always have the skills for understanding and organizing what they know.

In the Philippines, participatory approaches are central to the CBDO-DR approach and hence also to CVA. CDRC/N staff do take a participatory approach to projects and are committed to working in this way. Community members take an active role in participatory data gathering. They analyze factors that generate their vulnerabilities (including searching for root causes) and identify the resources and strengths they use to deal with and respond to crises: disasters and other periods of stress.

In the Philippines, the most commonly used tools for participatory data gathering as part of CDRC/N’s CVAs⁴ include the following:

- Secondary data review to get an overview of the situation and context, covering the community, threats, hazards, policies and legislation. Information may be obtained from libraries, government offices, universities, research centres, newspapers and maps.
- Semi-structured interviews among groups and individuals to obtain both general and specific information on problems, vulnerabilities and capacities, and community perceptions, as well as to discuss counter-disaster plans.
- Historical profiling to give an insight into hazards and links to vulnerabilities, and to make people aware of changes. Methods used are group discussions, life histories, history tracing. Historical profiling can reveal, for example, trends in levels of food security, crops grown and forest cover.
- Community mapping of topography, houses, land use, hazards, elements at risk and safe areas. Maps can be made of local resources and capacities, marked to show the flow of resources into and out of a household and identify who controls resources
- Transect walks with key informants to visualise interactions between physical environment and human activities over space and time, focusing on issues like land use and tenure, environmental changes and areas vulnerable to hazards.
- Seasonal calendars identify periods of stress, hazards, disease, hunger, debt and vulnerability. They can also be used to identify what people do in these periods, how they diversify livelihood sources, when they have savings, how they cope and whether they are involved in community activities. Community members can describe all the work they do for each source of livelihood/income during the year. Different aspects of the calendar can be linked: for example, how do disasters affect sources of livelihoods, and when is the workload heaviest? Details of seasonal food intake, periods of food shortage and out-migration are also collected through such exercises.
- Livelihood/coping strategies analysis: a combination of individual household interviews and drawing diagrams that show different income or food sources. This gives an understanding of perceptions, behaviour and decisions related to livelihood strategies.
- Institutional and social network analysis is creation of a diagram showing key organisations, groups and individuals, and the nature and importance of relationships.
- Problem trees are used to identify major local problems and vulnerabilities, including the root causes and long-term effects. This is usually done through community meetings. CDRC/N stresses the importance of following the problem tree back to the root causes of vulnerability.

⁴ CDRC/N’s complementary approaches – HVCA, SICA and DNCA (see below) use similar techniques to gather information.

- Assessing the capacity of the People's Organisation⁵ involved in the project through semi-structured interviews, SWOT analysis and planning processes.
- Direct observation to obtain a better picture and cross-check verbal information.

Most of these methods deploy or are derived from PRA techniques and therefore will probably be familiar to many NGO staff if not to the communities. Experience in the Philippines points to the importance of having a clear plan for gathering data during a CVA, covering the data to be collected, methods to be used to collect data, sources of information or who needs to participate in analysis, the sequence of methods and schedule, allocating tasks among team members, and the process of validation or cross-checking the information.

The active participation of all community members requires time and patience, and sometimes there are obstacles or conflicts to be overcome before the CVA can start. CDRC/N's experience is that in many cases sufficient time is not available due to the rigidity of its donors' timetables and expectations.

CDRC/N uses complementary vulnerability analysis approaches to flesh out the picture gained from CVA. Hazards, Vulnerabilities and Capacities Assessment (HVCA) is undertaken as an initial stage in counter-disaster planning. HVCA is largely based on CVA though it tends to be carried out more rapidly. Its key difference is that it includes a more detailed analysis of hazards and their likely impact. Damage, Needs and Capacity Assessment (DNCA) is a needs assessment tool used immediately after disaster strikes. Social Investigation and Class Analysis (SICA) looks at a range of socio-economic conditions and relationships – basically the same issues as CVA but in political and organisational terms instead of disaster management language. The need for so many different procedures is debatable and their use does cause some confusion and duplication of effort in practice, even though they are integrated conceptually and there are signs of growing harmonisation in the methods that they use.

Issues

CVA is not intended to be prescriptive where methods for data collection are concerned. This flexibility can be seen both as a strength and a weakness. Its strength is in allowing different organisations to use it in a variety of contexts according to their needs and capacities. Its weakness is that the diversity of data sources and data sets makes comparison between projects very difficult and hence limits the potential for drawing more general lessons.

Anderson and Woodrow argue against over-emphasis on data collection. Although some agencies are afraid of inadequate information, over-done data collection can be expensive, redundant, ineffective and anti-developmental. Agencies often fail to use information gathered, which is a waste of effort and expense. Information gathering sometimes becomes an end in itself, while the purpose – to promote effective programming – is forgotten. It was acknowledged when the CVA method was designed that it is difficult to know how much information is necessary at each stage of project design and implementation – and for whom (e.g. headquarters and field staff have different information needs).

⁵ In the Philippines, community-based organisations are commonly called People's Organisations.

CDRC/N, on the other hand, sees overlap of information not as a waste of effort but as a way of cross-checking information. For CDRC/N, CVA in application is clearly a longer-term process.⁶ Understanding community-level situations starts with getting a general picture, followed by more detailed and focused analysis. Its guidelines are specific about the sequence in which data-gathering methods should be used. But CVA is only one of the approaches CDRC/N uses to build up community profiles through a series of ‘snapshots of the community at particular moments.’ (Heijmans and Victoria 2001 p.43). From a community perspective, the different approaches are integrated because people at risk make less distinction between the different phases of disaster management, and the findings of all the analyses are integrated into the counter-disaster plan.

Problems have arisen over indicators. CVA does not define indicators. It is up to each user to define these and their respective weighting. This makes sense as part of an open-minded, participatory approach but experience in the Philippines suggests that the lack of more specific guidance on appropriate indicators can cause problems for field staff who find it difficult to apply CVA as an analytical tool for identification of interventions.⁷ Reviewing CDRC/N’s experience, Heijmans and Victoria observe that ‘The CVA matrix is useful as a guideline for data gathering, because it reminds you of the different aspects to look into. However, when you collect the data according to the three categories, the result is often more descriptive than analytical.’ (Heijmans and Victoria 2001 p.42). There is clearly a risk that the projects that ensue from the CVA will be based on evidence that is over-subjective and too broad-based.

To help overcome this problem, CDRC/N uses a vulnerability checklist, derived and developed from earlier CVA training workshops, that makes vulnerabilities ‘more concrete’ (Appendix 1). This is helpful but it could go much further in helping to specify indicators of the characteristics identified.

The CVA matrix is structured in such a way that it is easy to remember what sort of data to collect. It is comprehensive and covers the important variables in a community. It gives equal consideration to different aspects of capacity and vulnerability. This approach is clearly advantageous in terms of ensuring that all relevant data are collected. Analysis of vulnerabilities and capacities, however, requires some kind of weighting of these different factors. CVA as generally practised in the Philippines does not weigh the many different aspects of vulnerability, which are not all equal in their nature or consequences.

Other issues concern cause-effect linkages and coverage of hazards. Cause-effect relationships of vulnerabilities are specifically covered in the original CVA method and by CDRC/N’s methodological toolbox but do not appear in CVA matrices presented in the Philippines and this makes it difficult to use the matrix for analysing the root causes of vulnerability. Regarding hazards, CVA and even HVCA as applied do not relate capacities and vulnerabilities well to the many different kinds of hazard facing Filipino communities. With staff not often having sufficient expertise in hazard and risk to fill this gap, there is the possibility that some hazards’ significance will be underestimated.

⁶ In practice, however, there are some indications that it may tend to be applied on a one-off basis, without follow-up surveys.

⁷ The IRDP case studies published in Anderson and Woodrow [1989]1998 do not discuss the selection and value of different indicators.

Appendix 2 – an example of a typical CVA – demonstrates some of the above problems.

Because of these limitations, CDRC/N members find it difficult use to CVA to identify appropriate interventions systematically. It can identify individual vulnerabilities that can be addressed immediately and those that take more time, 'but a thorough analysis is seldom made. Its use is limited to counter-check selected interventions' for their effects on people's capacities and vulnerabilities (Heijmans and Victoria 2001 p.42). Interventions such as advocacy, raising public awareness in general and even specific disaster-related training are seldom identified when using a CVA. Bellers (2000) found that the detail and accuracy of risk measurement provided by CVA and the other assessment methods used by CDRC/N was sparse: it was only when subsequent sectional plans were developed that more details on levels of comparative risk and need were articulated.

Lack of guidance and consistency in the use of indicators means that CVA 'still does not offer a systematic way of analysing vulnerabilities with community members' (Heijmans and Victoria 2001 p.42). Community profiles are compiled and updated in different ways by different users. The type, accuracy and amount of information gathered and the depth of analysis varies widely according to requirements and the skills of the field workers involved. A lot of subjective judgement is used in completing CVAs. Those applying the methods at community level often don't understand what is required of them or why the tools are being used. Project workers do not have detailed guidelines showing how CVA (and HVCA) matrices should be filled in although it is questionable how far this would help in practice, since the approach as it stands is considered time consuming and difficult by some CDRN members. There is a recognised need for better analysis of information being generated.

Coverage of vulnerabilities and capacities

The CVA method is designed to cover all dimensions of vulnerability, including interactions between the different factors. Its designers were well aware that vulnerabilities often reflect large and deep-seated problems.

The 11 published IRDP case studies show variations according to the nature of the project and the data available, but viewed as a whole they show that CVA is capable of addressing vulnerability and capacity in breadth (they address physical, economic, social and political aspects) and depth (they address unsafe conditions, dynamic pressures and – though to a lesser extent – root causes). Changes over time – that is, the project period – are also addressed.

The CBDO-DR approach in the Philippines is based on the perception that disasters are primarily a question of vulnerability. One of its four stated purposes is to identify immediate and root causes of vulnerability and some of the methods used, such as problem trees, are designed to pick up root causes. In practice, as we have seen above, the field of application of CVA and related tools is largely at community level, and there are weaknesses in the data collection methods involved and the data collected. As a result, the view of vulnerability tends to be limited to identification of elements at risk and the immediate reasons for this.

Those who designed CVA were aware that at times of disaster it is vulnerabilities that are most obvious but capacities assessment is critical for designing projects that have clear developmental impact. Placing capacities before vulnerabilities in the name CVA was a way

of emphasising this point. The CVA method is intended to cover the full range of capacities and their interrelationships.

The IRDP case studies showed that when agencies act in a hurry they focus entirely on victims' needs and problems, and fail to note capacities. This is especially true where an NGO assumes all responsibilities for managing relief. They also found agency staff's respect for local capacities to be a far more important determinant of the developmental impact of relief projects than any other staff qualifications (including previous disaster experience). Projects with local staff were more effective developmentally, but these local staff had to respect local capacities, otherwise they were no better than anyone else with the same attitude. The practice of CVA and the insights it brought were found to have improved the capacity of both local and external staff.

The IRDP case studies – again, taken as a whole – showed CVA can address the full range of capacities: physical, economic, social and political (although it is notable that the political factors identified tended to be institutional linkages with local actors rather than higher-level politics). Changes over time were identified. So too were indigenous knowledge and coping strategies.

In the Philippines, investigation of capacities follows the same issues as that of vulnerabilities, looked at in a more positive light. The data collection issues already mentioned therefore apply here too. There seems to be a similar local-level focus, with community members being asked to identify the resources and strengths (including coping strategies) they use to deal with and respond to disasters and other periods of stress; in fact, the method appears to be sensitive to these issues. Issues of community organisation and cohesiveness also appear to feature well.

Coverage of livelihoods

The CVA method set out in *Rising from the Ashes* provides a good all-round coverage of livelihood issues: assets, coping strategies and changes over time. Although not addressed *per se*, the different dimensions of livelihoods marked out in modern livelihoods frameworks fall under the CVA headings of physical, social, attitudinal capacities and vulnerabilities; the model is broad and flexible enough to accommodate this. The trainers' manual produced to promote the method gives further indication that the CVA method was expected to look at livelihood assets, strategies and transforming structures and processes. This is borne out in the published IRDP case studies, which show the same range of coverage although understanding of transforming structures and processes is stronger where local forces are concerned.

In the Philippines it has been found that the process of making CVA categories and factors more concrete leads to more specific detailing of all major livelihood factors. Most of the participatory tools used by CDRC/N and described above can shed light on some aspects of livelihoods and some are designed specifically to identify livelihood strategies and changes over time. However, in the light of the challenges in collecting and analysing data that have already been outlined, one must question how far the CVA permits extensive or detailed examination of livelihoods issues in practice.

Conclusions

CVA is a versatile and effective method capable of covering vulnerabilities, capacities and livelihoods issues extensively. It is fairly easy to grasp at a broad conceptual level but can be

less easy to apply in practice. Needing to balance the sometimes competing demands of furthering understanding and taking action, NGOs and communities do find it a challenge to provide information in sufficient quantity and of sufficient quality to permit serious analysis. Greater investment in staff training in the concepts and their practical applications is clearly needed, but in many NGOs operational and funding pressures combine to restrict skills training of this kind.

CVA is arguably most usefully applied at local level, which inevitably limits its potential for assessing some of the broader and deeper aspects of capacities, vulnerabilities and livelihoods. The great divergence between individual CVAs hinders comparative studies that could build up a bigger contextual picture and the very flexibility of the method can sometimes be its undoing, as the difficulties over indicators reveal.

References

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(application of CVA)

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Appendix 1: Checklists for vulnerabilities and capacities

<i>Physical/material vulnerability</i>	<i>Social/organisational vulnerability</i>	<i>Motivational/attitudinal vulnerability</i>	
CVA training workshops *	CVA training workshops	CVA training workshops	CDRC/N
Economic activities: means of livelihood, productive and other skills. land, water, animals, capital, other means of production (access and control). Infrastructure and services: roads, health facilities, schools, electricity, communications, housing, etc. Human capital: population, mortality, diseases, nutritional status, literacy, numeracy, poverty levels. Environmental factors: forest cover,	CVA training workshops family structures (weak/strong) leadership qualities and structures decision-making structures (who is left out, who is in, effectiveness) participation levels divisions and conflicts: ethnic, class, caste, religion, ideology, political groups, language groups and structures for mediating conflicts degree of justice, equality; access to political process	attitude towards change sense of ability to affect their world, environment, get things done initiative faith, determination, fighting spirit religious beliefs, ideology fatalism, hopelessness, despondency, discouragement dependent/independent (self-reliant) consciousness, awareness	CDRC/N negative attitude towards change passivity, fatalism, hopelessness, dependent lack of initiative; no fighting spirit lack of unity, cooperation, solidarity negative beliefs/ideologies lack of awareness about hazards and their consequences dependence on external support/dole-out mentality

<p>soil quality, erosion. natural hazards: drought, flood, earthquake, cyclone, etc. and systems for coping with them (or lack thereof).</p>	<p>background lack of basic services (education, health, safe drinking water, shelter, sanitation, roads, electricity, communication etc) high mortality rate, malnutrition, occurrence of diseases, insufficient caring capacity over-exploited natural resources exposed to violence (domestic, community conflicts, or war)</p>	<p>community organisations: formal, informal, traditional, governmental, progressive relationship to government, administrative structures isolation or connectedness</p>	<p>absence of or weak community organisations (formal, informal, government, indigenous) no or neglected relationship with government, administrative structures isolated from outside world</p>	<p>cohesiveness, unity, solidarity, co- operation orientation towards past, present, future</p>
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* In subsequent workshops to present the CVA method, Anderson and Woodrow exemplified features of the three main categories to give trainees guidance on how to fill in the matrix. This presented the features in a slightly different way using some terms that are part of or closer to those used in livelihoods analysis. Heijmans and Victoria 2001: 115

Source: Heijmans and Victoria 2001: 40, 115.

Appendix 2

Example of CVA used as a tool to identify rehabilitation activities in Sagada, Mountain Province, 1992 (area prone to earthquakes and typhoons).

Aspect	Vulnerabilities	Capacities
Material/physical	<p>Area is prone to typhoons and earthquakes, causing landslides, damaging irrigation canals and intakes.</p> <p>Earthquakes cause shift in water sources affecting drinking water supply and irrigation facilities.</p> <p>Climate conditions permit only one rice crop; farming is highly dependent on irrigation.</p> <p>Fast growing population, which causes pressure on natural resources.</p>	<p>Indigenous engineering/ construction skills to build and repair water works</p> <p>Construction materials which are locally available.</p> <p>Employable skills other than farming (mining, weaving).</p> <p>Availability of new water sources to be tapped for potable water and irrigation.</p> <p>Traditional labour system to synchronise farm activities to avoid pests.</p>
Social/organisational	<p>Due to militarisation many members of the People's Organisation (PO)** became inactive, although now the PO is recovering again.</p>	<p>Presence of indigenous <i>dap-ay</i> system to mobilise villagers to take action and to guarantee sustainability of the projects.</p> <p>Presence of active PO (ASUP) linked to <i>dap-ay</i> system.</p> <p>Presence of traditional women and youth organisations.</p> <p>PO is assisting non-members as well.</p>
Motivational/Attitudinal	<p>Due to growing population, farming cannot provide for all needs any more. More young people leave the area for a better livelihood.</p>	<p>People fight against plans they do not like (Chico Dam, mining and logging concessions).</p> <p>Positive attitude towards involvement of women in community decision making.</p> <p>High awareness of regional issues.</p> <p>High motivation for projects which benefit whole community, regardless of PO membership.</p>

** The term commonly used in the Philippines for a community-based or grass-roots organisation.

Source: Heijmans and Victoria 2001: 41

Case Study

Vulnerability and Capacity Assessment (VCA) International Federation of Red Cross and Red Crescent Societies

Background

The Vulnerability and Capacity Assessment tool (hereafter referred to as VCA) is a product of the International Federation of Red Cross and Red Crescent Societies (hereafter referred to as the IFRC). It was created largely in response to a growing recognition of the need for a more focused understanding of ‘vulnerability’, and how it relates to IFRC programming.

During a major evaluation of the Federation’s work in the 1990s – in which no less than 250 IFRC members from every level of the organisation were interviewed – it was confirmed that National Societies from around the globe shared a common concern: that although the concept of vulnerability was useful, much difficulty was being encountered in making it operational. Specifically, although the IFRC reached more vulnerable people in the 1990s than in the 1980s, this was achieved by spreading the services they provided wider and thinner. Interviewees spoke of their fear that a lack of focus was undermining the organisation’s work.

The mission statement of the IFRC was, at that time, ‘to improve the situation of the most vulnerable’⁸. This implied far more than responding to emergencies, which was the traditional focus of the Federation. Not only did this challenge require more holistic work on prevention and preparedness, but also that attention be given to a much larger spectrum of society than a particular group suffering from a specific accident or disaster. What was needed was a mechanism to facilitate the identification of critical target groups within that broader spectrum, while determining lines of programming based on the vulnerabilities and capacities of those groups.

As a result of the lessons learned in the 1990s, the VCA toolbox was designed to help National Societies understand the nature and level of risks that communities face; where these risks come from; what and who will be worst affected; what is available at all levels to reduce the risks; and what capacities need to be further strengthened. As such, it is a diagnostic tool to be used for better-informed relief, mitigation and development programmes. Many of the tools found in the toolbox had been used sporadically in the past, but the consolidation process allowed those individual tools to be gathered and disseminated as a package to all National Societies which wished to use them.

The VCA toolbox has existed in its own right since 1996. Since then, it has been slowly assimilated into the work of individual National Societies, which have fed the results back to the Secretariat so that improvements can be made and other societies can build upon the experiences of the early trials; these lessons have only recently begun to be collected. There is a VCA focal point based in Geneva (Graham Betts-Symonds) who is responsible for advising

⁸ In 1999 it was revised to: ‘To improve the lives of vulnerable people by mobilizing the power of humanity’. (IFRC, Strategy 2010).

National Societies undertaking the method and working on lessons collection and dissemination.

Over the past year, the methodology was action-researched and training programmes were designed for people undertaking the VCA, culminating in a pilot global VCA ‘training of trainers’ workshop that was facilitated in Italy in the summer of 2002.

Description

The VCA takes the form of a hefty, 92 page ‘toolbox’, which is now available on a CD Rom, and a moderate amount of supporting literature. The tool box first offers a brief introduction to the concepts of vulnerability, capacity, and hazard in simple yet clear terms. It discusses the difference between a Needs Assessment and a VCA, and the importance of information management.

The assessment process itself (summarised below) is divided into three steps: first, identifying potential threats, second, identifying vulnerabilities, and third, assessing the capacities and resources of the community, the context, and the National Society. According to the IFRC, a full and useful assessment must involve all three stages:

Step 1: Identifying potential “threats”

There are three basic categories of threats (derived from Anderson & Woodrow’s Capacity and Vulnerability Framework, also described in this study):

- *Those based in nature*; such as earthquakes, cyclones, droughts, floods, or pathogens.
- *Those based in violence*; such as war, intimidation, harassment, or sexual assault.
- *Those based in deterioration*; such as declining health, education and other social services, trade shifts, government policy or environmental degradation.

Assessors are encouraged to think about both historical and new threats of these kinds. It is the role of National Societies to predict these threats and their consequences, and beware of specific local threats.

Step 2: Identifying Vulnerabilities

There are three basic characteristics that make some groups more vulnerable than others:

- *Proximity and exposure*: people who live or work near some kind of hazard are more vulnerable than those who don’t.
- *Poverty*: people who have fewer options, few resources and few reserves can be pushed over the “edge” of survival more easily than those who are wealthier.
- *Exclusion / marginalisation*: People who are left out of economic and social systems or lack access to social services due to religion, race, gender, class and other factors are vulnerable.

Step Three: Assessing People’s Capacities to Prevent or Cope with Threats

This is the mirror image of vulnerability, and for the IFRC, effective and efficient programme planning needs to focus on both images. It is important to know what useful capacities exist in a country or region, or within a National Society, community or individual, as well as what external resources are needed to cope with threats.

People’s capacities can be understood in three categories:

- *Physical and material*: people have physical resources that they rely on to survive and to lead a satisfying and dignified life, such as cash, land, tools, food, jobs, energy sources or access to credit and borrowing capacity.
- *Social and organisational*: for example, communities which are close-knit and have social networks to support each other, where there is good leadership, and where people share the physical resources they have in times of need, are more likely to survive.
- *Skills and attitudes*: those people with skills, knowledge and education can have more choices and a greater ability to improve their conditions. When people are dependent on others and feel victimised by events outside their control, they have few attitudinal capacities.

The completion of all three steps produces a Vulnerability and Capacity Assessment.

Issues and ideas are raised in the toolbox regarding the assessment of capacities of different population groups, the assessment of livelihoods, coping strategies, gender issues, and the perception or acceptable level of risk to a community. Valuable tips for trainers and facilitators are also included.

Application of method

The VCA was designed for any and all National Societies who wish to employ it in their work. Although it is only one of a number of assessment tools, much funding for specific programming is now based on the results of VCAs, and therefore the incentive to use it has increased.

According to the toolbox, National Societies can use the VCA:

1. As a diagnostic tool

- It helps to understand problems (symptoms) and where they stem from (underlying causes).
- It helps to systematically look at what is available to alleviate the problem (resources, skills and capacities) and decide whether the Society should be involved and at what level.
- It encourages focus on specific local conditions (specific threats and risks, most vulnerable groups, sources of vulnerability, local perceptions of risks, and capacities).
- It highlights different areas of responsibility for reducing vulnerabilities, as some will require political inputs, others technical, monetary or social. This helps the National Society to define more clearly its roles and possible areas of collaboration with the government, communities and other agencies.

2. As a planning tool

- To help prioritise and sequence both actions and inputs in determining who and what should be addressed at which stage.
- To provide an opportunity for dynamic and realistic planning where changes can be monitored and single-solution programmes can be avoided.
- To evaluate the impact of a project in terms of risks reduced, vulnerable conditions improved, capacities enhanced or new risks introduced through RC programmes.

3. *To assess risk in a single sector*

- To estimate the probability and the level of a particular risk from a specific threat. For example, it can assess the level of measles risk among children in a refugee camp; the probability of building collapse in a city from a certain scale of earthquake; or the relative risk of malnutrition from food shortage in different parts of a country.

The Federation believes that the challenge of reducing vulnerability and enhancing capacity requires an intimate knowledge and understanding of the local reality. It is this awareness that enables sensitive and responsive programmes to be developed. However, the creators of the VCA recognise that the size, strength, and focus of individual National Societies are as diverse as the socio-cultural, economic, political, and natural environments in which they are located. For this reason, the VCA tool has been purposely constructed to remain broad, simple, and flexible, so that National Societies can avail of it the way they see fit, using the assessment techniques most appropriate to their particular needs, strengths, and limitations.

The VCA can be applied in many different ways at different stages of the disaster cycle. It is underscored in the toolbox and related documentation, however, that the ‘worst’ time to do a VCA is actually during an emergency of some kind. A vulnerability assessment is an ongoing process to be started ideally during the ‘quiet times’ between disasters. It should consider risk and those long-term factors that make people more vulnerable to a hazard. There should be no sharp distinction between ‘disasters’ and day-to-day problems; the latter are more serious for the large majority of the people served by National Societies, and are often manifestations of the very points of vulnerability that should be addressed.

Although created specifically to assist the evaluation and planning process of individual National Societies (on both the project and overall programming levels), the results of VCAs have also proven invaluable for the IFRC’s international strategy. Over the past number of years the Federation has been venturing more and more into disaster mitigation as part of its disaster preparedness work, alongside its more traditional, response-based efforts. The VCA is perhaps the most critical vehicle they have to facilitate learning and strategic change at the international level. Partly thanks to lessons gleaned from a number of VCAs, ‘Strategy 2010’, a document outlining the Federation’s objectives for meeting the humanitarian challenges of the next decade, has been able to focus on making Red Cross/Red Crescent programmes more responsive to local vulnerability.

Data and data collection

A National Society embarking on a VCA will normally undergo a preparatory stage, in which a preliminary assessment is undertaken with either a representative from the Disaster Preparedness department of the IFRC Secretariat, or another expert or group of experts, ideally from the same region as the Society in question. Although quite intensive, this stage can be extremely rewarding. (The Mongolian Red Crescent, for example, disseminated the results and lessons of this stage alone in a document of significant size.) Primarily, the goal of this first stage is:

- To clarify the role of the National Society in relation to Disaster Preparedness; and
- To choose the appropriate techniques for data collection and determine the target groups of the VCA.

A task group is normally set up, consisting of members representing the National Society in emergency medical services, primary health care, planning, and rehabilitation. This is the

group chiefly responsible for guiding the Assessment, although many more staff members and volunteers are normally involved in its actual implementation. If possible, a steering committee is formed of government authorities with interests or responsibilities in disaster preparedness, and other major stakeholders, to advise and benefit from the process, engaging their own organisations in the process and its outcomes where possible.

Methods for Data Collection

The main strength of the toolbox is its extensive review of data collection techniques. Primary data collection methods are individually described and accompanied by a brief ‘how to’ guide. Techniques presented include Rapid Rural/Urban Appraisal and Participatory Rural/Urban Appraisal; transect walks, physical maps and social maps; wealth ranking and mini-surveys; Venn diagrams, economic relationship charts and kinship charts; daily time use charts and seasonal calendars; production flow charts, impact flow charts and problem trees; matrix ranking and scoring; consensus panels, focus groups, questionnaires and semi-structured interviews. Although these techniques are only briefly described, a suggested reading list is offered at the end of each section for more detailed study and preparation.

The toolbox also details the different kinds of secondary information that can be incorporated into a VCA, such as previously conducted surveys, government statistics, journals, websites, etc., but warns of the risks of relying heavily on those sources. It strongly recommends that information should, wherever possible, be collected first hand, and supported by secondary sources only to fill in gaps or to address questions which the Society could not address by itself, such as those specifically pertaining to international and national levels of inquiry.

As was mentioned above, the purpose of having such a broad range of data collection methods is so that each National Society is free to plan its VCA using only those techniques that are most appropriate to the context and need at hand, as well as its own resources, strengths, and limitations. No technique is given greater weight over the others, nor are there any “must do’s” in the toolbox or even a standard format for reporting, providing freedom for individual Societies to conduct the VCA as befits their circumstances.

Not surprisingly, then, individual VCAs are often highly different in both structure and content. Some are sector-specific, focusing primarily on what the National Society does best (predominantly preventative health care); others are broader in scope, assisting the Society to explore new avenues of action. To illustrate these differences, three examples are briefly outlined below.

The Palestinian VCA⁹ – perhaps the most celebrated and widely cited of those conducted to date – was done as something of a learning model within an action research framework, undertaking lines of inquiry regarding disaster preparedness at both the higher government level and the lower, community level. It engaged community focus groups representing cities, villages and refugee camps within the West Bank and Gaza. Twenty-two focus groups were facilitated involving the contribution of 429 people in which males, females, the elderly and handicapped, and children ranging from 6 to 14 were represented. Forty-four semi-structured interviews were conducted with representatives of Ministries and NGOs. Other data

⁹ Palestine Red Crescent Society (2000), *Vulnerability & Capacity Assessment. A Participatory Action Research Study of the Vulnerabilities and Capacities of the Palestinian Society in Disaster Preparedness*. El Bireh: PRCS.

collection techniques included qualitative interviews with a cross section of community level service providers; paintings and drawings from the groups of children and young people reflecting their ideas of disaster and disaster preparedness; and secondary data from a review of relevant books, articles, reports, maps and Internet-based information. The result was a broad mixture of information regarding everything from sectoral strengths and weaknesses to household social and material capacities, allowing the Palestinian Red Crescent Society to develop a list of specific gaps in disaster preparedness that it felt it could contribute to filling.

The Gambian Red Cross Society used the VCA process to determine which gaps it might fill to mitigate risk in its area, but approached it by focusing its attention entirely at the macro level¹⁰. Instead of identifying individual or community capacity, it considered the general vulnerabilities (such as illiteracy and malnutrition) created by weak education and health services and poor infrastructure, and the relationship the Gambian Red Cross Society (GRCS) had or could develop with those sectors. For this purpose, the GRCS gathered predominantly macro statistics while assessing levels of community accessibility to basic services, such as the distance of households from health posts and schools. The outcome of this study was the development of a list of specific geographical locations where sectoral support could be offered.

At the other end of the spectrum, the Ugandan Red Cross Society conducted a VCA to determine the vulnerabilities and capacities regarding one particular, pre-determined threat: the bubonic plague, in one particular sub-county¹¹. They did a minute analysis of the different root causes, dynamic pressures and manifestations of local vulnerability to this threat, as well as an in-depth study of local coping mechanisms. No macro details were considered, nor were external issues addressed. But the subsequent project proposal was nonetheless strong, as it sought to raise local awareness and build upon those appropriate and inexpensive coping capacities in the area which had already proven to be effective: a realistic programming choice given both the local context and the capacities and limitations of the Red Cross group working in the area.

Limitations of the approach

Although the VCA is a highly valuable tool, there are certain limitations to its design. The most fundamental of these is its *lack of mechanisms for analysis*. The identification of individual hazards, vulnerabilities, and capacities is certainly important, but an assessment requires more than simple identification: the factors identified have to be turned from raw data into useful information through an analytical process. The toolbox, however, offers no means of analysing the relationships between sets of data. For example, the Gambian VCA lists a high rate of illiteracy as a particularly acute form of vulnerability. But literacy rates aren't a direct indicator of capacity or vulnerability. The question must still be asked, how exactly does illiteracy make a person vulnerable to this particular hazard in this particular context? Is it because they are not able to read warnings posted in newspapers and pamphlets about imminent threats? Or is it because without literacy skills, they are not able to find a job that will give them the financial capacity to change their situation of vulnerability? The difference is important, and provides a clear illustration of why analysing the relationships

¹⁰ Gambia Red Cross Society (1998) *Vulnerability & Capacity Assessment of Hazards in The Gambia*. 76pp

¹¹ Uganda Red Cross Society, Nebbi Branch. (2001) *Report on the Hazard, Vulnerability and Capacity Assessment Workshop held between the 17th-22nd June in Rasai Parish*. 6 pp.

between data sets is necessary if one is to really understand the reality on the ground, which is the primary purpose of the VCA process.

Second, the VCA toolbox offers no specific methods for data triangulation. Although the Palestinian VCA used different mechanisms for crosschecking one set of data against another to ascertain its degree of reliability, this was most likely the result of separate expert advice informing the process, or the application of common sense. Just like in the case of the missing mechanisms for analysis, it is probable that many National Societies undertaking a VCA will employ some form of these techniques on their own accord. Nevertheless, for those societies which might not be familiar with multiple data-set assessments, or whose resources and time are stretched and must rely more significantly on secondary sources of information, the inclusion of these tools in the toolbox itself would be essential.

There are also possible downsides of the VCA's broadness and high degree of flexibility. National Societies are left to 'pick and choose' between data collection methods and determine the level of study and what subjects to analyse. But this means that potentially critical issues or levels of inquiry can be inadvertently overlooked. For example, studying the capacity and vulnerability of individual sectors such as health or education from the macro-level might be important, but such an assessment risks bypassing essential local information (such as the local coping strategies used to make up for sectoral weaknesses), which could give an entirely different spin on the picture being developed. Similarly, important details might be missed if a National Society decides to concentrate its attention on only one or two forms of vulnerability. The Gambian VCA provides a clear example of this. Although great pains were taken to collect information on such things as the proximity of communities to health services, no mention was made in the VCA about the *physical* vulnerability of those services to threats of any kind. Should disaster strike, would the physical structures be strong enough to withstand the hazard? Or would, for example, the critical infrastructure required for emergency and non-emergency supplies to be brought in (such as roads and bridges) be able to withstand the shock?

In short, the unavoidable upshot of the VCA's flexibility is that there are no 'minimum requirements' that a National Society knows it must follow in order to ensure that the assessment provides adequate and appropriate data. If the VCA is done by (or with the assistance of) knowledgeable staff who can guide the process in a sound direction, this might not be a problem. Assuredly, one of the significant benefits of the 'Training for Trainers' programmes is to consider these issues. Problems might only arise when a team extracts only one or two basic aspects of the VCA for an assessment, unaware that on their own they are insufficient to produce a realistic picture of local vulnerability and capacity.

A further, yet less critical, limitation of the high degree of flexibility in the VCA process is that results from one assessment can look wholly different to those of another assessment. Although this is a good thing when the needs of Societies require the use of different tools to achieve their individual goals, it also means that VCAs are rarely calibrated in form or content, making the process of comparison difficult and limiting the potential for regional or international analysis.

Usefulness to the Planning Process

The Vulnerability and Capacity Assessment has been widely praised by National Societies as a valuable tool for planning. The VCA can be and has been used to inform decision-making

processes ranging from small project preparation to, increasingly, wide-scale programming modification.

When National Societies identify a new direction in programming which they would like to explore, undertaking a VCA can provide an excellent vehicle for examining the scope and depth of the issues they seek to affect, thereby facilitating the making of sound, effective decisions based on a clear comprehension of existing need and capacity. It has proven to be a particularly useful contribution to the more recent trend among National Societies to delve into risk mitigation as a part of disaster preparedness – an area in which the IFRC has traditionally taken little part. Different societies have chosen to look at all different forms of vulnerability reduction as part of this wider trend: from emergency preparedness, to food security, to the strengthening of local coping mechanisms against disease. The breadth of the VCA as an assessment tool allows each Society to explore the area of mitigation most pertinent to them, as opposed to funnelling all Societies down one path towards one or two specific goals. This is one of the VCA's greatest strengths.

As was the case in the previous section, however, the grand paradox in its link to planning is that the method's greatest strengths are also mirrored as its most significant weaknesses: they are the negative upshots, as it were, of the very flexibility it strives to provide. If those weaknesses are not recognised and consciously dealt with, using the VCA as a primary planning tool could become somewhat risky. The risk, in effect, is that Societies might not know what they don't know before making critical programming decisions.

First, without any tools to analyse the relationship between data sets, instances might occur in which assessors believe they have all the information required to make effective planning decisions without actually having undergone a sufficient analysis process. The Gambian VCA example highlighted a dearth of reading and writing skills in one of its catchment areas. In the absence of specific encouragement from the VCA toolbox to go a step past the data collection stage, they arrived at the logical conclusion that, based on the evidence gathered, what was needed was the provision of more educational facilities. But was this the most appropriate planning response? Does educating more people in basic reading skills directly reduce vulnerability to a specific threat? The answer depends on what the hazard is, and the relationship literacy has with it. If, for example, the relationship concerns disseminating basic information in advance of the onset of a hazard, embarking on a campaign to ensure that most people had Level 1 reading skills might be much less effective and significantly more expensive than an awareness-raising radio campaign. In short, although the data collection process is vital, it is the *analytical processes* that turn the exercise into an effective tool for programming. Although a significant proportion of National Societies will probably recognise this fact and engage in some sort of analysis, the VCA currently does not have those tools available in its repertoire.

The lack of triangulation techniques similarly poses a risk for planning: without triangulation, chances are higher that decisions might be made based on inaccurate data. Nor are guidelines for the development of programming monitoring and evaluation indicators (based on the vulnerabilities and capacities identified through the assessment) suggested in the toolbox. Without at least a description of these techniques, some Societies unaware of their importance might by-pass them altogether.

Another weakness regarding the VCA's usefulness to planning relates to its lack of 'minimum requirements' for the assessment process – a space again left open in order to provide maximum flexibility. Unfortunately, without guidelines obliging groups to conduct the VCA on combined levels of investigation (i.e., macro, meso, and micro) or across issues (i.e. gender, access to resources, physical security) there is a greater chance that the assessment will produce the results implementers more or less expect (or want) to see. Without such a requirement, there is nothing to draw their attention to factors of vulnerability and capacity which exist outside the ones they'd had in mind when designing the process. On the whole, this limits the development of new planning options, and might even undermine the soundness of decisions made.

Coverage of vulnerabilities and capacities

Breadth and depth

Vulnerability and capacity are both hugely complex subjects to study – invariably cross-disciplinary, invariably multi-layered, and always dynamic. No assessment methodology could produce an exhaustive list of the tools and techniques required to collect and analyse data to a fully comprehensive degree. Despite this, the IFRC VCA model has made an admirable and largely successful attempt at holistic coverage, particularly in terms of its breadth, given the sheer number of issues highlighted and tools suggested.

Where it is perhaps lacking is in its depth, though this is understandable given there are so many issues to take into account, and with such a range of levels of awareness and experience from one National Society to the next. The balance chosen between breadth and depth is probably realistic, and there are references to further reading for increased depth on specific issues. (The IFRC might consider, however, having the majority of those further readings available on CD Rom, as many Societies would not otherwise enjoy easy access to them.)

Unfortunately, apart from the Palestinian case study, few Societies appeared to make use of those extra existing resources. Very few of the VCA reports examined for the purposes of this study, for example, demonstrated an advanced understanding of the differences between the root causes, dynamic factors and overt manifestations of vulnerability, or the 'selectiveness' of disasters in targeting specific vulnerable groups. Women, children, and the elderly are still identified as the primary 'vulnerable groups' in most VCAs, irrespective of their relative proximity to the hazard, relative wealth, social ties, or other discriminating factors.

Where such attention to detail did appear to be considered was in the VCA produced by the Ugandan Red Cross Society. Entirely stretched for resources, the URCS was nonetheless able to conduct a minutely detailed study of local vulnerabilities and coping capacities against the bubonic plague. Although paying exclusive attention to the micro-level can, by definition, produce similar dangers to VCAs conducted exclusively at the macro-level, the fact that lessons learned were so specific to local issues allowed the Society to make strong programming choices reflecting real local need and capabilities, with a very strong sense of buy-in from community members.

On the whole, the differences observed in the examples studied suggest that when time and resources impose limitations on the scope of a VCA's *process*, the *product* need not also suffer. It appears that there are certain strategic options that could be uncovered and explored which would help ensure that methodological choices stand a better chance of producing reliable, effective, and high quality results. As the case from Uganda shows, a deficiency of

resources allocated to what ideally should be a long, resource-rich, ongoing process need not lead to fragmented results, as it arguably did in the case of the Gambia. (It is important to recognise, however, that the Ugandan VCA was conducted on a much smaller scale than its Gambian counterpart.) Lessons from a cross-analysis of VCA case studies to date should provide the IFRC with a reasonable framework from which to develop some of these core options.

Given this, an interesting point to highlight is that the flagship image normally bestowed upon the Palestinian VCA might not, in fact, be an altogether positive thing. Although it is a deserved success, it is important that other National Societies understand that such success does not rely solely on the wide scope of research that the PRCS undertook. Due to the high degree of international attention and resource influx into the Gaza and West Bank areas, the PRCS had many resources – including access to a significant cache of quality, up-to-date secondary information sources – that a National Society such as Western Samoa simply could not expect to ever experience. The example of Uganda indicates, on the other hand, that bigger isn't necessarily better, and might therefore be a more appropriate (if more humble) benchmark than Palestine.

Coverage of livelihoods

The idea of livelihoods as it is currently understood was not a specific point of focus in the Federation until about two years ago, when the then British Red Cross Society's Disaster Preparedness Advisor, David Peppiatt, began to explore the concept and its relationship to DP work. Interest in the subject has been steadily growing ever since, both within the Secretariat in Geneva and, increasingly, within a number of National Societies. It was found that unlike other approaches which, once adopted, demand changes of direction or action, the livelihoods approach was simply an effective way of conceptualising things that the Red Cross and Red Crescent Societies *already did*. It de-muddled, so to speak, a vast array of inter-related issues with which the Federation was already working, and highlighted a significant number of others that merited exploring.

Given the newness of this exploration, the usage of livelihoods terminology has not yet made its way into existing Federation literature, including the VCA toolbox. The key components of the livelihoods approach are very much present, however, albeit not named as such: what now might be termed as social, physical, financial, human, and natural capital and (somewhat less so) the vulnerability context, have always been stressed as the fundamental building blocks to understanding vulnerability and capacity in the VCA. (A consideration of transforming structures and processes has yet to make its way into the assessment in any real sense, perhaps given the IFRC's trademark apolitical positioning). But momentum is growing. A focal group consisting of six senior Secretariat members has been set up in the past year to consider the approach in a more purposeful way; and it has been recognised by the group that the Vulnerability and Capacity Assessment methodology is a natural point of entry to integrate livelihoods into Red Cross culture.

Where the Livelihoods Approach could most make an impact on the VCA tool is in the following areas:

- The identification of different kinds of vulnerable groups as opposed to the traditional 'women, children and the elderly' categorisations; for example, based on group affiliation, social status, trade, or access to resources;

- The recognition of the dynamic relationship between governmental policies and processes, civil society, and vulnerability;
- The importance of building local livelihood capacity in new and different ways (i.e., through forms of capital other than human and social), as a form of risk mitigation and disaster preparedness;
- The capacity of National Societies to see disaster more and more in terms of its relationship to development.

The VCA – positive implications

According to testimonies from the field, the VCA process has had a number of positive implications for National Societies, among which are the following:

- The VCA process has made a significant impact on people’s perceptions of disasters, vulnerabilities and capacities. Behaviours have changed, communities are more risk aware and take greater responsibility for their own protection. Despite the limited resources available to local groups, humble yet strong local projects have been developed out of the VCA, supported by a high level of community commitment. Many people have realised through the participatory processes undertaken that within their own communities they have a significant capacity to prepare and respond to disasters, without immediately requesting external assistance.
- This phenomenon has also been recognised on a more global level. The production of the toolbox has to a certain degree brought National Societies around the world to a common ground regarding what constitutes disaster, capacity and vulnerability.
- By offering a vehicle through which National Societies can take a critical look at the environment in which they work, a positive outcome has been an increased awareness of the other institutions present in National Society working areas, governmental and non-governmental alike. The Mongolian VCA is particularly notable for this. After the VCA revealed complementary lines of action among agencies, a significant part of the planning process for the MRCS became the coordination and joint planning of programming with other actors such as World Vision, Save the Children, ADRA, UNDP and UNICEF.

Sources

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Case Study

Oxfam Risk-Mapping and Local Capacities: Lessons from Mexico and Central America

Background

This booklet is the result of an Oxfam initiative to identify disaster risks in Mexico and Central America (MCA). This led to the realisation that there is an urgent need ‘to find ways to reduce the degree of vulnerability faced by many urban and rural communities in the region’. Although it includes some assessment of technological risks, the main effort is addressed to natural hazards. In fact, the only actual maps as such are large-scale depictions of the main natural hazards of the region – earthquakes, volcanoes and associated threats, hurricanes, landslides, floods and drought. A crucial feature of the region is that many of its people are exposed to these multiple hazards: it is rare that they are likely to be affected by only one, and in many cases they are at risk of more than two.

A great deal of the study is devoted to description of the natural hazards and their distribution, with less than half dealing with socio-economic factors and their links with vulnerability. But as noted in the preface, ‘perhaps the most surprising elements of the study... concerns its depiction of vulnerability on a regional scale. Social, political and economic realities are intimately linked to the factors that make people more or less vulnerable to risks and threats.’ (Trujillo et al. p.8). There is a clear awareness of the interaction of the socio-economic aspects that contribute to vulnerability. In terms of the Oxfam mission, the study ‘shows the critical importance of seeing emergency relief and development work as intimately linked with each other, and not as mutually exclusive.’ (Trujillo et al., 2000).

The study is linked to Oxfam’s long-established support for ‘impoverished communities whose lives have been affected by natural phenomena and conflicts. Its aim in these circumstances is to strengthen the capacity of the poor and marginalised to bring about changes which are positive and sustainable, and to reduce their vulnerability in the event of emergencies...’ (Trujillo et al. p.10). The mapping exercise in this paper is seen as a starting point to develop Oxfam’s ‘Programme of Preparedness for Emergencies’ in MCA. So although the method has not yet been widely adopted, we have included it for several reasons. Firstly, it is designed to connect natural hazard threats to socio-economic vulnerability, and to identify the livelihoods of people as a crucial component of the reduction of vulnerability. So it is closely related to the understanding of households and sustainable livelihoods, and so is highly relevant to our task of finding methods in use to bring about this integration. Second, it sees the need to connect emergency work with development work, and is aware of the dangers of separating these. Thirdly, it is strongly conscious of gender inequality in both recovery from emergencies, but also in the patterns of livelihoods and differential access to capitals, and offers lessons in the incorporation of gender into vulnerability analysis. Lastly, it emphasises people’s and institutions’ capacities as an important and integral part of the process to reduce vulnerability. In this context it also attempts to highlight the issue of building security and reducing conflict as vital components of preserving and enhancing people’s rights and livelihoods.

Despite its similar name, the Oxfam ‘risk-mapping exercise’ is not related to the SCF-UK method of analysing food security in their Risk Map methodology, which has a much longer history and is supported by sophisticated software that can be used at country level.

Description

The report writers

assume that emergencies are not external to the on-going development processes, but are part of them. They constitute interruptions or crises which then have major repercussions on the development opportunities of a given community or area. Since disasters always have the potential to undermine development, measures to prevent, prepare for, and mitigate disasters should inform every plan and strategy for sustainable development. (Trujillo, p.10)

This situation does not apply to much development work supported by donors, and it is the Oxfam attempt to overcome this separation of disaster work from development that makes it worth examining the risk-mapping methodology. In addition, the authors claim that their methodology ‘should be a tool for people who are not disaster experts, but whose depth of local knowledge and experience makes them experts in the conditions and potentialities of a given country, region or locality’. (Trujillo, p.10).

The approach is very straightforward, and consists of an **analysis of threats** (the hazards), followed by a **risk analysis** (the human ‘sectors and elements’ exposed to the threats), and then an **analysis of vulnerability** (‘defined as the relationship between the level of risk, local capacities, and the living conditions of the threatened community’. (Trujillo, p.11). This part of the method involves considering ‘the wider **factors that determine the conditions in which such communities live**’ (p.12) and undertakes an **analysis of local capacities** in two dimensions: **institutional framework** for management of disasters, and current **capacities in civil society**.

Although the authors do not make use of such a diagram, this could be used to represent the method they claim to use:

➔ **P r o g r e s s i o n o f a n a l y s i s** ➔

Threats	Risks	Vulnerability	Determining factors	Objective
Analysis of the hazards	Analysis of the human ‘sectors and elements’ exposed to the hazards	Analysis of the interactions of the risk with*:	Analysis of factors that determine living conditions and local capacities	Outcome: a map of vulnerability to hazards
		*Local capacities	Disaster management institutions; Civil society	
		*Living conditions of threatened communities	Factors that determine the living conditions of communities	

This is similar to the analytical framework seen in Cannon (2000) and Blaikie et al. (1994), and shows that convergent thinking necessarily emerges once it is recognised that vulnerability is linked both to the development process, and to the livelihood strategies of households and individuals.

The booklet is good at describing the hazards that pose a threat to the people in MCA. It highlights the problem that normally in the region each type of hazard is considered separately (according to the specialism of the relevant institution). ‘This does not allow for integrated analyses of risks and the relationships between them...’ (p.14). This weakness of hazard analysis provides a further justification for the approach which seeks to understand social vulnerability, since that must inevitably deal with all sources of threat.

It provides important analysis of the ‘risk of threats caused by human agency’ – mainly conflicts – and shows how important it is to relate natural hazards to these. Complex interactions between civil conflict, the consequent enforced or ‘voluntary’ movements of people, the use (and abuse) of the environment, and natural hazards are recognised such that it is difficult to separate one type of threat from another. However, the conditions of vulnerability are seen as a basis for analysis in all this.

In particular the study recognises the importance of conflicts in regard to peoples’ access to natural resources and land (assets or capitals in the SL framework terminology). This is an absolutely crucial issue, and one on which the SL framework is relatively weak: it generally does not acknowledge the fact that capitals are the object of conflict and are competed for by different groups. The use and abuse of natural resources is analysed as both a *cause* and a *consequence* of conflict (e.g. the military presence in Chiapas, Mexico, and the demands of thousands of troops for fuelwood etc.). Conflict is also seen as having been crucial in both disrupting and denying people the right or ability to organise themselves to demand social protection, or to have civil society institutions that are able to reflect needs and express identity, so contributing to increased vulnerability in that manner.

Application of the method

The original meeting to initiate this work was in 1997, and this present booklet was published by Oxfam in the region in 1999. Since then, the study has been used in MCA and the Caribbean in a number of ways: in several workshops in the region; when defining content and planning for disaster preparedness at country level (and especially in Guatemala). More significantly, it is beginning to be used in the region to integrate livelihoods and preparedness in Nicaragua.¹²

Data and data collection

Risks/Hazards. This information is available from a range of sources (scientific, research, disaster offices) in the MCA region. There is a surprising lack of integration of hazard data between countries and between types of hazards. For some types of hazard, local people are aware of the risks, but the large-scale disruption and movement of people in the region makes it difficult for many to have awareness or pass on detailed local knowledge. The description of hazards by type and location is at mixed scales, and is probably too generalised to provide adequate precautionary measures.

¹² Information through personal communication, Casasbuenas, Oxfam Latin America Regional Policy Advisor.

Vulnerability

By contrast with the natural hazards, the authors consider that research on vulnerability is in its infancy, and has lacked any priority. The authors define vulnerability as ‘the proportion of human lives, assets, and economic activity that could be affected in a given place should a given disaster occur.’ (p.27). The calculation of different levels of vulnerability is by combining the probability of a destructive event with the level of exposure of lives and assets to that hazard. It is supposed that from this tool, it will be possible for decision-makers to know what needs to be taken into account in disaster prevention policies.

In the paper itself, there is little indication of the level at which data collection should be carried out, and this signifies the exploratory character of the approach, which lacks a clear implementation plan. The authors ‘assume that at a regional level vulnerability can be measured by the current living conditions of a threatened group.’ (p.31). They then list, with some considerable (and valuable) descriptive economic and political detail, the following factors that have been considered in their approach:

- Level of poverty
- Standard of health
- Level of malnutrition
- Proportion of female-headed households
- Level of illiteracy
- Living conditions

Some of the wider political-economic contexts for these include Structural Adjustment policies, government policies relating to poverty, gender division in livelihoods (especially agriculture), the position of indigenous peoples, the relations between urban and rural populations and their livelihoods, and quality of housing and basic services.

Coverage of vulnerabilities and capacities

Vulnerability is quite explicitly seen as a social phenomenon that is related to level of exposure to risk (i.e. it is not the same as the hazard itself), in combination with a range of factors (see previous section) that affect peoples’ ability to cope with their exposure. The authors’ approach also gives considerable coverage to ‘local capacity’ as a distinct set of qualities that are not covered by the concept of vulnerability. In particular, capacity is seen in terms of the ability to respond to an emergency, and not as a component of preparedness in its wider sense. (By contrast, vulnerability is a set of conditions of people that predisposes them to worse or better outcomes in a hazard strike). One crucial reason for the authors to focus on capacities in this way is the conflict history of MCA, and the significance they attach to people gaining greater control over their own capacity to respond to disasters (because of ineffective or vindictive action by government or other parties to conflict).

The authors identify three types of what they call ‘local capacity’, which are dealt with in varying levels of detail. The three types dealt with are: the institutional framework for managing disasters; civil society organisations; and selected actors and initiatives relevant (or potentially relevant) to disaster response. This heterogeneous collection suggests a lack of clarity about what ‘capacity’ and ‘local’ means, and that it encompasses top-down as well as bottom-up institutions, and a wide range of scales. It also means that capacities are separated from livelihoods issues, and tend to be seen in terms of the capabilities of institutions themselves rather than the ways in which they enhance peoples’ disaster preparedness and

livelihood resilience. In other words, while vulnerability is seen as characteristics of people, capacities only seem to relate to organisations and institutions.

Institutional framework

Only one institution at the regional level is regarded as having made a significant contribution to disaster reduction: CEPREDENAC (Co-ordinating Centre for the Prevention of Natural Disasters in Central America). ‘This is clearly the most important and stable institution in the region... Its weaknesses reflect the inability of some of the member countries to define their priorities... and also the problems it faces in promoting disaster prevention, in particular in the political arena.’ (p.51). Despite this, CEPREDENAC has been instrumental in bringing gender issues into disaster preparedness discussions.

At the national level, the authors provide a brief survey of institutions in each country. What emerges is a pattern of *either* generally highly-centralised and unresponsive structures (e.g. Mexico), or a lack of any effective national organisation (e.g. El Salvador, Nicaragua). The latter situation is not a reflection of the adequacy of citizen-based organisations. The authors identify problems affecting emergency response as ‘the twin common denominators of poverty and low political priority, which translate into constraints on the human and material resources for running national emergency plans. Overall, the official institutions are more concerned with responding to the impact of a disaster than with prevention, mitigation, and preparedness.’ (p.54). Clearly this means that ‘capacity’ is very restricted in national institutions, and seems to be highly dependent on the emergence of democratic and civil society initiatives that can influence them and improve their performance, or substitute for their roles at the community level.

Civil society capacity

The authors report that there are few civil society organisations (including NGOs) operating in the MCA region in relation to disasters. ‘Although many organisations work on development and/or the environment, they seldom include emergency work in their programmes.’ (p.56). They consider this absence very worrying, ‘given the concentration of highly vulnerable populations in areas of high risk, and where government assistance has often been less than effective.’ (p.56). The absence of civil society institutions in emergency and recovery work indicates that there will be a considerable time-lag in the emergence of suitable capacity in preparedness and mitigation.

Actors and initiatives

The report explores a significant number of organisations (including PAHO/WHO, OAS, Red Cross) that have initiatives in the region designed to reduce disasters.

Conclusions

The potential strengths of this approach are evident in the way that vulnerability is highlighted as a key component of disaster preparedness issues. The significance of livelihoods is made very prominent, along with the impact of economic and political processes on peoples’ asset portfolios as the key factor for reducing vulnerability. Gender inequality and rights are given prominence as a part of the coverage of assets and variations in vulnerability. The approach is less convincing in terms of capacities, mainly because it tends to see capacity as a characteristic of organisations and institutions, and not of people. This makes it difficult to link up the role of institutions directly with the livelihoods and vulnerability-reduction factors. The approach is relatively new, and there is so far little

information about its wider implementation. Although it does not provide a tool-kit or structured investigative approach, it contains the basis for a sequenced series of investigations of different components of vulnerability (see diagram near beginning), and has the potential to be made into a powerful methodology.

References

M. Trujillo, A. Ordonez, C. Hernandez, 2000, *Risk-Mapping and Local Capacities: Lessons from Mexico and Central America*, Oxfam Working Papers.

Case Study

CARE: Household Livelihood Security Assessment: a Toolkit for Practitioners

Background

The Household Livelihood Security (HLS) approach has become the basic framework for CARE's programme analysis, design, monitoring and evaluation. It is rooted 'in farming systems research in the late 1970s and early 1980s and later in nutritional diagnostic work...' (Toolkit, p.v). Frankenberger et al describe three key 'shifts in development thinking that led CARE to the adoption of a livelihood approach.' (Frankenberger et al., p.4). The first was away from thinking about food crises as primarily a result of decline in food availability, and towards the analysis of household food entitlements. This emerged as a household food security approach in the late 1980s which emphasised both the availability of food nationally and regionally, *and* the ability of households to access food. The second shift was away from looking simply at food as the key to avoiding hunger, and to recognise that malnutrition is connected to health and disease, sanitation, and the quality and composition of dietary intake. In addition, it was recognised that there are specific factors related to mother and child nutrition which are not adequately captured by looking at food access alone. The last shift (in the 1990s) came with the recognition that food security is not necessarily treated by poor households separately from other objectives, and that the whole range of livelihood assets and options needs to be taken into account. For instance, in order to preserve assets for their future livelihood needs, people may even choose to go hungry. In this framework, food is only one of a range of objectives, and is considered in relation to 'the satisfaction of other basic material and non-material needs'. (Frankenberger, p.4).

So the HLSA approach has its roots in disasters, but specifically hunger and drought crises in Africa rather than natural hazards in general. In fact, the approach has little specific reference to natural hazards, vulnerability and disasters as such. But it is regarded as being capable of embracing such a wider range of issues and processes that vulnerability (in its broadest sense) is seen as integral to it. HLSA is regarded as an essential framework for analysing problems and designing interventions in CARE's programming for all interventions, including disaster relief and reconstruction. It is not so clear whether the organisation has worked through the connections of the household approach with vulnerability specifically to hazards. It was introduced into CARE in 1994, and has been used (in pragmatic form as 'rapid or participatory livelihood security assessments' in around 30 countries. While the approach generated a lot of interest, CARE also faced a number of controversies in the introduction of HLS approach in its national organisations. Some country offices felt it was too expensive, and adapted it with more emphasis on qualitative data and participatory methods. There was confusion as to whether the approach was intended simply as an assessment methodology, or a project process framework. At HQ, there was some resistance by staff to what they felt was its imposition on them without adequate discussion. In some countries, donors were not receptive to the holism of the approach, given that they had a sector bias in their operations.

On the other hand, the approach has shown that it can be used in conjunction with other initiatives and take account of 'cross-cutting social and political issues that have been

hindering the poor from achieving livelihood security’ (Frankenberger, p.7). In particular, significant effort has been put into integrating rights-based approaches and policy advocacy into CARE’s activities, and using the HLS approach as the framework for this to happen. This is regarded as important recognition that poverty is ‘not only a matter of inadequate access to income, food and services, but fundamentally a social and political issue too.’ (Frankenberger, p.7). This is an interesting parallel with the development of advocacy and support to civil society growth in Central America noted in the case study of the Oxfam risk-mapping approach.

Description

HLSAs are intended to ‘provide comprehensive sociocultural, economic and ecological assessments of a given area for planning and project implementation.’ (Toolkit, p.v). They are intended to be holistic and multi-disciplinary, and use a systems approach which recognises that poor people ‘live and interact within broader socioeconomic and sociopolitical systems that influence resource production and allocation decisions. (Toolkit, p.2). An HLS assessment should enable understanding of local livelihood systems, including ‘livelihoods, economic, socio-cultural and political systems and the constraints, vulnerabilities, marginalization, and risks of poor families living within this context’, along with ‘differences among types of households and among members within the household.’ (Toolkit, p.2). The method is regarded as having considerable relevance to risks and shocks, and so can be discussed here in the context of vulnerability to disasters.

An HLSA is formulated for a country or region by using a set of

analytical lenses that are clustered under the following categories: contexts, conditions and trends; livelihood resources (economic, natural, human and social capital); institutional processes and organizational structures (government, civil society and private sector); livelihood strategies (productive and exchange activities); and livelihood outcomes (e.g. nutritional security, food security, health security, habitat security, education security, income security, social network security, safety and environmental security). (Frankenberger, p.8).

These ‘lenses’ appear as the headings at the top of the key diagram illustrating the approach (below). The diagram shows interesting parallels with other models, including DFID’s SL approach, and explicitly uses some common concepts like the five capitals. It demonstrates convergence in the thinking of various NGOs that are addressing livelihoods issues at the household level and below. In particular, it is important to note the inclusion of the lens ‘Contexts, conditions and trends’, which emphasises the significance of wider political and economic forces in determining the poverty outcomes and livelihood opportunities. As stated in the Toolkit (p.5), ‘No fundamental cause or driver of livelihood insecurity should automatically be assumed too political, sensitive or complex for CARE to engage in.’ Clearly DFID is more constrained by diplomacy, but there probably needs to be more openness to the difficulties that arise in disaster preparedness and development work when this political-economic context cannot be taken fully into account.

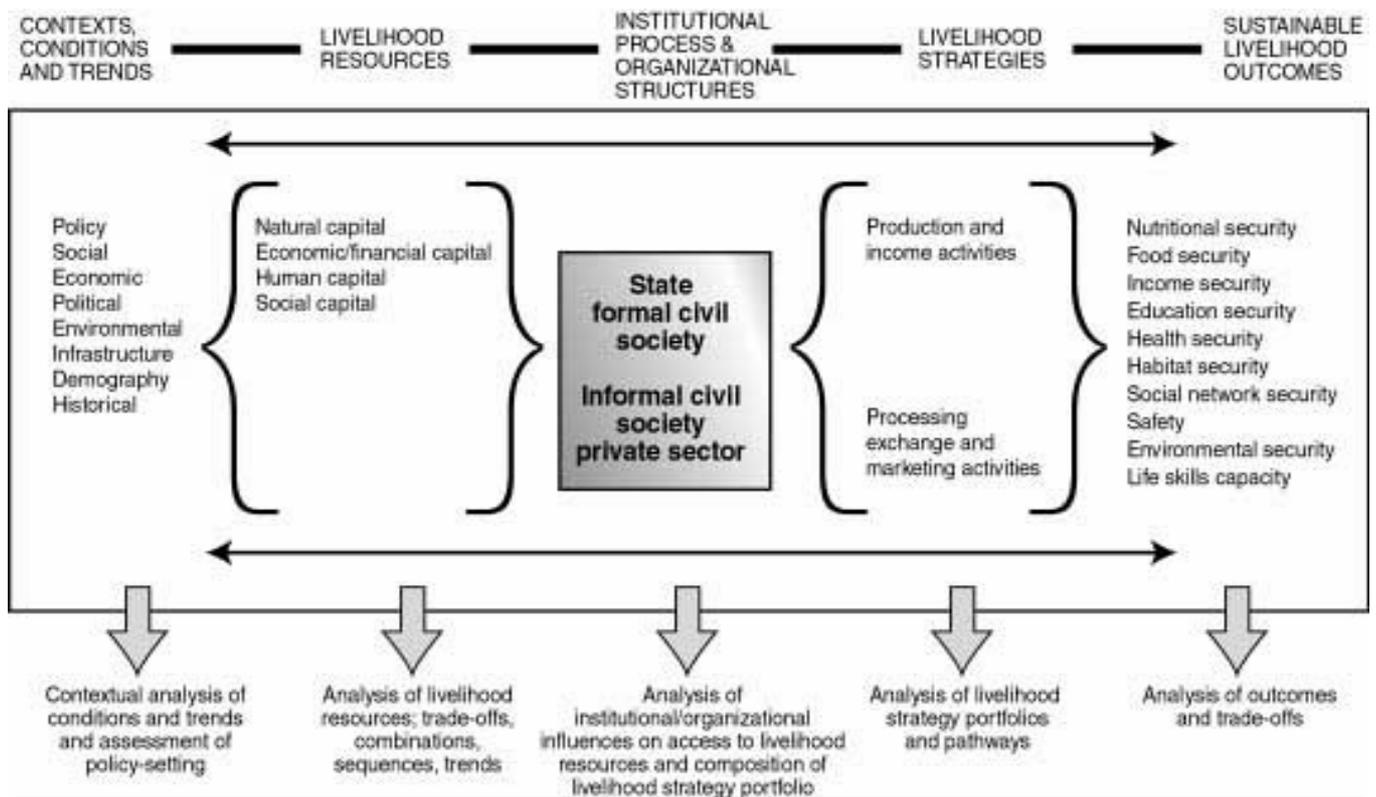


Figure: Household livelihood security: a framework for analysis

Source: Frankenberger, p.8, modified from Scoones, 1998.

The ‘Context, conditions and trends’ is intended to allow ‘understanding of the macro-level factors that influence the range of possibilities for livelihood systems...’ (Frankenberger, p.8). The list of factors (see diagram) to be taken into account here is impressively comprehensive, and includes what others have termed ‘root causes’ which can be traced back even to colonial history as well as more recent political and economic processes. A similar degree of comprehensiveness is evident in the third column, on ‘Institutional process and organisational structure’. This is intended to show how a range of institutions (including the private sector) operate to influence livelihood outcomes in communities. Such influences are clearly perceived as being potentially negative as well as helpful: so these institutions, including the state, may ‘change policies and limit freedoms that can have positive or adverse effects on livelihood systems.’ (Frankenberger, p.9).

From the various assets (‘capitals’ as in the DFID SL approach) available to households, the institutional framework filters out opportunities and handicaps that emerge as a set of ‘livelihood strategies’ (fourth column). These then emerge at the right hand end of the diagram as a set of conditions in which each household has greater or lesser degrees of security and capacity in their livelihoods. These are to some extent analogous with the ‘vulnerability and capacity’ conditions seen in other models we have looked at. While these can take into account peoples’ vulnerability to natural hazards (e.g. in habitat security, environmental security), the diagram and method makes no specific reference to shocks or disasters.

Implicit in this diagram is an apparent ‘chain of causation’ in which peoples’ household livelihood security emerge at the right hand end of the diagram, having been determined by a range of factors listed in each column to the left (and stretching back to the ‘root causes’ in the macro-framework). However, there appears to be a desire to show that the different components of the framework can have feedback and mutual influences – it is not intended that the model show a simplistic flow of causes from left to right. In fact, as with all such diagrams which attempt to capture extremely complex realities, it is not easy to see the logic of placing the institutions in the centre column, since they are not a single category with internal consistency. Some institutions emerge out of the macro-level processes in the ‘root causes’ on the left: the private sector, the state, some civil society institutions are the product of history and politics. They are themselves part of the processes by which the assets (capitals) of different households are allocated and income distribution determined. On the other hand, some institutions, including some NGOs and CBOs, are a reaction to the inequalities that emerge in society, and are intended as part of a process of modification of the allocations and livelihood opportunities that emerge from power systems.

Dealing with the issue of institutions is probably one of the more difficult areas of vulnerability and capacity analysis, and livelihood security, because of their lack of category coherence, and the fact that some institutions can be perceived as being involved in both the generation of inequality and poverty, as well as being seen as essential to the process of transformation and improvement. As with a great deal of ‘development work’, a key problem is that we have to work with institutions that are both part of the problem as well as supposedly being partners in working out solutions.

Application of the method

HLS analysis is an integral part of CARE’s work, and the organisation has been ‘working to institutionalize the approach in its programming worldwide.’ (Frankenberger, p.1). A ‘Toolkit for Practitioners’ was published in 2002, evidence of the commitment made to the approach. This toolkit gives staff a step-by-step guide to the construction of HLS assessments. These are regarded as

the cornerstone framework that CARE uses to carry out its programming efforts. It allows CARE to have a more holistic view of the world... enabling the organization to better understand the root causes of poverty. In addition, it helps clearly identify opportunities and leverage points for positive change. (Frankenberger, p.1).

In each of its countries, CARE has used the HLS framework in its long-range strategic plans. HLSA is used in the plans to organize data ‘on vulnerable groups in different geographical areas; causal explanations regarding shocks, trends and processes; macro-micro linkages that are key to understanding the programming areas; and institutions with which CARE will create alliances within programme implementations.’ (Frankenberger, p.12). The method seems to have helped move the plans away from descriptive and impressionistic summaries to ‘analytical processes and syntheses of priorities’. (p.12). This aspect of HLSA seems one of the most significant and impressive: the type of analysis that the approach requires CARE to undertake leads to a much clearer understanding of the issues they face, and forces there to be some comprehension of the *causes* of problems. HLSA can then enable CARE to target its interventions ‘more effectively in order to achieve leverage, synergy and cost efficiencies.’ (Frankenberger, p.12). It also provides a rationale for working in specific geographical locations, to ‘promote more focused targeting of interventions’. (p.12).

CARE has had to address staff concern that the approach might become an end in itself, and that its comprehensiveness and complexity may make it inappropriate and too time-consuming. They recognise that a range of tools can be used to avoid this problem, and that the key is to obtain an holistic view of livelihoods ‘that allows for the identification of the most vulnerable households, and on placing people’s priorities and aspirations for improving their livelihoods firmly at the centre of the analytical and planning process.’ (p.13). To this end, various rapid and participatory approaches have been adopted for information-gathering in order to ensure its viability. The main purpose is to understand livelihood strategies of different categories of households, their level of security, ‘and the principle constraints and opportunities to address through programming.’ (p.13). As a minimum, the process must identify the risk factors facing households, and key intervention opportunities for CARE in its activities.

Data and data collection

It seems clear that in the process of introducing HLSA, CARE has faced significant internal concerns and resistance about the value and viability of the approach. These may include valuable lessons for other organisations which seek to introduce such analytical frameworks (*vide* DFID already and IFRC with the proposal to widen the use of Vulnerability Analysis). As evidenced by the adoption of participatory and rapid appraisal methods into the HLS framework, data collection has been one of the most significant areas of difficulty. The amount of primary information that has to be collected will depend on how good existing data are. ‘In general, the principle is to collect only as much primary information as is required that cannot be gathered from secondary sources. (p.13). However, in many countries there is likely to be a strong correlation between inadequate secondary (including official) sources and primary information about households and livelihoods. A linked problem is the development of sufficient analytical capacity among staff in each country, so that data requirements are properly defined and achieved, and the analysis conducted well.

CARE has put considerable thought into the data design process for HLSA, and since it may have useful lessons we include it in some detail. As well as the usual categories of *qualitative* and *quantitative descriptive* information, they also specifically include *analytical (or causal)* information (see also Table 1 below). It is not really clear on what basis some data is regarded as more related to analysis than the rest, except that it is specifically related to risks and vulnerability (and capacity), and is presumably seen as being an analytical projection of existing livelihood outcomes under conditions of shocks (disasters).

Qualitative descriptive information includes

Household level:

- Assets and how they are used to earn income (including productive assets, but also intangibles such as skills, capacity, social relations that underpin livelihood activities)
- How resources allocated and the level of outcome in terms of
 - Food security, nutrition and health status
 - Other basic needs like water, shelter, education
- Capacity to cope with risks and crises, and what abilities are involved and how they work

Intra-household level:

- Gender and generational roles and responsibilities
- Power relations and differential access to resources and opportunities

Community level:

- How livelihood outcomes link with wider community, political and social context and the institutional environment.

Quantitative descriptive information involves data (much of it from secondary sources) that helps to target geographically and to identify vulnerable groups:

- Nutritional status information
- Health status
- Access to services
- Literacy levels
- Access to water

Analytical (causal) information is designed to project the current status of target groups in terms of their exposure to risks (shocks), and seeks to understand:

- Vulnerability and risk factors (ecological, economic, social, political)
 - Coping, trends in livelihoods, household dynamics, networks and social capital
 - Individual, household and community vulnerability
- Opportunity analysis (this seems to be congruent with much of what is considered ‘capabilities’ in other models)

Coverage of vulnerabilities and capacities

We should note that the terminology for ‘vulnerability’ used by CARE does not refer specifically to social vulnerability to hazards (disasters) or shocks. Their use of the term is not conceptually parallel to our other case studies. CARE’s meaning is closer to poverty, marginalization or similar concepts of disadvantage and deprivation. However, there are considerable benefits from the framework in other ways: it perceives vulnerability as a characteristic of sets of households that have inadequate existing livelihood strategies. In other words, vulnerability arises out of the everyday conditions that people live under as a result of their livelihood opportunities. Households are exposed to risks that can disrupt and alter these opportunities and their income strategies, forcing them to cope and/or suffer from the shocks.

Sources of shocks includes a wide range of factors and processes of which natural hazards are only one type: the others may be social, economic or political (see Table 2). Vulnerability is seen as the outcome of how well a household can cope with or adapt to a shock (including having available social networks and institutions). This is the reverse of most other types of vulnerability analysis, where vulnerability is perceived as a composite of various household/individual characteristics that includes capabilities as part of the ‘pre-shock’ conditions.

The CARE approach analyses in a sequence like this:

Base level of Livelihood strategy

→ exposure to shock

→ coping responses and institutional reactions to the shock

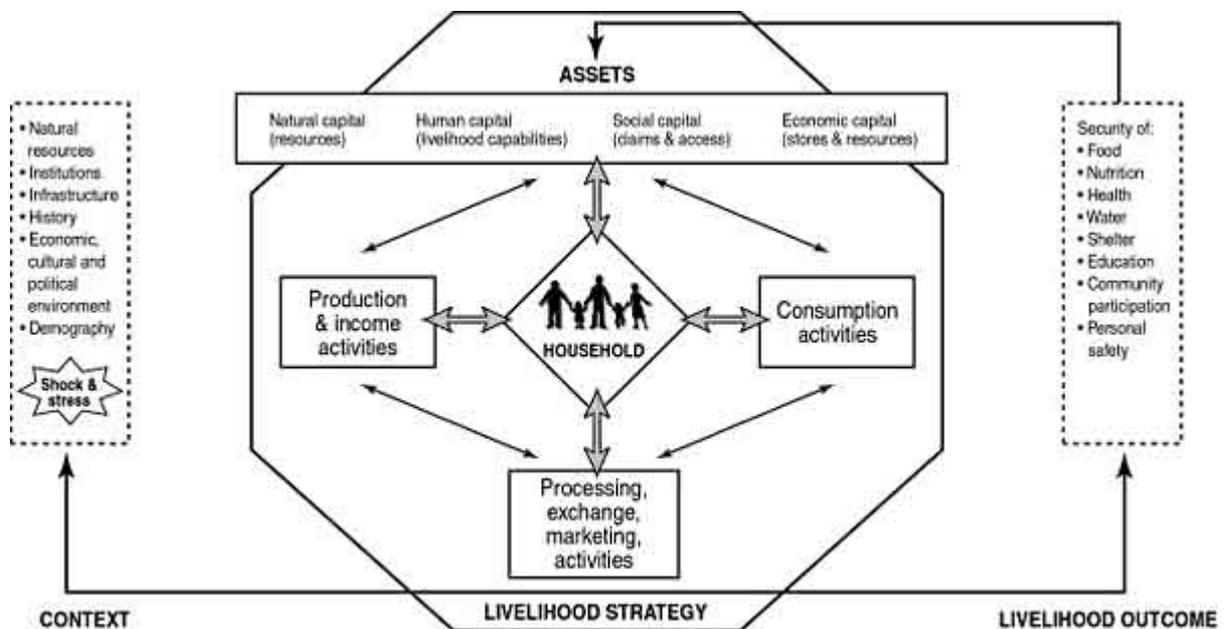
→ vulnerability (individual, household, community level) as outcome

→ CARE identification of target populations for interventions.

Vulnerability is then a consequence of the impact of shocks, and not a characteristic of particular sets of households that can be determined in advance of a hazard (or other type of risk) impact.

Coverage of livelihoods

CARE's approach to livelihoods is closely related to the DFID lineage (through Swift and Carney), with significant inputs from its own staff and consultants. Households are perceived as operating on the basis of their access to a set of assets (almost identical to the DFID capitals), which are used to enable productive, wage-earning, marketing and exchange activities in order to realise an income and fulfil consumption needs. The approach is summarised in the diagram (for some reason physical capital has been omitted from the assets box at the top):



While it is useful in identifying the linkages between assets, income and marketing and exchange activities, and consumption activities, the other connections seem to be weakly identified and not adequately connected to the livelihood strategies octagon.

Conclusion

CARE's HLSA methodology has several strengths which commend it in the development of vulnerability approaches to livelihoods. It has a relatively clear analysis of the connections between macro processes, household's assets and livelihood opportunities, and the eventual livelihood strategies. There are clear guidelines on methodologies, data collection, and good specification of information needs. It has been used in different country contexts, and it is claimed that it has been adapted when there has been concern about its complexity, high time-consumption and cost. While there may be some concern about the different conceptualisation of vulnerability, aspects of the approach show strong parallels with other vulnerability and livelihood models, and so greater integration should be possible.

Sources

T R. Frankenberger, Michael Drinkwater, Daniel Maxwell, 'Operationalizing household livelihood security: a holistic approach for addressing poverty and vulnerability', no date, probably 2000, available at: <http://www.fao.org/docrep/003/X9371e/x9371e12.htm>

Toolkit, 'CARE Household Livelihood Security Assessments: a toolkit for practitioners', 2002, prepared by TANGO International Inc, Tuscon, Arizona, for CARE USA.

Table 1: Household livelihood security analytical framework for programming design, implementation and evaluation (Source: Frankenberger, p.15)

Descriptive information	Analytical information	Design & Implementation	Impact measurement
<p>Contextual information</p> <ul style="list-style-type: none"> • Physical and environmental information • Key features and trends <ul style="list-style-type: none"> – Social – Economic – Ecological • Institutional information <p>Community level</p> <ul style="list-style-type: none"> • Social differentiation • Socio-political info • Institutional info • Spatial info • Sources of livelihood 	<p>Understanding vulnerability risk factors (seasonal/long-term)</p> <ul style="list-style-type: none"> - Ecological - Economic - Social - Political <ul style="list-style-type: none"> • Coping/adaptive strategies • Trends in livelihood strategies • Internal household dynamics • Key external relations that affect HLS outcomes - Role of social networks - Role of institutions - Intra/intercommunity dynamics 	<p>Design</p> <ul style="list-style-type: none"> • Identification of key problems and opportunities • Priorities established (leverage points) • Identification of strategies and linkages • Validation with community • Finalize design <p>Implementation</p> <ul style="list-style-type: none"> • Finalize programme design with community • Conduct baseline • Establish monitoring system to capture empowerment changes, livelihood and contextual changes • Programme adjustments made on the basis of monitoring information 	<p>Programme outcomes</p> <ul style="list-style-type: none"> • Formal impact - M&E system • Impact measured by goal indicators based on norms against baseline • Annual trends monitoring and use for management purposes <p>Unanticipated outcomes</p> <ul style="list-style-type: none"> • Positive- and negative-generated programme, measured by community monitoring system
<p>Household level</p> <ul style="list-style-type: none"> • Household characteristics • Norms • Current status of livelihood security outcomes • Assets • Resources • Economic activities <p>Intrahousehold</p> <ul style="list-style-type: none"> • Gender • Generational 	<p>Analysing vulnerability</p> <ul style="list-style-type: none"> • Individual vulnerability • Household vulnerability • Community vulnerability <p>Opportunity analysis</p> <ul style="list-style-type: none"> • Positive responses of households • CBO/NGOs with effective programmes • Government initiatives • Policy environment • Collaborative orgs. 		

Table 2: Sources of risk to household livelihood security (Source: Frankenberger, p. 16)

Sources of livelihood	Environmental risk	State	Social risk	Economic risk	Conflict
Human capital Labour power, education, health	Disease epidemics (malaria, cholera, dysentery) due to poor sanitary conditions, AIDS	Declining public health expenditures, user charges, declining education expenditures	Breakdown in community support of social services	Privatization of social services, reduction in labour opportunities	Conflict destroys social infrastructure, mobility restrictions
Financial & natural capital Productive resources (land, machinery, tools, animals, housing, trees, wells, etc.), liquid capital resources (jewellery, granaries, small animals, savings)	Drought, flooding, land degradation, pests, animal disease	Land confiscation, insecure tenure rights, taxes, employment policies	Appropriation and loss of common property resources, increased theft	Price shocks, rapid inflation, food shortages	Conflict leads to loss of land, assets, and theft
Social capital Claims, kinship networks, safety nets, common property	Recurring environmental shocks breakdown ability to reciprocate; morbidity and mortality affect social capital	Reduction in safety net support (school feeding, supplementary feeding, FFW, etc.)	Breakdown of labour reciprocity, breakdown of sharing mechanisms, stricter loan requirements, migration for lack of social cohesion	Shift to institutional forms of trust, stricter loan collateral requirements, migration for employment	Communities displaced by war; theft leads to breakdown in trust
Sources of income Productive activities, process and exchange activities, other sources of employment, seasonal migration	Seasonal climatic fluctuations affecting employment opportunities, drought, flooding, pests, animal disease, morbidity and mortality of income earners	Employment policies, declining subsidies or inputs, poor investment in infrastructure, taxes		Unemployment, falling real wages, price shocks	Marketing channels disrupted by war

VULNERABILITY ANALYSIS: A PRELIMINARY INVENTORY OF METHODS AND DOCUMENTS

This list is not exhaustive, and represents those methods and studies uncovered through an initial search for this project, in addition to those which we were already aware of

February 2003

TABLE A: PRINCIPAL METHODS
(i.e. those widely applied)

** indicates case study included in this report.

NAME	ORIGINATOR	DOCUMENTATION	DESCRIPTION
Capacities and Vulnerabilities Analysis (CVA) **	Harvard University Graduate School of Education: International Relief/Development Project.	Mary B Anderson and Peter J Woodrow [1989](1998) <i>Rising from the Ashes: Development Strategies in Times of Disaster</i> . London: IT Publications.	Core document by the method's designers, covering methodology and lessons learned from its application to 11 NGO projects
		Mary B Anderson and Peter J Woodrow (1990) <i>Disaster and Development Workshops: a Manual for Training in Capacities and Vulnerabilities Analysis</i> . Harvard University Graduate School of Education: International Relief/Development Project.	Trainer's manual for the CVA approach, setting out the method as in Anderson and Woodrow [1989](1998), with group exercises based on the case studies in that book.

		<p>Citizens' Disaster Response Center, Children's Rehabilitation Center, Department of Social Welfare and Development (n.d.) <i>Trainer's Manual on Disaster Management and Crisis Intervention, Module III: Disaster Management Framework</i>. Quezon City, the Philippines: CDRC/CRC/DSWD.</p> <p>Annelies Heijmans and Lorna P Victoria (2001) <i>Citizenry-Based & Development-Oriented Disaster Response: Experiences and Practices in Disaster Management of the Citizens' Disaster Response Network in the Philippines</i>. Quezon City: Center for Disaster Preparedness.</p> <p>Victoria L, Delica Z (1998) untitled document on risk and vulnerability assessment methods used by Citizens' Disaster Response Centre and Center for Disaster Preparedness in the Philippines. Unpublished report for South Bank University research project 'Improved Vulnerability and Capacity Analysis for Community-Based Disaster Mitigation'.</p> <p>Bellers R. (2000) 'Summary of CDP/CDRC Risk Assessment'. Unpublished report for South Bank University research project 'Improved Vulnerability and Capacity Analysis for Community-Based Disaster Mitigation'.</p>	<p>Part of a series of training manuals on community-based disaster management, this is derived from the earlier work by Anderson and Woodrow.</p> <p>Review of experiences of community-based disaster management in the Philippines over several years, including the application of CVA and other information-gathering and planning methods.</p> <p>Survey of VA methods used in the Philippines, including CVA, carried out for South Bank University study of community-based VA.</p> <p>Description and critique of CVA and other VA methods used in the Philippines, carried out for South Bank University study of community-based VA.</p> <p>Describes the FEA approach, examines the conceptual background to the model and how it works in practice, exploring conceptual and operational difficulties on the basis of SCF's experiences.</p> <p>HLSAs 'provide comprehensive sociocultural, economic and ecological assessments of a given area for planning and project implementation.'</p>
Food Economy Approach	Save the Children Fund	<p>Boudreau T (1998) <i>The Food Economy Approach: a framework for understanding rural livelihoods</i>. London: Relief and Rehabilitation Network Paper 26. 31pp</p>	
Household Livelihood Security	CARE International	<p>T R. Frankenberger, Michael Drinkwater, Daniel Maxwell, 'Operationalizing household livelihood security: a holistic approach for addressing poverty and</p>	

<p>Assessments</p> <p>**</p>		<p>vulnerability’, no date, probably 2000, available at: http://www.fao.org/docrep/003/X9371e/x9371e12.htm</p> <p>‘CARE Household Livelihood Security Assessments: a toolkit for practitioners’, 2002, prepared by TANGO International Inc, Tuscon, Arizona, for CARE USA.</p>	<p>Holistic and multi-disciplinary, they use a systems approach which recognises that poor people ‘live and interact within broader socioeconomic and sociopolitical systems. HLSA enables understanding of local livelihood systems, including ‘livelihoods, economic, socio-cultural and political systems and the constraints, vulnerabilities, marginalization, and risks of poor families living within this context.’ HLSA is regarded as having considerable relevance to risks and shocks.</p>
<p>Risk mapping</p> <p>**</p>	<p>Oxfam</p>	<p>Trujillo M, Ordóñez A, Hernández C (2000) <i>Risk-Mapping and Local Capacities: Lessons from Mexico and Central America</i>. Oxfam Working Paper. Oxford: Oxfam. 78pp</p>	<p>Presents results from a wide-ranging assessment of threats (hazards), risks, vulnerability, capacity, progress and needs in disaster management, lessons and challenges. Relatively little on assessment methodology although the findings reveal the indicators used.</p>
<p>Vulnerability Analysis and Mapping (VAM)</p>	<p>World Food Programme</p>	<p>World Food Programme (nd) <i>Vulnerability Analysis and Mapping: a tentative methodology (Annex III)</i>. http://www.proventionconsortium.org/files/wfp_vulnerability.pdf 33pp</p>	<p>Reviews methods of mapping food-related vulnerability, discusses data sources. Presents ‘tentative’ guidelines for WFP country offices to prepare baseline vulnerability maps, including discussion of methodological issues and step-by-step Guide</p>
<p>Vulnerability and Capacity Assessment (VCA)</p>	<p>IFRC</p>	<p>IFRC (1999) <i>Vulnerability and Capacity Analysis: An International Federation Guide</i>. Geneva: IFRC. 32pp</p>	<p>Designed for potential users in IFRC National Societies. Covers principles, purpose, approach, methods and lessons learned in application.</p>
<p>**</p>		<p>IFRC (n.d.) <i>Tool Box for Vulnerability and Capacity Assessments</i>. Geneva: IFRC. 59pp.</p>	<p>Details the different methods that can be used in carrying out VCAs.</p>

	IFRC (1996) <i>Vulnerability and Capacity Assessment Toolbox</i> . Geneva: IFRC. 92 pp.	Explains the concepts of vulnerability, capacity and hazard, and offers a number of vulnerability- and capacity-related data collection methods.
	Jacquemet I (2002) 'Assessing vulnerabilities and capacities – during peace and war'. <i>World Disasters Report 2002</i> : 129-47. Geneva: IFRC.	Surveys principles and lessons from application.
	Gambia Red Cross Society (1998) <i>Vulnerability & Capacity Assessment of Hazards in The Gambia</i> . 76pp	Presentation of findings from national-level VCA.
	Mongolian Red Cross Society (?2002) VCA Preparatory Workshop and Sensitization (draft) 50pp.	Record of the process of adopting VCA.
	Nepal Red Cross Society (1998) <i>Vulnerability and Capacity Assessment in Nepal: A Review</i> . 5pp.	Short overview of early lessons from adoption of VCA.
	Palestine Red Crescent Society (2000), <i>Vulnerability & Capacity Assessment. A Participatory Action Research Study of the Vulnerabilities and Capacities of the Palestinian Society in Disaster Preparedness</i> . El Bireh: PRCS. 120pp	Detailed presentation of findings from a large-scale VCA.
	Sapolu MS (1997) <i>Vulnerability & Capacity Assessment by the Western Samoa Red Cross Society</i> . 6pp	Overview of experiences, presented at IFRC workshop in Stockholm, 24-26 April.
	Lowery, K-J (1991) <i>Some points regarding VCAs</i> . 6pp.	Discussion of issues to be considered in using VCA.
	Uganda Red Cross Society, Nebbi Branch. (2001) <i>Report on the Hazard, Vulnerability and Capacity Assessment Workshop held between the 17th-22nd June in Rasai Parish</i> . 6 pp.	A summarised report of a hazard-specific (bubonic plague) VCA carried out in the Pasai Parish.

TABLE B: OTHER METHODS IN USE OR UNDER DEVELOPMENT

NAME¹³	ORIGINATOR	DOCUMENTATION	DESCRIPTION
Community-wide Vulnerability and Capacity Assessment (CVCA)		Kuban R, MacKenzie-Carey H 2001, <i>Community-wide Vulnerability and Capacity Assessment (CVCA)</i> (Ottawa: Government of Canada Office of Critical Infrastructure and Emergency Preparedness) 45pp.	Describes method designed for Government of Canada Office of Critical Infrastructure and Emergency Preparedness. This is a new method, so information on its application is not yet available.
Household Food Shortage Assessment	FEWS Net	FEWS Net (200, draft) <i>Mini-Manual for understanding and assessing households' risk of food shortage</i> 15pp. http://iishin.uesur.pitt.edu/ (demonstration version)	Outlines analytical framework and associated information requirements.
Interactive Intelligent Spatial Information System	University of Pittsburgh, Graduate School of Public and International Affairs (contact: Dave Johnson djost3+@pitt.edu)		Software programme for tracking emergency incidents and recording relevant data on their impact. Might form the basis of a database that could be used to map the nature and extent of hazard risk and some aspects of vulnerability.
Municipal risk and vulnerability analysis	Directorate for Civil Defence and Emergency Planning, Norway	Directorate for Civil Defence and Emergency Planning, Norway, 1995, <i>Guidelines for Municipal Risk and Vulnerability Analysis</i> . Oslo.	Practical guidelines, particularly good on processes.
Participatory risk mapping	Utah State University, College of Natural Resources	Smith K, Barrett CB, Box PW (1999), <i>Participatory Risk Mapping for Targeting Research and Assistance: with an example from East African pastoralists</i> .	Describes testing of a participatory risk mapping method that sheds some light on community vulnerability.

¹³ Names given in brackets indicate that the method does not have a formal title.

		Utah State University, College of Natural Resources http://www.cnr.usu.edu/research/cf/sp/tr199.htm	
Participatory vulnerability analysis (PVA)	ActionAid	Brocklesby MA, Fisher E (2003), Participatory Vulnerability Analysis. A Step-by-Step Field Guide. Swansea: Centre for Development Studies. Mimeo. 49pp ActionAid (2001) 'Participatory Vulnerability Analysis Workshop, October 30 th -November 1 st 2000'. Unpublished report. London: Emergencies Unit, ActionAid 20pp Buckle P, Marsh G, Smale S, 2001, 'Assessing Resilience & Vulnerability: Principles, Strategies and Actions. Guidelines'. 60pp.	Draft PVA methodology for discussion and field testing by ActionAid. Not yet publicly available. Workshop proceedings covering concepts, issues in vulnerability analysis and ideas for developing a participatory vulnerability analysis (PVA) method; includes some case study material
Resilience and Vulnerability Assessment	Philip Buckle, Graham Marsh, Sydney Smale/Emergency Management Australia	Buckle P, Marsh G, Smale S, 2001, 'Assessment of Personal and Community Resilience & Vulnerability'. Report (EMA Project 15/2000). 63pp.	Detailed and wide-ranging guidance on principles, methods, issues arising. The method was developed for Emergency Management Australia, based on research and earlier guidelines developed for the State of Victoria. Information on its application is not yet available.

			<p>Victorian Government Department of Human Services, 2000, <i>Assessing Resilience and Vulnerability in the Context of Emergencies: Guidelines</i>. Melbourne.20pp.</p> <p>Buckle P, Marsh G, Smale S (2000), 'New approaches to assessing vulnerability and resilience'. <i>Australian Journal of Emergency Management</i> 15(2): 8-14.</p>	
Risk and Disaster Knowledge Management System	CARE Madagascar/external consultants		<p>Morinière L (n.d.) 'Regional Risk and Disaster Information Knowledge Systems' 2pp (mimeo)</p> <p>Morinière L (n.d.) 'Risk and Disaster Knowledge Management Systems' 3pp.</p>	<p>Systematisation of knowledge management related to findings of hazard, risk, vulnerability analysis. More detailed documentation (in French) requested.</p>
Social vulnerability index	Dr Susan Cutter, Hazards Research Lab, Department of Geography, University of South Carolina		<p>Cutter SL, Boruff BJ, Shirley WL (in press) 'Social Vulnerability to Environmental Hazards'. <i>Social Sciences Quarterly</i></p>	<p>Describes the construction of an index of social vulnerability to environmental hazards: Social Vulnerability Index (SoVI). This uses socio-economic and demographic data from all 3,141 counties in the USA, with computer analysis of 42 independent variables and 11 diverse key factors in vulnerability to generate a composite score for each county and enable relative assessments between counties. Results revealed spatial patterns in vulnerability and the relevant significance of particular factors in increasing vulnerability or moderating its effects.</p>

(Tsunami VA methodology)	Maria Papathoma, Coventry University, UK	Papathoma M) Papathoma M, Dominey-Howes D 2002, 'GIS and Tsunami Disaster Management: a new methodology'. Wise S et al eds. <i>Proceedings of the GIS Research UK 10th Annual Conference GISRUUK 2002</i> pp.318-319	Model for analysing vulnerability of Greek coastline to tsunamis, developed for PhD dissertation to be examined shortly. Emphasis is on physical vulnerability of structures, with estimated numbers of inhabitants.
		Papathoma M et al 2002, 'Tsunami Vulnerability Assessment in Greece by using GIS'. Abstract of presentation to The Tsunami Society, Second Tsunami Symposium, Honolulu, May 2002. 1p	
		Papathoma M, Dominey-Howes D 2002, 'Assessing Tsunami Vulnerability in the Gulf of Corinth (Greece). Abstract of paper submitted to 9 th International Symposium on Natural and Man-Made Hazards, October 2002. 2pp	
		Notes of John Twigg's interview with Maria Papathoma, Coventry University, July 2002.	
Victim Security Matrix	Disaster Mitigation Institute (DMI)	Bhatt MR (1996) 'On Understanding Vulnerability'. Presentation to Duryog Nivaran Steering Committee Meeting, Colombo, November 1996.	Outlines DMI's matrix for viewing vulnerability/security in terms of key features and principles rather than application.
(VA untitled)	ICECD	ICECD 2002, 'Rehabilitation projects in earthquake affected	Very general view of issues addressed in post-disaster needs and vulnerability assessment by a

			areas of Kutch, Gujarat, focusing on economic empowerment of those seriously affected by the earthquake'. 2pp (mimeo)	local NGO.
(VA untitled)	Intermediate Technology Development Group (ITDG)		ITDG Bangladesh 2002, 'Vulnerability analysis'. Email 1p.	There is no standardised ITDG approach. These documents are very brief outlines of some of the approaches and indicators used in different contexts.
			ITDG Nepal 2002, 'Reference to water induced flood disaster vulnerability'. 2pp (mimeo)	
			ITDG South Asia 2002, 'Approach adopted by ITDG-SA in livelihood options regional project'. 3pp. (mimeo)	
(VA untitled)	Jennifer Rowell, CARE International (UK)		Cranfield University MSc thesis, 2002	Pilot research, testing method for structuring vulnerability analysis surveys to ensure that livelihoods features were incorporated and brought out.
Vulnerability and Risk Assessment	UNDP/UNDRO		Coburn AW, Spence RJS, Pomonis A (1991) <i>Vulnerability and Risk Assessment</i> . UNDP/UNDRO Disaster Management Training Programme	Training module, forming part of series of modules produced by UNDP/UNDRO Disaster Management Training Programme. Covers important aspects to be addressed in risk (principally) and vulnerability assessment rather than setting out a specific method for doing so.
Vulnerability index	ActionAid		West D (2002) <i>Creating a Vulnerability Index</i> . London: ActionAid. 16pp.	Experimental student-designed model for national-level assessment of vulnerability and resilience, based on a range of indicators taken mostly from published sources (e.g. HDI), partly qualitative assessments. Mathematical

Vulnerability index	UNDP	[no documentation yet available]	formulae are used to create a single numerical vulnerability index for each country. Model for national-level assessment of vulnerability and resilience, still under development.
(Working with Women at Risk)	Dr Elaine Enarson et al, International Hurricane Center, Florida International University	Enarson E et al 2002, 'Working with Women at Risk: practical guidelines for communities assessing disaster risk'. Draft. (International Hurricane Centre, Florida International University) 66pp.	Detailed and comprehensive methodology for community-based, gender-aware risk and vulnerability assessment, covering purpose of the method, planning and training, data analysis and application of findings. Developed from community workshops in the Caribbean; draft method currently being circulated for comment.

Additional note:

The website of the Vulnerability Assessment Techniques and Applications (VATA) workshops organised by NOAA and the OAS (<http://www.csc.noaa.gov/vata/>) lists a number of methods presented, mostly from North and Central America/Caribbean. In many cases only a single-paragraph summary is available; in others the summary is at best a page or two. This does not provide sufficient information for inclusion in tables A and B at present, but the methods listed could be included in a future version of this inventory if further information can be obtained.

TABLE C: WRITING ON VULNERABILITY ANALYSIS METHODS

DOCUMENT	DESCRIPTION
Asian Disaster Preparedness Center (1994) 'Guidelines for Hazard Assessment and Vulnerability Analysis'. In VK Sharma (ed) <i>Disaster Management</i> . New Delhi: Indian Institute of Public Administration pp 258-64	Checklists of main aspects to be considered in hazards, risk and vulnerability analysis.
Aysan YF (1993) 'Vulnerability assessment'. In Merriman PA, Browitt CWA (eds) <i>Natural disasters</i> . London: Thomas Telford pp 1-14.	Largely a discussion of the growth in vulnerability and factors that might be affecting this, arguing that there is too much oversimplification and that greater effort should go into analysing vulnerability's complexity at the local level.
Bhatt MR (1998) 'Can Vulnerability be Understood?' In Twigg J, Bhatt MR (eds) <i>Understanding Vulnerability: South Asian Perspectives</i> . London: ITDG Publishing/Duryog Nivaran pp 68-77	Discusses problems facing outsiders in attempting to understand vulnerable people's situations. Also outlines the Disaster Mitigation Institute's 'life story method' used to help the vulnerable explain their situation and its causes.
Bhatt ER (1998) 'Women Victims' View of Urban and Rural Vulnerability'. In Twigg J, Bhatt MR (eds) <i>Understanding Vulnerability: South Asian Perspectives</i> . London: ITDG Publishing/Duryog Nivaran pp12-26	Describes the focus group Participatory Evaluation Writing (PEW) method used by the Self Employed Women's Association (SEWA) in India to help poor women explain and analyse their vulnerability and the forces that influence it. Focuses on the findings of the method and the capacity of women to assess and express their vulnerability.
Blaikie, P, I Davis, T Cannon, B Wisner, 1994, <i>At Risk: natural hazards, peoples' vulnerability and disasters</i> , Routledge. New edition to be published 2003. Also available in Spanish, published by La Red in Peru.	Uses two models of household exposure to risk and livelihoods access to resources that provide them (or not) with the ability to avoid disasters. The Pressure and Release model has been taken up widely in other publications and by NGOs and provides a simple framework in which social vulnerability can be traced causally back to determining processes and root causes. The Access model has many similarities with the DFID SL approach and other livelihood methods used by NGOs.
Buckle P (1998/99), 'Re-defining community and vulnerability in the context of emergency management'. <i>Australian Journal of Emergency</i>	Argues for emergency managers to appreciate the complexity of communities and their vulnerability, and to look for community assets

<p>Management 13(4): 21-26.</p>	<p>and characteristics that can be used to support resilience. Also suggests refining and developing a range of existing tools. Ideas from this fed into the Resilience and Vulnerability Assessment model (Table B).</p>
<p>Cannon T (2001) 'Vulnerability analysis and disasters'. In D Parker (ed) <i>Floods</i>. London: Routledge</p>	<p>Develops a model of vulnerability analysis that subsumes all types of vulnerability of people to natural hazards into four headings: Initial well-being (physical and mental condition, nutritional status); Livelihood resilience (the ability to return to previous or new livelihood activities to secure needs); Self-protection (peoples capacity and willingness to protect themselves from known hazards); Social protection (the presence of hazard precautions provided by levels of society above the household);</p>
<p>Davis I (1994) 'Assessing Community Vulnerability' in <i>Medicine in the IDNDR: proceedings of workshop at the Royal Society, London, 19 April, 1993</i>. London: Royal Academy of Engineering. pp 11-13</p>	<p>Concise overview of some basic issues affecting the application of community vulnerability analysis.</p>
<p>Gershon M (1999) 'Vulnerability Analysis'. Unpublished report. London: Emergencies Unit, ActionAid 33pp</p>	<p>Background paper for ActionAid's workshop in 2000 (see ref. to ActionAid 2001, above). Reviews conceptual and practical models and approaches used by ActionAid, and suggests ways forward for the NGO.</p>
<p>Heijmans A (2001) '<i>Vulnerability: a matter of perception</i>'. London: Benfield Greig Hazard Research Centre Working Paper 4 http://www.bghrc.com 17pp</p>	<p>Argues that disaster management agencies use the concept of vulnerability in different ways according to what fits their own approach best, and that people's perception of their own vulnerability may be very different.</p>
<p>Henninger N (1998) <i>Mapping and Geographic Analysis of Human Welfare and Poverty – Review and Assessment</i>. Washington DC: World Resources Institute http://www.povertymap.net/pub/pov_fintoc.htm</p>	<p>Review of methods for mapping human welfare and poverty; containing some discussion of approaches to measuring vulnerability with examples from a range of methodologies.</p>
<p>Jeggle T, Stephenson R (1994) 'Concepts of Hazards and Vulnerability Analysis'. In VK Sharma (ed) <i>Disaster Management</i>. New Delhi: Indian Institute of Public Administration pp 251-7</p>	<p>Checklists of main aspects to be considered in hazards and vulnerability analysis.</p>
<p>King D (2001) 'Uses and Limitations of Socioeconomic Indicators of Community Vulnerability to Natural Hazards: Data and Disasters in</p>	<p>Discussion of the limitations of large data sets now available to planners in predicting community vulnerability.</p>

Northern Australia'. <i>Natural Hazards</i> 24: 147-156.	
King D, MacGregor C (2000) 'Using social indicators to measure community vulnerability to natural hazards'. <i>Australian Journal of Emergency Management</i> 15(3): 52-57.	Discusses the complications and constraints surrounding the use of particular social indicators in measuring vulnerability.
Longhurst R (1994) 'Conceptual Frameworks for Linking Relief and Development'. <i>ids bulletin</i> 25(4): 17-23	Surveys the different use of terms (including vulnerability) and the confusion that can arise.
Morrow BH (1999) 'Identifying and Mapping Community Vulnerability'. <i>Disasters</i> 23(1): 1-18	Mainly a discussion of aspects of vulnerability per se, but covers vulnerability assessment and mapping briefly.
Narayan D et al (1999) <i>Can Anyone Hear Us? Voices From 47 Countries</i> . Washington DC: World Bank Poverty Group, PREM (Voices of the Poor Vol. I)	Part of a large-scale World Bank project to understand poor people's perspectives of their lives, which highlighted the importance of their multiple vulnerabilities in their livelihood strategies. The report is based on 78 World Bank Participatory Poverty Assessment reports from 47 countries. There is some methodological discussion in Vol.I.
Patel AK, 1997, 'Understanding Vulnerability: Recent Tools and Methods'. 4pp. Paper presented to Duryog Nivaran Workshop 'Understanding Vulnerability: a South Asian perspective', Colombo, 21-22 August 1997.	Brief notes on a range of tools used in India by Disaster Mitigation Institute and others.
South Bank University research project 'Improved Vulnerability and Capacity Analysis' – see notes below.	
Stephen L, Downing T (2001), 'Getting the Scale Right: A Comparison of Analytical Methods for Vulnerability Assessment and Household-level Targeting'. <i>Disasters</i> 25(2): 113-135	Reviews three VA methods (SCF Food Economy Approach, Classification and Regression Tree analysis and pattern recognition in an Artificial Neural Network) for their utility in food security/famine work.
Twigg J (2001), <i>Sustainable Livelihoods and Vulnerability to Disasters</i> . London: Benfield Greig Hazard Research Centre Working Paper 2 http://www.bghrc.com 18pp	Summary of recent thinking on vulnerability and sustainable livelihoods, including discussion of VA.
Wisner B (2001) 'Notes on Social Vulnerability: Categories, Situations, Capabilities and Circumstances'. Mimeo 4pp	Short discussion paper arguing the need to move beyond taxonomies of vulnerability to situational analysis.
Wisner B (in press) 'The Communities Do Science! Proactive and Contextual Assessment of Capability and Vulnerability in the Face of Hazards'. In Bankoff G, Freerks G, Hillhorst T (eds) <i>Vulnerability</i> :	Reviews changes in the nature of vulnerability assessment over the past 20 years, showing a shift from taxonomic to situational and finally practice and contextual approaches.

South Bank University research project 'Improved Vulnerability and Capacity Analysis'

This project (originally a joint project with the Oxford Centre for Disaster Studies) produced a number of unpublished reports and papers:

- Bellers R. (2000) 'Summary of CDP/CDRC Risk Assessment'.
- Bellers R (nd) 'Simulation Exercise Notes: Igbalangao's experience of a typhoon'.
- Bhatt MR (nd) 'Investing in Vulnerability Reduction Tools'
- Disaster Mitigation Institute (1999) 'Review of Action Planning Tools'
- Disaster Mitigation Institute (1999), 'Urban Risk Assessment Tools: Preliminary Status Report'
- Drought Preparedness, Intervention and Recovery Programme (DPIRP) (1999), 'Improved Vulnerability and Capability for Community-based Disaster Mitigation: Preliminary Status Report [Kenya]'
- Hall N (nd) 'The Perception of Risk at Local Levels, and ways to measure Community Vulnerability'
- Victoria L, Delica Z (1998) untitled document on risk and vulnerability assessment methods used by Citizens' Disaster Response Centre and Center for Disaster Preparedness in the Philippines.