

***VULNERABILITY  
AND  
CAPACITY  
ASSESSMENT***

***TOOLBOX***

*October 1996*

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## **SECTION 1.**

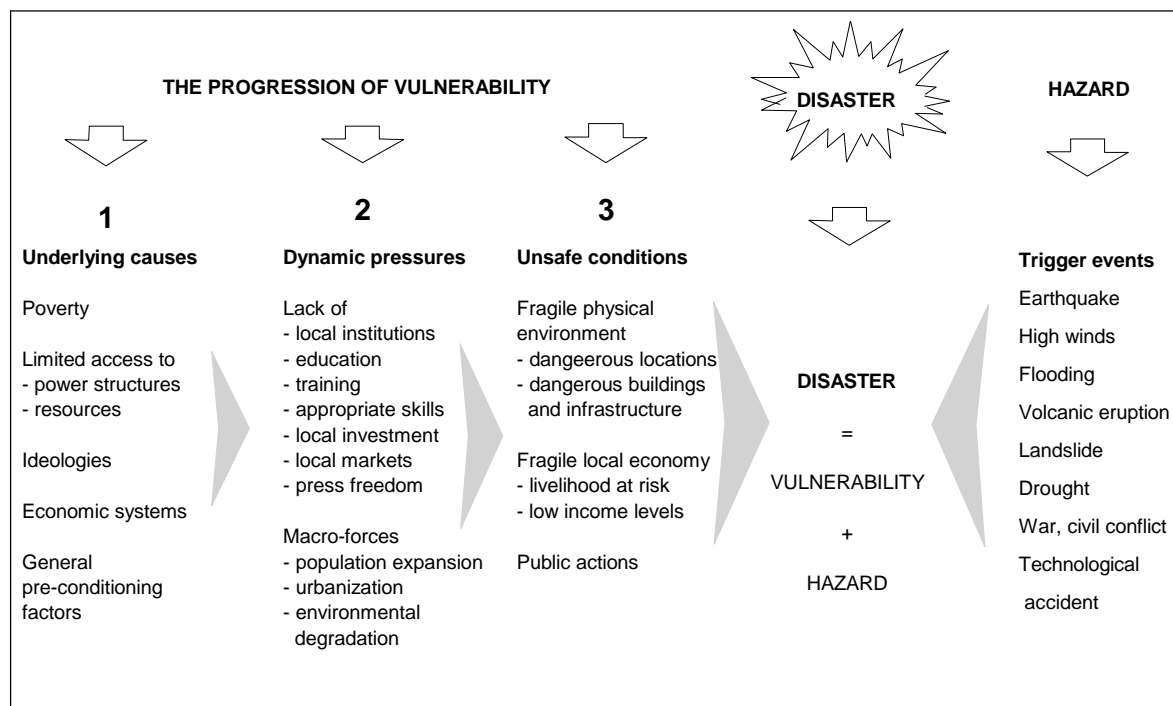
## **INTRODUCTION**

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## 1.1 What is vulnerability?

Over the last few years everybody in the International Federation of Red Cross and Red Crescent Societies (IFRC) has talked about vulnerability. But what does it mean? "Vulnerability" is a term that is applied to many different circumstances and often used improperly.

A well used description is that vulnerability *"is insecurity, the reverse of security"*; it reflects *"the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard. It involves a combination of factors that determine the degree to which someone's life and livelihood is put at risk by a discrete and identifiable event in nature or in society"* (Blaikie et al).



Vulnerability refers to exposure to contingencies and stress and difficulty in coping with them. It has two components: exposure to hazards (e.g. drought, conflict) and difficulty (through lack of resources) to cope with, and recover from them. The two components reflect:

- i) an 'external' side of risks, shocks and stress to which a structure, individual, household, community or nation is subject, and
- ii) an 'internal' side of lack of resources to cope without damaging loss (from Robert Chambers).

These descriptions suggest that vulnerability cannot be described without reference to a specific hazard or shock: the question must always be asked: vulnerability to what? and that "vulnerabilities" are one side of a coin; the other side representing the resources people have to resist, cope with, or recover from a hazard, or "capacities". Vulnerability is about "not having" while capacities are about "having". Vulnerability must always be assessed in relation to a specific hazard or threat: the question must be asked as: "Vulnerability in relation to what?". Is it earthquake, conflict or environmental deterioration or any other threat?

People often mean different things by the use of the word "vulnerability". Its most well known use is for the "vulnerable groups" of pregnant and lactating women and preschool children. As these groups have special food, health and nutritional needs, they are more exposed to contingencies related to food and infection. However, the popularity of this use of the term should not cover up "vulnerability" as a focus for analysis and assessment.

## 1.2 What are capacities?

Individuals, households, communities and nations have resources that can resist the impact of a hazard and/or recover quickly from them. A hazard does not cause a disaster unless there are people affected by it; people who do not have the capacity to resist. For example, all countries of the world widely possess something very dangerous: a system of roads with fast moving vehicles. But because we have some education and knowledge as well as faculties of sight and hearing we are not very vulnerable to this potentially serious threat. The fact that relatively few people get killed by walking across these roads shows the high level of training implicit in our up-bringing to avoid this hazard.

People's capacities are also highlighted by what are known as "coping strategies". These are responses linked to capacities (or resources) which, in the face of a hazard determine how vulnerable an individual or household becomes. There are various ways in which households move from coping to destitute, or to not coping.

### EXAMPLE

People in drought-prone areas such as the Sahel expect a drought every seven years or so. In between they face seasonal food shortages prior to every harvest. These are all "expected" contingencies. People sell off small stock, fall back on drought resistant crops and generally cope. They do not develop as families or communities because of these regular contingencies. When there are two bad years back-to-back, however, people are not able to cope. They have to sell off productive assets, land maybe. Poor people become poorer. But at the same time the richer people in the community gain from this process by buying assets from the poor.

## 1.3 Silent or loud emergencies?

Some external agencies make the distinction between 'silent' and 'loud' emergencies. The 'loud' emergency relates to the loss of life and injury as the result of a catastrophic "event" such as an earthquake, famine or war, and receives lots of international publicity. The "silent" type refers to the constant and generally unpublicised loss of life in situations associated with levels of extreme poverty. In practice, "silent" emergencies probably affect more people. This is a useful distinction, and vulnerability and the use of the tool box applies to all of them. It is useful to remember that nearly all "emergencies" will be multi-causal; for example, a refugee flow in response to a local conflict may draw the attention of the relief community, but a steady erosion of public health services coupled with declining crop yields may be the real motivation for people to move. The conflict may have only been the "trigger".

Some definitions of emergencies incorporate the role of outsiders being involved. For example:

"Disasters can be defined as crises that overwhelm, at least for a time, people's capacity to manage and cope" (Anderson and Woodrow), or

"A situation of hardship and human suffering arising from events which causes physical loss or damage, social and/or economic disruption from which the country or community is unable to fully cope alone" (UNICEF).

Unfortunately there is a stereotype that people are "helpless victims" who can only survive without the intervention of "skilled" outsiders. However, if we agree that people have capacities (i.e. resources of some kind) during an emergency, then this requires a significant change in the attitude of outsiders towards them. People affected are not 'helpless victims' (although they will face some temporary problems for which outsiders can give help and support), but have resources on which outside help can build. Assessing "capacities" as well as "needs" as it done at present in many relief activities is essential. We know quite a lot already about how people behave under the stress of a threat/hazard and how they allocate resources.

Red Cross national society volunteers are insiders, not outsiders. Therefore they have a significant, even unique role to play in the assessment of the day-to-day and disaster-related problems of vulnerable people, and the VCA toolbox will help organise common sense so as to better understand the root causes of these problems.

Vulnerability is something which bridges loud and silent emergencies, the latter being the day-to-day problems and difficulties that people face in their lives. Most people who are affected see no real difference between disasters and "problems"; it all has to be coped with. However, outside agencies do, wrongly, make a distinction between "disasters" which call for "relief", and "problems" which call for "development". In this handbook we try to avoid drawing up this bureaucratic distinction.

There has been a lot of attention recently in agencies on the topic of "linking relief and development". Here are five reasons:

First, there is concern at the increasing amount that is being spent on emergencies, to the detriment of development aid.

Second, it is known that emergencies can make subsequent development more difficult, especially by diverting funds from local institutions.

Third, rehabilitation has become more important, especially given the close association between famine and war.

Fourth, it is now widely accepted that the division between relief and development is artificial as far as poor people are concerned; they live constantly with the risk of crisis and plan their livelihoods accordingly.

Finally, linking relief and benefit appears to offer positive benefits: the ideal model is one in which relief and development interventions are implemented to provide poor people with

secure livelihoods, mitigating the severity of shocks and easing rehabilitation. VCA is a key tool in bolstering links between relief and development.

## **1.4 Why do a vulnerability assessment?**

There are three reasons for doing a VCA. The first is that development plans require it. VCA is linked more to "development" than "relief". Vulnerabilities or "shocks" in their systems set back peoples' lives and the development of a community or nation. Worries about such problems make people less innovative and willing to take risks. Second, VCA is needed for disaster preparedness and mitigation. VCA tells us something about the means people employ to cope, and this is the firmest basis on which to build appropriate and cost-effective actions for preparedness and mitigation. Finally, and very importantly, the process of a VCA, if properly done, confers advantages to vulnerable people in terms of raising public awareness, sensitises a community and empowers them by giving the community knowledge of risks and capacities.

## **1.5 When is a vulnerability assessment done?**

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 address risk and those long term factors which 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. It is carried out "pre-disaster" as a technique of disaster preparedness. It is distinct from needs assessment which is a "post-disaster" activity (see later section). Vulnerability assessment is an integral element in the wider process of risk assessment, which includes the following elements: hazard mapping, resource assessment, loss estimation, deciding on levels of protection as well as vulnerability assessment.

## **1.6 Different views about the use of the term vulnerability and vulnerable groups**

Practitioners used to the interest of agencies such as the Red Cross in poverty will wonder what is the difference between vulnerability and poverty. The two are not the same. As pointed out by Robert Chambers, vulnerability means not lack or want, but defencelessness, insecurity and exposure to risks, shocks and stress: "The contrast is clearer when different dimensions of deprivation are distinguished, for example, physical weakness, isolation, poverty, and powerlessness as well as vulnerability. Of these, physical weakness, isolation and poverty are quite well recognised, and many programmes seek to alleviate them; powerlessness is crucial but it is rare for direct action against it to be politically acceptable; and vulnerability has remained curiously neglected in analysis and policy, perhaps because of its confusion with poverty. Yet vulnerability, and its opposite, security, stand out as recurrent concerns of poor people which professional definitions of poverty overlook".



The term "poverty" suggests "flows" of income and what people spend from it. Anti-poverty programmes are designed to raise incomes and are then assessed in terms of counts of people above and below some minimum income line. But vulnerability suggests more to do with ownership of assets and how people withstand shocks. Poverty in the sense of low income can be reduced by borrowing, but then this debt makes people more vulnerable. There are trade-offs between poverty and vulnerability: programmes and policies to reduce vulnerability (to make more secure) are not necessarily the same as those for poverty (to raise incomes).

Also, poverty is a much less complex descriptive measure of people's lack or need. Vulnerability is a relative and specific term, always implying a vulnerability to a particular hazard (see the earlier comment: it is always vulnerability to what?). Some people may be vulnerable to drought, but not to floods, but both groups may well be poor.

Although most poor people are vulnerable (they have fewer options, resources and reserves to allow protection from threats), in some cases the rich may be more vulnerable as they have more to lose.

The Red Cross Workshop on Vulnerability Assessment held in Lesotho in 1991 summed up this matter of 'vulnerable groups' in a very practical way: the workshop concluded that the family context is decisive in Southern Africa: any of these categories belonging to a wealthy family is hardly more vulnerable than the family itself. As examples of how misleading and inappropriate the concept of vulnerable groups might be when interpreted literally by relief workers, food distributions were referred to where vulnerable groups had been defined as target groups. Because of this classification, groups which did not benefit from the food distributions included those visibly undernourished such as families composed of unemployed, land- and animal-less husband, one or several wives, and one or several children over five years of age. However, obviously well fed families, sometimes arriving at the distribution point in their own vehicles, received regular rations for family members included in the concept of vulnerable groups.

## 1.7 Differences between needs and vulnerability

Vulnerability is an outcome reflecting the underlying causes in relation to a threat, and the capacities of the individuals determine the level of vulnerability. Needs refer to the immediate requirements for survival and recovery. The distinction is well shown by this quotation from the book by Anderson and Woodrow (p.10): "Those who suffer from mud slides in an urban area may have needs for temporary shelters and medical attention. They may need help with housing and infrastructure reconstruction. On the other hand, the vulnerabilities in the situation include many long-term trends and factors, some of which directly contribute to the suffering caused by the mud slide: crowding, siting of homes on unstable land, use of poor housing materials etc. Other vulnerability factors do not relate directly to danger from mud slides, but do affect the ability of the community to respond to and recover from any serious crises: rural to urban migration because of lack of rural employment opportunities, lack of government enforcement of building codes or other services, absence of strong community organisations, and pervasive poverty itself .... (factors contributing to) vulnerabilities precede disasters, contribute to their severity, impeded effective disaster response and continue afterwards. Needs, on the other hand, arise out of the crisis itself, and are relatively short term".

## 1.8 What is a needs assessment?

A needs assessment is a vital part of emergency preparedness and response, and then for the rehabilitation phase. As well as assessing the immediate needs of people, it should also provide information on the following below. This summary is drawn from the OCDS publication. (However, for information on needs assessment in relation to specific disasters, see IFRC, Disaster Needs Assessment Manual , 1993):

- the history of past emergencies;
- disaster preparedness by government, local authorities, UN agencies and NGOs;
- prediction of emergencies;
- sources of locally available supplies and expertise;
- information on all organisations likely to be involved in the emergency.

The needs assessment is an information gathering exercise which determines the basis upon which to plan and implement an emergency operation according to the following criteria:

- the status of people affected during an emergency, including major needs, problem areas and constraints;
- cultural and socio-economic characteristics of the affected people;
- conditions of the affected people and the capacity to assist themselves;
- government policies and standards regarding displaced people and planned assistance;
- adequacy of facilities and services being provided, and additional requirements;
- suitability of the sites where displaced people are residing;
- present and planned activities and resources of the host government and other agencies in responding to the emergency;
- immediate and long-term options and strategies, including priorities and plans of action.

The needs of people affected by an emergency include some or all of the following in the immediate emergency phase: shelter, personal protection, water, food, special feeding for children, household equipment, health care, sanitation, child care and logistical and psychological support. Note that there is little about dealing with underlying causes, or risk, or even disaster preparedness. Yet a needs assessment can be an excellent time to start a vulnerability assessment, allowing it to go on through the rehabilitation phase.

Assessment techniques have to draw the subtle, but vital distinction between "needs" and "wants". Some type of simple survey is essential to obtain usable data such as sample field surveys. The sample field survey involving the interviewing of a number of affected people should be used as it must be regarded as the most useful method of information collection. After conducting a sample field survey it is then possible to generalise from these small samples about the needs of the larger area. However, many of the techniques described here in this toolbox will also have relevance in needs assessment.

Needs assessment frameworks tell something about what to assess; this toolbox provides the tools for how to do it, and review the root causes.

More detail on disaster needs assessment is provided by the IFRC manual. This is organised by disaster type: earthquakes and landslides, volcanic eruptions and mud-slides, floods and cyclones, and food insecurity.

## **1.9 Why is VCA so important?**

VCA is needed to understand and better meet the problems of vulnerable people. For them and other insiders VCA is always important. From the external agency point of view, disasters are becoming more common and complex, more people are affected than ever before. Hazards are composed of multiple threats e.g. environmental degradation coupled with drought and internal conflict. Social groups are now more heterogenous with greater mobility and access to information. However, resources to combat these problems, either locally or externally, are not increasing at an equal rate. There is a far greater interest in sustainable solutions and hence greater interest in prediction, prevention, preparedness and mitigation.

## **1.10 Summing up**

VCA is not an easy thing to do and requires a long term commitment of time and resources. It is, of course linked to disasters and the external activities that they generate but many people will tell you that they are more vulnerable to problems day to day. Vulnerability is linked to layers and layers of causes but these as well as capacities ebb and flow.

"How" (i.e. the process) you do a VCA is as crucial as its content. Communities have, to a large extent, participate in their own VCA.

### **Reading Materials**

Anderson M. and P. Woodrow, 1989, Rising from the Ashes: Development Strategies in times of Disaster, Westview, Colorado.

Blaikie P., T. Cannon, I. Davis and B. Wisner, 1994, At Risk: natural hazards, people's vulnerability and disasters, Routledge, London.

Chambers R., 1989, Vulnerability: how the poor cope, IDS Bulletin, 20, 2.

League of Red Cross and Red Crescent Societies, Regional Delegation for Southern Africa, 1991, Vulnerability Assessment Methods, report from a sub-regional workshop for the national Red Cross Societies of Botswana, Lesotho, Zambia and Zimbabwe, Mokhotlong, Lesotho, July.

Maxwell S. and M. Buchanan-Smith, 1994, Linking relief and development, IDS Bulletin, 25,4.

Oxford Centre for Disaster Studies, 1993, Assessment of the Needs of Refugees and Displaced Persons, Oxford.

International Federation of Red Cross and Red Crescent Societies, 1993, Disaster Needs Assessment Manual, Geneva.

## **SECTION 2. "DISASTER MANAGEMENT IS INFORMATION MANAGEMENT"**

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## 2.1 Introduction

The best techniques for assessing vulnerabilities and capacities are the simplest ones. But as this "toolbox" is being written for all National Societies which will have a range of expertise, it is sensible to review information collection techniques in full. VCA is an information gathering activity, for information that is to be used by insiders and outsiders, and the type of information to be collected varies according to the stage in the development cycle.

## 2.2 VCA and the development cycle

Ideally VCA is to be used in the "quiet" periods, in the pre-disaster stage. It is a tool of disaster preparedness. National plans should include an inventory, always kept up to date and who is vulnerable, when and why. Ideally there should be an up-to-date VCA "on the shelf" with predictions for each type of possible hazard. The impact of a threat - or the risk - can be reduced in advance of it happening by VCA. For example, information on vaccination rates can lead to children being vaccinated and so protected from the hazard of an epidemic or able to cope with the unsanitary conditions of population displacement (a secondary effect from another type of hazard). Other examples include buildings strong enough to resist earthquakes, farmers equipped with drought-resistant seed and so on.

These are all examples of how capacities can be strengthened to make people less vulnerable. In some cases as pointed out in the Federation Guide, the threat can be removed, moved away from or the impact of the disaster reduced.

In emergency response there is a role for VCA but it is not a good time to do it. A lot depends on the time and resources available; for example, in a slow onset disaster such as drought as the threat and famine as the disaster, VCA can be used (and there are lots of examples of this) as a key tool in disaster mitigation. Otherwise a good needs assessment can be a very effective starting point for vulnerability analysis for the next disaster and the problems people face in strengthening their capacities to diminish its impact.

Post disaster rehabilitation is a good opportunity to evaluate the impact of the threat and review what is needed to avoid future problems. The disaster may have brought new opportunities for doing things that were not possible before.

Finally, VCA is essential in long term development, although its role has not been given the importance it deserves. Development is all about strengthening the capacities of people not only to cope with serious threats but, more importantly, to reduce day to day problems. Vulnerability (and risk) reduction is a long term process and hence of concern mostly for development.

## 2.3 Sources of information for VCA

Information can be gathered at all levels in a society: internationally by the cooperation of countries, within a nation, at district level or within a community. The distinction can be made between macro (international and national) and micro (communities) level information.

Information sources at **international and national level** include early warning systems, hazard assessments Geographical Information Systems (GIS) and various types of broad social and economic surveys. There are twenty global and regional networks of early warning systems. Characteristics of macro information sources are that they are designed for major crises, have wide geographical coverage, have quantitative data as an output, require a lot of resources, demand a high level of technical skills **but** there is limited assessment on capacity and causes of vulnerability. It is because of the widespread availability of GIS satellite data that this forms the most commonly used form of early warning data. But what it shows is crop growth from which all kinds of inferences are drawn. In addition parameters are limited, people are the object (rather than integral to) of the assessment, but there is standardisation, replicability and comparability of data.

The macro level data are what **community level** data are not, so there are important complementarities between them. The techniques that are used at community level include small scale surveys, Rapid Rural Appraisal (RRA) and Participatory Rural (or Urban) Appraisal (PRA). These cover everyday threats, tend to collect qualitative data (though not always) in an in-depth manner, heavy on detail but limited in coverage. The process has as much emphasis as the outcome involving learning by the data collectors, not just 'extraction'. The techniques are good on capacity assessment and understanding causal relationships. There is limited standardisation and compatibility of data and ground rules are not predefined. The people are the subject of assessment with their concept of vulnerability central.

The various data sources can be categorised as follows:

**First, existing information available during and before a disaster.** This is mostly conventional stuff relating to needs assessment. This information includes:

- assessment by diplomatic missions,
- output of early warning systems,
- needs assessment missions undertaken by UN agencies and donor governments,
- media coverage,
- situation reports by NGOs and others, and
- project proposals by international organisations requesting funding for emergency interventions, which will have details on groups affected by the hazard.

However, except for early warning information, there will be very little on vulnerability. But, an important point to make is that a VCA can be started using a needs assessment as its basis.

**Second, specific data sources for assessment:**

anthropological studies, which will have interesting insights but may not relate directly to hazards and the characteristics of groups;  
utilising local infrastructure such as networks of government services e.g clinics; these provide limited indicators usually of a qualitative nature;  
large scale standardised information systems (a few countries only),  
rapid needs assessment using outside experts, relying on observation.

**Third, methods specifically related to vulnerability assessment:**

consensus panels,  
dis-aggregating existing data on groups of people (such as price data and determinants of income),  
selection of indicators and weighting to develop indices,  
vulnerability mapping,  
rapid field assessment methods (use of existing written information and maps, variations on direct observation and indicators, analytical games and diagrams), and including participatory rapid appraisal (PRA),  
undertaking new statistical surveys to collect data directly relevant to vulnerability.

How these sources of information are utilised will depend on the size and activities of the National Societies; of course, it is not necessary to use all these sources.

## 2.4 The pluses and minuses of using existing information

Gives some sense of ownership of the assessment to local people who may have collected and routinely use the information.

However, the quality of the data can be variable and not be re-organised in the most useful manner for the needs of the National Societies. Also, it may not be physically available in the time period involved nor be accessible in a format which can stimulate appropriate response options. This strengthens the view that vulnerability assessment should not be only a disaster-related activity; it should be an ongoing process and updated.

Unfortunately, in most countries, data are usually out of date, inaccurate, partial and not in a form helpful for the analysis, especially data related to household and community capacities. Important indicators - numbers seeking off farm employment, volumes and direction of flow of marketed commodities - tend not to be reported even anecdotally until extreme movements occur in a time of crisis.

But other information does exist and is available: archives and special surveys.

But most importantly there is a vast quantity of undocumented local knowledge in the field, usually untapped because of the lack of a format with which to systematically collect it and, less believed these days, because of its perceived unscientific nature.

**This tool box will concentrate in this area, but be aware of other sources of information.**

A major problem is the difficulty of deriving indicators of "coping ability" or "entitlements" or "capacities". Indicators related to household resources (or poverty) will have to be complemented with others such as market or transport access.



## 2.5 Summing up and looking ahead

This section has discussed the range of information sources, their strengths and weaknesses. Most National Societies will carry out their VCA using community level techniques (RRA and PRA, perhaps also use mapping). There are two reasons for this: first NSs are insiders not outsiders and so will prefer a more process oriented set of techniques; second most NSs will not have the resources to carry out the national level techniques: surveys, early warning networks and so on (although one or two national societies have done so). However, this does not mean that NSs should turn their backs on using the products of the national surveys; they may save a lot of time if they review existing information first.

### **Further Reading and References**

International Federation of Red Cross and Red Crescent Societies, 1993, Vulnerability and Capacity Assessment: A Federation Guide, Geneva.

ODA, 1994, Issues in the collection and use of socio-economic information including beneficiary perception and coping strategy data in humanitarian aid operations, by J. Borton and J. Shoham

## **SECTION 3.**

## **TECHNIQUES TO BE USED IN VCA**

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## 3.1 Introduction

It is important in this tool box not to promote one technique ahead of others, but to encourage National Societies to use all available information and techniques at their disposal and use the combination of tools most appropriate to their situation. Eventually this will be decided by their own good judgement, but this tool box can provide some support in sharpening that judgement. However, most of the techniques they will use will be of the RRA or PRA type.

## 3.2 The tool kit of methods of RRA and PRA

RRA methods have stressed the use of secondary sources, verbal interaction through semi-structured interviewing, and observation. Participatory techniques have had a great deal of publicity over the last few years. PRA more actively involves the community, empowering it by generating information, raising expectations that the outside agency must consider meeting. A large amount of information is obtained, much of it being unknown to the outsider. Biases of outsiders about what local people see as their needs are often exposed.

## 3.3 Overview of the Techniques

Most of the individual techniques that follow may be grouped together into broad families, although some are more difficult to classify than others. In brackets we use a single term with which to group them:

*Transects, physical maps and social maps* are all used to explore the spatial dimensions of the worlds in which villagers move; showing the relationships between different aspects of their physical environment and the human activities which take place within it ("Physical world").

*Wealth ranking and mini-surveys* help to classify people for different purposes. Social mapping may also be used for this purpose ("Groups of people").

*Venn diagrams, economic relationship charts and kinship charts* throw light on the different types of relationship between people ("Institutions").

*Daily time use charts and seasonal calendars* capture cyclical variations in activities; whilst historical diagrams and time lines can be used to represent non-repetitive or linear changes taking place through time ("Time use").

Together with production flow charts, impact flow charts and problem trees, *time lines* can also help us to understand inter-related flows and sequences of events and activities ("Sequences").

Finally, *matrix ranking and scoring*, which bear a strong family resemblance to wealth ranking, daily time use charts, seasonal calendars, and certain types of historical diagram, provides a means of comparing the properties of people, activities and objects of various kinds ("Comparisons").

PRA methods include a shared visual aspect and analysis by local people (through mapping, modelling, estimations, scoring, linkage diagramming, Venn diagrams). There is a list of techniques, nearly 30, described in Chambers, 1994. All could be used in VCA. Three techniques are very important, used in most contexts and these are described first: use of

secondary sources especially including consensus panels and mapping, semi-structured interviews and direct observation.

### 3.4 Secondary sources

E.g. files, reports, topographical and soil maps, project reports, aerial photographs, satellite imagery, travel guides, newspaper and journal articles and books;

#### How to do it?

Go straight to government agencies, universities, libraries, development agencies, homes of authors and anywhere else where the documentation may exist. There is a good chance that someone else will already have done this collation of information; however, if you do it (apparently for the first time in the country or region) makes sure that this collation then becomes accessible to all. However, many written sources are out of date so don't spend too much time doing this. Some sources may be just plain wrong. Also there is the danger that secondary sources, written down and looking very impressive may come to dominate future investigation, inhibiting creativity. Therefore, do not as a matter of course, put more weight on written compared to unwritten (such as oral history) sources. Secondary sources could be most effectively used to cross check information already generated in the field.

***Role in the VCA toolbox:**Secondary sources will have a role to play in all parts of VCA. Consultation of existing written sources is a task that only has to be done once and will probably be useful for other parts of the work of the National Society such as writing annual reports and briefing papers for visitors.*

#### EXERCISE

Choose a region (or small country) you know well.

**First**, ask yourself what "official data" you know about in relation to the region: population statistics, child mortality figures, land holdings, occupational data. Have you ever used these data? Is there a government (or development agency or NGO) book published with useful data? Does your National Society collaborate with others and share information? Do you trust the truthfulness of official data? Do you give greater weight to information from one source rather than another. If so, which sources?

**Second**, describe how this information gives you a picture of the vulnerability of the population at risk to specific threats (e.g. the vulnerability of farmers growing crops to drought or floods)? What does this information tell you about capacities?

**Third**, when you have listed the information you know to be available, write down (in general terms) the gaps: the other information you would require to start a VCA.

#### Participatory analysis of secondary sources

Aerial photographs taken into villages are a very useful tool to identify fields, soil types etc., and leave them behind afterwards if possible. In the VCA context this might include analysing the accuracy of a previous needs assessment for a flood or drought.

***Role in the VCA toolbox:** this is an important task as many people often separate 'official' information from 'unofficial' information. Maps that show previous hazard effects for example could be usefully re-interpreted by those who suffered its effects.*

#### **EXERCISE**

Within a training session, analysing secondary sources of information in a participatory manner requires some role play with one group playing the role of National Society staff while another takes up the views and opinions of sceptical village people. It is really better to fit in a field trip

Take a piece of information such as crop price statistics: the National Society group should write down what they feel this shows about vulnerability (e.g. rising food prices just before harvest). They should discuss the information that have with the village group and ask them how they particular indicator varies with different types of problems they experience in the field.

#### **Consensus Panels**

At this point, and at others in the VCA process, National Societies might want to use the technique of "**Consensus Panels**". Consensus panels have already been widely used in Vulnerability Assessments by several international organisations, especially the World Food Programme (WFP).

These can be used to sift and prioritise existing information or, subjectively, generate missing information. They do require careful organisation, but if this is done, the information generated can be just as valuable as that from more objective means such as surveys. The panel is a mechanism to reach a subjective consensus on an issue by avoiding the personality "noise" that accompanies round table discussion: dominating personalities, varying degrees of knowledge and so on.

The group is asked to make an estimation of a parameter by anonymous ballot. The result of this ballot are presented to the group in terms of median and confidence ranges. Those who are outside the median are allowed to make anonymous arguments as to why their value, not supported by most of the group, is valid. The aim is to move towards a consensus and a Delphi normally has 3-4 rounds of this procedure. Consensus panels could include different types of experts: e.g. government officials, aid workers, village elders and technical experts to identify factors making areas liable to famine. Factors can be pruned, weighted and related to existing data through structured discussion and incorporated into maps which could be overlain. The more overlaps of risk factors, the more the liability of the area to famine. Areas can be judged 'vulnerable' and 'very vulnerable' to famine.

Experience with consensus panels has shown respondents have problems in separating current vulnerability from the perception of baseline vulnerability and different perceptions and knowledge about the area. Respondents are asked to combine the available data with their subjective weights to get a score of vulnerability for each rural area.

***Role in the VCA toolbox:** Consensus patterns has been widely used in vulnerability analysis as indicated above. (In annex 1 there is a description of the whole process of vulnerability mapping used in Bangladesh.) They are means of appraising all the information that is available from all sources. It is process oriented as it is important to include people on the panel who are expected to participate in the disaster preparedness activities.*

## **EXERCISE**

A consensus panel exercise is quite an ambitious exercise and needs some preparation.

Different members in the group should take on different roles e.g. government official, NGO staff member, village head-person. Everybody should agree on a region they know. Each group should identify factors which make a region vulnerable to a disaster (e.g. flooding) These factors might be population pressure, poor roads, lack of infrastructure.

Next the group should debate what are the most critical of these factors, narrowing them down. These critical factors should be written down and after debate each person should rank the factors (keeping the identification of their "vote" to themselves). The pieces of paper are then collated and the results announced.

Perhaps everybody agrees. If not there is further discussion about the reasons for disagreement and a secret vote taken again. Everybody must be allowed to have their say; one person must not be allowed to dominate. (this process is called a "Delphi" session).

Hopefully there is a convergence as everybody agrees. Once the critical factors have been agreed (which reflect all points of views - outsiders and insiders) about the most important factors, then policy approaches can be agreed by the same process.

## **Mapping**

Vulnerability mapping is very commonly used by donor and United Nations' agencies. Maps spatially represent vulnerability indicating which locations or groups are vulnerable. The use of mapping has been advanced by improvements in computing capacity and the widespread use of GIS data. In many examples, the term "vulnerability mapping" is often used to refer to the whole process of data organisation, indicator selection, consensus weighting and finally identifying vulnerable groups by mapping. Vulnerability maps might be multi-purpose static maps showing important factors like past food security problems, variations in nutritional status, population density, infrastructure such as roads and clinics.

## How to do it?

The information available for mapping is often broken down along 'district' lines i.e. according to the administrative and bureaucratic divisions of a country. This may not be ideal as the characteristics of capacities, hazards and vulnerabilities will spread in an irregular manner across these administrative boundaries. However, the technique is easy and informative. It is a matter of constructing plastic overlays (a one-time job) with the distribution of clinics, roads, crop producing areas etc and placing these over a map of the country or region. The coinciding of several vulnerabilities may be apparent at this stage. Those areas, for example, with few clinics or roads, with poor agriculture may prove vulnerable. A visit to the area (called 'ground truthing') is then needed (perhaps using one or several of the techniques described below) to verify what the mapping exercise suggests.

***Role in the VCA toolbox:** For many people, mapping is VCA with no other technique possible or necessary (apart from some modest 'ground-truthing'). Mapping can be carried out at many levels of complexity. Every organisation will have maps of its country or region. In fact very effective VCA can be carried out with some simple overlaying of information, including impact of previous and current hazards (e.g. flooding, drought, land degradation), areas of different population groups (e.g. pastoralists, farmers who own oxen) areas and people ranked (by previous exercises) according to their vulnerability. What mapping cannot do so effectively is identify capacities.*

### EXERCISE

An exercise in mapping requires some preparation. Read Annexes 1 and 2 of this report. Then, select a country or region or even a village you know. Have to hand plastic overlays.

Obtain an official map of the selected area or otherwise hand draw a good representation. Lay the plastic overlay on the map and discuss which areas are vulnerable (e.g. river banks to flooding and erosion), areas far from roads where no marketing is possible, poor soils and so on. Mark these areas on the overlay - one overlay to each aspect of vulnerability. Then once these are all agreed, put all overlays on the map at once and see how far they coincide. Discuss the findings.

Next, think about capacities. Where are the areas of people with least ability to cope and why? The landless, those without protection, or living on low grade housing. Indicate these areas on plastic overlays and carry out the same coincidence exercise as before.

Now compare the areas/target groups of vulnerability with those of capacities. What have you learned?

## 3.5 Semi-structured interviews (SSIs)

A very important and well-used technique. Involves use of a mental or written checklist containing 10-20 key questions, **not a pre-written questionnaire** but especially being open-ended and following up unexpected information. Topics are dealt with as they arise. What is involved seems straightforward but requires careful thought. The persons to be interviewed must be carefully selected, as should be the time and place (where and when the respondents feel comfortable). Generating rapport with the respondents is very important. Ideally the interviews should involve two interviewers, with one person to take notes.

### **How to do it?**

Explain as much as possible about the aims of the interview and the organisations behind it. Make it clear you have come to learn, not "extract" information. Questions should start with key words: **Who? Why? What? Where? When?** and **How?** "Key probes" are helpful, such as "What would happen if .... ?"

*Key probes are questions which lead direct to key issues. There are lots of obvious examples that could be used here; most notably, who is gaining most out of this crisis ?*

### **SSIs include:**

Group Interviews: with randomly encountered people (in the market, coffee house, well) or with systematically selected groups (on the basis of gender, age, job, etc.). The size of the group should be manageable with no more than about 10 persons so that all of its members will have a chance to say something. Groups of various kinds: focus groups, along topic, or neighbourhood lines (e.g. community groups that offer support to destitute groups in times of crisis).

Community interviews: all of the residents of the entire village or urban neighbourhood are invited;

Focus group interviews: a group interview with a special problem "focus", such as health care and family planning needs, innovations needed in farming practices. Important rules to be followed are: i) a homogenous group of 6-10 persons free of mutual dependencies, ii) voluntary participation, iii) neutral location and moderator.

Key informants: Enquiring who are those with special information and seeking them out (e.g. those who lived through the last disaster or who regularly cope with a crisis). Interviewing of people representative of typical or specific viewpoints and or categories.

Interview chains: several successive interviews with persons involved in the various stages of a process (e.g. production and marketing of a cash crop); or use of a sequence such as community - focus group - key informant.

***Role in the VCA toolbox:** SSIs are the first and often only technique to try in "ground truthing". When many people are making visits to areas with which they are not familiar (and often members of National Societies will have to do this), talking to local people takes up a fair amount of the time. The methods of SSIs allow these discussion to be made in an organised and effective manner. SSIs will be the introduction before more specialised techniques such as wealth ranking take over. One of the most effective things to do is to get a good understanding of the history of previous and current hazards. Hazards*



*are not usually unexpected events for people who suffer them; they will be able to say what they did in the past and how they are preparing for them in the future, who will be affected most and so on. So a good place to start will be with a historical perspective on previous hazards and their impact.*

#### **EXERCISE**

Role play is possible here but may not be very productive unless some people have real insights as villagers.

What can be usefully done in a training exercise is to draw up checklists of questions to ask in relation to the "problems" and "disasters" that befall an area you know. See above for the different types of techniques and tailor these checklists accordingly.

(See Annex 2., pages 31 and 35-40: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

### **3.6 Direct observation**

Direct observation involves the systematic capturing of what is going on around. Tape recorders, cameras and notebooks are useful aids although they should not be used without the permission of those concerned. The information so obtained should be systematically recorded and presented as "transects" (see above) or "seasonal calendars" or other means.

#### **How to do it?**

Be discreet, but ask permission for cameras etc., take notes every evening, record the results of all talks, observations and impressions.

*Two techniques related to direct observation are:*

**Do-it-yourself:** This is the carrying out of the tasks of the people under review, such as ploughing, water and firewood collection, repairing roofs etc. Enables an understanding of the problems of everyday life, and

**Do-it-themselves:** Villagers work as the investigators and researchers carrying out the methods such as transects, interviews, mapping, then analyze data and present results. This could include predictions of the timing, impact and nature of an expected hazard.

***Role in the VCA toolbox:** Like SSIs, direct observation is a chance to organise what would otherwise be done casually. Looking around one may be able to see vulnerabilities (people living too close to a river bank in poor housing, no proper grain stores) and capacities (contoured land to collect excessive rainfall, village grain stores).*

## EXERCISE

Even if you are in the middle of a city (or even a modern building) you can carry out a direct observation exercise. However, it is better to try and go out in the street. Many times we do not fully appreciate what are eyes are telling us.

Look around and identify hazards - potential and actual. List them down. Then ask yourself if they affect different types of people in different ways. If so, why ?

Can you see ways in which people try to cope with expected threats and problems ?  
Can you identify any coping mechanisms at work ?

## 3.7 Physical World

### Transect walks:

Walking with or by local people through an area, observing, asking and listening with respect to land, vegetation, livestock, technologies etc., and seeking out problems, opportunities and solutions. Also, this might require the impact of a previous hazard, or show how people prepare for, and cope with a future hazard.

### How to do it?

The area under study is systematically traversed together with informants (e.g. from north to south, highest to lowest points). Everything encountered or noticed or mentioned by an informant is discussed and recorded. Transects give rise to simple maps distinguishing different micro-zones or units (e.g. slope/level terrain; forest/field/village), land use units (natural sites and vegetation, cultivated land) and their problem areas from one another (stresses, supportability, erosion proneness etc).

On the basis of a current map prepared in this way, historical transects can also be drawn up in talks with key persons (usually older individuals) showing the situation 10, 20 or 30 years ago. Transects have proven their usefulness in rural areas for gaining an initial orientation and exploring problems. Transect maps are intended to generalise; excessive detail should be avoided.

- i. Identify people who are willing to help and have a discussion of what it is you want to find out about.
- ii. Identify a route which covers the variations in topography. Walk the transect with a group of people, stopping when arriving at the edge of a new zone. Record the distance covered by the last zone. Question and make notes about the key characteristics arising under each of the categories of land use.

- iii. When the transect is complete, prepare a chart summarising the major features encountered. When more than one transect has been completed, prepare a combined chart, compare results and generate questions for later enquiries.

***Role in the VCA toolbox:** The transect walk is especially valuable as shown by the example from the National Society in Mozambique. It is chance to talk to local people about their environment, using the local ecology to guide the conversation. In this way the technique is less strained than an interview. Obviously the nature of land resources and the products from them will determine a lot about the impact of hazards.*

### **EXERCISE**

Read the instructions listed above. The exercise does not necessarily have to be through a vulnerable area or population although this is preferable.

It requires a systematic walk through an area with careful noting of the potential hazards and means employed to cope with them. What have you seen which suggests that the area, group of people living there will be vulnerable, and to what type of threat or problem? Discuss what you see with yourselves and the local people. Remember that this process of discussion is as important as the outcome of the exercise.

(For transect walks, see Annex 3., page 61 f: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

### **Participatory mapping and modelling:**

The aim is to identify and establish the relationships between topography, natural resources, and human settlements and activities; to identify problems and possibilities.

Local people use the ground and articles such as seeds, stones and sticks to make maps and models of natural resources. Jointly fashioned models give less articulate members of the community the opportunity to participate in finding solutions to problems. These could be used to show areas and population groups vulnerable to specified threats e.g. drought and types of cultivator. Fashioning scale models using local materials (e.g. scissors, glue, paper etc.) enable community members to take a part in decision making processes. They have been used for the resolution of conflict issues (e.g. in irrigation management) as people can envisage the alternatives. Not too much attention should be paid in making a "perfect" model.

### **How to do it?**

- i. Decide what type of map is to be drawn or model is to be made. With the help of local people choose a suitable place and medium. This may be on the ground using stones,

seeds, sticks and coloured powder, chalk, or directly onto a large sheet of paper using pencils and pens. Maps often require a lot of space: up to five metres square.

- ii. Help villagers get started by letting them prepare the outline themselves; do not rush, even go away for a while.
- iii. Use the map as a basis for using semi-structured interviews on topics of interest (e.g. how land use patterns have changed and why) or for collecting more data (e.g. how yields vary from one area to another), and for enabling villagers to conduct their own discussions, analysis and planning.

With social mapping, local people draw a map showing the social structure of a village or urban neighbourhood, providing information about residences, roads, utilities, social situation of households (e.g. families with diseases, in programmes):

- i. The social map is generated out of the physical map of the residential part of the village.
- ii. Seeds of different kinds, ideally provided by the villagers themselves, enable people to map the distributions effectively.
- iii. People should be asked to transfer results to a sheet of paper, making additions and amendments.

***Role in the VCA toolbox:*** *Modelling and mapping are second stage techniques after SSIs, transect walks and direct observation. They can be used to construct watersheds and village areas for example, giving more detailed guidance on the impact of hazards and vulnerabilities.*

(See Annex 3., pages 59 and 60: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

## EXERCISE

Modelling requires a very large commitment of time and resources and may only be appropriate for a training course that lasts for a week or more. It is essential to get into the field. For all these reasons think carefully (on the basis of the description given above) of how necessary it is for your needs. It can only really be done at community level and role-play is not practical. Proper relations have to be established with the community and the reasons for the exercise properly established.

However, once done a 'map' or 'model' gives valuable information about local peoples' understanding of their problems and threats and how they cope with them. It is useful for disasters such as floods in particular. The role of trainees is to facilitate villagers in this work.

The following method is drawn from Howes (1994).

**First**, decide what type of map is to be drawn. This may cover the whole of a village's land, a watershed or a farm.

**Second**, find people who know about the topic and are willing to share their knowledge.

**Third**, with the villager's help, choose a suitable place and medium. This may be on the ground using stones, seeds, sticks and coloured powder, or where chalk can be used or directly onto paper using pens. A lot of space is needed.

**Fourth**, help villagers get started by letting them prepare the outline themselves. They shouldn't be rushed, Don't interrupt. **Fifth**, use the map as a basis for conducting semi-structured interview on topics of interest (e.g what areas are affected by flooding, what areas of housing are vulnerable to cyclones, which groups of people suffer most as a result of erosion).

**Finally**, the approach can sometime be extended by asking villagers to draw a series of maps to illustrate how things have changed over time. Social maps (i.e groups of households) can also be the subject in this exercise. This can be used to identify capacities.

## 3.8 Groups of people

### **Well-being and wealth grouping and ranking:**

Identifying groups or rankings of households according to well-being or wealth, including those considered poorest or worst off; this often leads to identification of key indicators of well-being. Wealth ranking is a very useful technique for differentiating between vulnerable groups.

### **Wealth Ranking**

Wealth ranking has been mostly used to identify who are the wealthy and who are the poor. Some work in advance is required to get a general sense of local social and economic organisation and to understand local concepts of wealth.

The first step is to obtain a list of names of households either by asking questions (through 'social mapping') or by using official lists (census, sugar rations lists), although these must be cross checked.

The names of heads of household are written on cards which are sorted by several knowledgeable informants. They are asked to place the cards in piles according to their understanding of the wealth of each household. The range of groups and criteria are agreed and written on cards and then laid into 3+ piles by key informants to show groups of similar wealth status. Piles are reviewed and checked, and differences between groups placed in different piles are reviewed. The outcome of the exercise is that socio-economic groups are placed in different piles to represent relative wealth status. (See Annex 4.: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

### **Well-being ranking**

Well-being ranking covers much broader issues than wealth-ranking, and perhaps causes less confusion than wealth ranking. It covers a number of criteria to stratify households other than wealth, such as numbers and species mix of animals, material indicators, housing type, access to credit, household size, composition and life cycle stage, access to food, and trees. Other non-material aspects such as kinship support are also important.

Using several different rankings is also a method of obtaining averages, especially if they have been produced by different interest groups.

What groups of people to use? Ranking can be used with small groups of people or single informants at a time. Other approaches have been to use homogeneous groups in terms of age, gender or class, and then encourage discussion between groups at a later stage; other facilitators have used mixed groups with a range of opinion. There is a trade-off between the ability of a group to discuss and modify information, and the ability of the group to inhibit or dominate members.

Experience has shown that most informants find it reassuring to work in groups. As the output is of relative, rather than absolute measures, and reflecting local perceptions, and comparisons, the method does not enter areas that are over sensitive.

Related to wealth ranking is **analysis of difference**: by various criteria: gender, wealth/poverty, social group, occupation and age. This includes contrast comparisons - asking one group why another is different or does something different, and vice versa. The relevance of this to VCA should be obvious: to find out how some groups cope with a hazard while others do not.

***Role in the VCA toolbox:** Wealth ranking is important for assessing capacities of different groups of people. Wealth ranking allows local definitions of capacities to prevail, not only material aspects which is how outsiders often rate wealth. In discussions of wealth, considerations of the various types of capacities: physical/material, social-organisational and attitudinal can be integrated. People with wealth are better able to resist hazards in most cases. The techniques allows comments to be made about relative vulnerability between different groups of people.*

#### **EXERCISE**

Wealth ranking is carried out using knowledgeable villagers. Start by carrying out an informal census of the community. Assign a card to each household, marked with the name of the household head. Then ask the small panel of 3-4 knowledgeable villagers to sort them into 4-5 piles according to various criteria, related to wealth. If there are disagreement resolve them by discussion. The trainee should act as the intermediary. The technique gives important insights into capacities. Indeed different criteria for capacity could be used and then discussed to give insights.

#### **Livelihood analysis:**

Stability, crises and coping, relative income, expenditure, credit and debt, multiple activities, often by month and season. It aims to examine the details of individuals or group livelihoods in terms of income, assets, expenditure and/or consumption. In practice, it has covered two areas: i) occupational and employment issues at community level, giving a description of the location, and ii) examination of individual livelihoods, focusing on income and expenditure with variations seasonally and over time. Livelihood analysis is crucial to understanding capacities: this includes all the sources of income comparing it to expenditures and obligations showing the nature of people's risk of consequence to threats.

Livelihood analysis is a compendium of specific tools. Methods of the specific tools are discussed elsewhere. Methods employed so far include:

- i. seasonal calendars: focusing on income and expenditure from various activities; seasonal variation in food availability, employment, income diversification (different sources throughout the year);

- ii. pie charts: breakdowns of income sources (or labour, food and well being etc) for individuals or communities;
- iii. flow and network diagrams;
- iv. bar graphs: livelihood issues such as: employment categories by separate columns;
- v. ranking: sources of income, employment opportunities, expenditure and other related issues;
- vi. "bean circles": use of a variety of circles and representing relative numbers within them; e.g. circles represent different occupations or place of employment, and a relative number of beans placed in each circle which represents the relative number of people in that community who are involved in that occupation or who travel to that place of employment. Again, relative orders of magnitude are obtained.

*Role in the VCA toolbox: Self evidently, livelihood analysis is central to capacity assessment, in seeing how the many different ways in which people cope in the face of a hazard protect them from its impact.*

### **Pie-charting (using a compendium of techniques)**

The essence of pie-charting is to break down the whole pie of livelihoods into component slices. Like all rapid techniques they are useful to fill in the gaps of official data. The southern Sudan (Operation Lifeline Sudan - OLS) vulnerability assessment identified vulnerable groups according to region and economic sub-group using the following criteria: i) food security as measured by the degree of potential food deficit, and ii) access to primary health care, including the expanded programme on immunisation.

Food deficit, based on a food economy analysis, is derived from calculations of each food source (own production based on harvest estimations, exchange of family resources, generally cattle, for grain, milk, meat, fish and wild foods) to annual food requirements for a family. Groups are then ranked for vulnerability on the basis of percentage deficit. The method involves a direct focus on peoples' traditional livelihoods; a family is only vulnerable or food insecure by crop failure if it lacks access to other expandable food sources. Access to these various sources is influenced by the nature of the conflict.

Information is gathered using key informants, and in-depth discussions with a few individuals. These open interviews enable an understanding of the mechanisms by which a food economy functions. Teams spend a few days carrying out each investigation, working in areas with which they were familiar and having read as much secondary literature as possible. Upon arrival in the community, team members met with local officials and then established an initial picture of the area through a community mapping exercise. Team members then sought out key informants representing the perspectives of different sub groups as defined by ethnicity, age and gender. Reporting formats were used as checklists, not as questionnaires.

The main strength is the central assumption of the methodology, which centres around making "things add up to 100"; based on the assumption that families meet 100% (with or without deficit) of food needs from different sources. This is an easy and visual means (by using a pie



chart) of cross comparison with other groups. This was helpful in cross checking for inconsistencies. Other pluses included working closely with informants encouraging a high degree of data accuracy. The limitations of the method are that, given the civil conflict, population estimations are rough and the time limitations for investigation mean that the characterisation of the food economy is also approximate. The 'pie-chart' method only indicates relative values; also nothing is really possible on infra-family distribution, and access to women's perspectives was also more restricted than it should have been.

***Role in the VCA toolbox:** Pie-charting is a type of livelihood analysis technique, therefore important to assess capacities and how hazards are affecting them; how people cope in the face of contingencies. As a technique, it requires some planning and coordination between personnel.*

### **Participatory linkage diagramming:**

Concerning linkages, flows, connections and causality. This sounds abstract but is a "second stage" technique to be used when a fair amount of basic information on a community has been generated. In the VCA context it may be used to get an idea of interconnections between "winners" and "losers" as the result of a hazard. (See Annex 3., pages 51 to 57, and annex 4. pages 71 and 72: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

## **3.9 Institutions**

### **Institutional or 'Venn' diagramming:**

Identifying individuals and institutions important in and for a community, or within an organisation and their relationships. This is an especially important technique, telling a lot about social and organisational capacities; the claims people have on others during a period of hardship and how institutions, both internal and external operate to provide resources during an emergency.

### **How to do it?**

Respondents draw intersecting sets in the form of circles of different size, the links between key institutions and/or persons in or within communities and organisations can be represented, and therefore their importance in decision making processes. The size of the circles depicts the relative importance attributed to them, the closeness depicts the sort of relationship this institution has got to the group.

- i. Ask local people to cut a large circle of paper to represent the major institution with which you are concerned (e.g. village). Alternatively this can be drawn on the ground.
- ii. Then ask them to cut or draw oval shapes to represent outside institutions with linkages in the village and place these overlapping with the outer edges of the circle (size can be used to indicate relative importance). Alternatively these can be placed at varying distances from the village circle to reflect how accessible or inaccessible people feel them to be.

- iii. Ask them to cut or draw further circles of appropriate sizes to represent institutions wholly contained within the village. Relate these to each other through overlaps where these exist, through incorporation where one institution lies entirely within another, and through separate locations where there is no overlap.
- iv. Check that the basic diagram is correct and ask the villagers to reproduce a clean version on another sheet of paper. (See Annex 3., pages 69 and 70: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

***Role in the VCA toolbox:** Venn diagrams are important to find out about the relationships between groups of people, and how local institutions function during hazards. Groups of people benefit and some groups lose out during hazards. As 'social-organisational' is an important category of capacities and vulnerabilities, these techniques are designed to get at these issues.*

## 3.10 Time Use

### Seasonal calendars:

With major season or month to show seasonal changes in distribution of rain, agricultural labour, food consumption, diet, animal fodder, sicknesses, labour migration, income, expenditure and debt. Seasonality is an expected "threat" and is usually coped with most years. This is where information can be obtained on how people's coping strategies vary when for example, seasonal problems are unexpectedly severe.

### How to do it?

Seasonal calendars are compiled on the basis of interviews and group discussions using sticks of various lengths, stones, seeds to visualise and create the calendar together. Relatively complex interconnections and relationships between natural seasonal cycles (rainy seasons, temperatures) and their impacts on human activities are jointly depicted in simple graphics arrayed one under the other.

In this way, connections between climate, the frequency of diseases afflicting human beings, animals and plants, cropping sequences, the development of prices for cash crops, the labour invested each month in fieldwork, the proportion of wage labour done by men and women etc can be visualised. In addition, interrelationships between relative income, expenditure, credit and debt can be visualised by this. Also use local seasonal divisions. Enable analysts to present information numerically by using seeds and stones etc to enable comparisons between months or seasons.

- i. Identify some knowledgeable people and have a general discussion of the topic to be explored.
- ii. Take a reference period of 15 months so that individuals activities do not get 'chopped off'. Start at the beginning of the year as used locally.

- iii. Try and get the villagers to build as much of the diagram as possible without interruption using seeds, sticks, coins and other locally available material. Ask them to build up the diagram from the bottom, working from causes to effects: start with climate, then crops, then labour demand.
- iv. With each new category, ask the analyst to first establish and mark the peak value, then the lowest, then the ones in between, using individual seeds to show prices and so on.

(See Annex 3., pages 63 and 64: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

### **Daily time use analysis:**

Indicating relative amounts of time of activities (and drudgery), feeding into seasonal variations. To understand the feasibility and likely implications of participation in new opportunities in advance of their being introduced.

### **How to do it?**

- i. Starting from the beginning of the day, the analyst is asked to choose an object or draw a picture to symbolise each activity in which they engage; these are then laid out in sequence on the ground.
- ii. The analyst is next asked to place one seed by the activity which requires least time, and then to place a proportionate number of seeds by each other activity, until all have been covered. Alternatively, either a fixed number of seeds can be allocated which the person then divides up as they see fit, or entirely unstructured free scoring can be used.
- iii. The facilitator can then begin to probe to obtain additional information; if desired a simple calculation can subsequently be carried out to provide a rough conversion from seeds into actual time.
- iv. Cross check and probe for inconsistencies within the diagram. Do the start and end points of crop seasons make sense in terms of the rainfall data ? Do male labour demand peaks and high wage months coincide with these periods ? Do prices go down at harvest time?
- v. Cross check with other data sources. Does the cropping pattern correspond to the information recorded in the transect? Ask the analyst to make a copy of the diagram on paper. Identify the most difficult times of the year and check these with the analyst.

***Role in the VCA toolbox:** Seasonality is an anticipated contingency where heavy workloads, infectious disease and poor nutrition all overlap. People expect these problems at specific times of the year and cope with them. For many these are when day to day problems are at their greatest. How people and communities react and behave at seasonally tells us a lot about how they cope with a greater hazard.*

## 3.11 Sequences

### Time lines and trend and change analysis:

Chronologies of remembered events, peoples' accounts of the past, how things have changed in land use, customs, population movements, availability of services. Time lines are simple means of visualising key historical events such as previous disasters and major perceived changes. They are often very helpful as "ice breakers". People should be asked about the solutions they have applied to these problems over time and whether they have been successful. Time lines are often developed in the course of group discussions. They are a useful way of getting information on threats based on deterioration.

### How to do it?

#### Trend and change diagrams

- i. Discuss trends and changes which people find important or which you wish to learn about. Discuss the time period to be covered and ask them to pick a few landmark dates, such as Independence.
- ii. Ask them how they would like to show the trends: e.g. by trend lines or simple graphs drawn on the ground using chalk or a stick; histograms constructed by informants laying out seeds or breaking twigs to different lengths; and pie diagrams drawn on the ground.
- iii. When the chart is complete, discuss and cross check evidence with the analyst and ask them to make a record on paper, if this was not the original medium.

#### Time lines

- i. Start with the earliest relevant point in time and working forwards, first establish what key events have taken place and when. Use the format, "so in ... you did ....; what happened next?"
- ii. Using one or two words or an appropriate symbol, ask the person to record each event on a strip of paper, and place it in sequence on the ground. Keep a fuller separate record for your own purposes. Periodically run back through the events already reported to prompt recall and help the informant to fill in gaps. Just concentrate on key events.
- iii. Cross check continually and probe to resolve inconsistencies. When the basic exercise is completed, mark in the time line, breaking it where a period elapses during which nothing of importance happened. Divide the chart into a small number of phases. When the chart is complete, start to probe further around particular areas of interest.

*Role in the VCA toolbox: Time lines are very important to understand historical perspectives on hazards and also to understand threats 'of deterioration' - see the VCA framework.*

## 3.12 Comparisons

## **Matrix scoring and ranking, pair wise ranking:**

Use of matrices to compare through scoring different ways of doing things or varieties of crop, tree or animal. Ranking techniques and related analytical games are important in allowing some measure of quantification to take place, often, a necessary factor in getting outsiders to take note of the problems of a group of people.

**Ranking of preferences:** can quickly identify problem areas and preferences of individuals and compare them with assessments of others. Items (such as foods) can be ranked 5 = favourite or most important and 1 = least important. (See Annex 4., pages 78 to 83: A Resource Guide for Trainers and Facilitators of Participatory Learning and Action (PLA); R. Leurs, Development Administration Group; University of Birmingham)

### **How to do it?**

Units or objects to be ranked can be most effectively collected by means of a brainstorming session or by first interviewing key informants. In ranking by pairs, a maximum of five or six selected types are noted on cards and shown to an interviewed subject two at a time by asking the question "Which do you prefer?"; "Which is the bigger problem?" until all the possible combinations have gone through. The results are entered into a table. In matrix ranking/scoring a class of objects (e.g. different tree species) is evaluated by applying different criteria (e.g. suitable as firewood, for building, because of its fruits, as medicine, because of the shade it provides etc) and assigned a value between 5 and 1. In matrix scoring the weighting of criteria is not fixed to an exact amount (1-5) but is left open to the analyst. Matrix scoring has now largely taken over from matrix ranking.

- i. Ask the analyst to make a list of things to be compared. If material, small and easily identified, ask for these to be laid out on the ground. In other instances, identify a suitable symbol instead.
- ii. Select any item, and ask the analyst to say what is good about it. Keep asking 'what else' until no further ideas are forthcoming, then repeat with another item. Record each criterion.
- iii. Define all of the criteria positively (e.g. "tastes good", "easy to cook"); then ask the analyst to select a suitable symbol for each one. Then lay the matrix on the ground with the items along one axis and the criteria along the other.
- iv. Ask the analyst to rank or score each item against each criterion, using seeds or a readily available local material. This can be done on a scale of 1-5 or 1-10 or by allocating a fixed number of seeds for each criterion, which can then be distributed between all of the items being ranked as the analyst thinks fit. A high score indicates a positive assessment.
- v. When the exercise is complete ask the analyst to interpret the results and to say which criterion or criteria are dominant, which are less important, and which item would be given overall priority.

*Role in the VCA toolbox: Ranking techniques are useful for a range of activities: what coping strategy some people would use in the face of a specific threat rather than another and so on.*

### 3.13 A Miscellany of Techniques

**Estimates and quantification:** use of local measures, judgements and materials, and combined with other methods such as maps and models. It is important not to impose outsider perceptions of indicators of welfare, need and vulnerability. As indicators perform such an important role in priorities for outside assistance, it is necessary to become educated as to what local people feel are proper variables and values.

**Stories, portraits and case studies:** household histories and profiles, coping with a crisis, how difficult problems were resolved. **Oral histories and ethno biographies:** oral histories and local histories for important local objects, such as crops, animals, trees and weeds. Again this is where historical information about the patterns of previous threats can be assessed.

**Sequences:** use of methods in sequence such as participatory social mapping leading to identification of key informants or analysts; sequences of analyses on different stages of a process (e.g. responding to a crisis). This is a "second stage" technique building on others.

**Participatory planning, budgeting, implementation and monitoring:** local people prepare their own plans, budgets and schedules, take action and monitor and evaluate progress. This might be used as people are given more responsibility than they normally have in a relief or disaster preparedness operation.

**Short standard schedules or protocols:** for very short and quick questionnaires, record data in a standard and consistent manner.

#### How to do it?

- i. The types of information needed (may concern land holding, household composition) should be readily classifiable or quantified. These are set out in pictorial form at the head of columns on a large sheet of paper.
- ii. Household or individual names are written down the left hand side.
- iii. People then fill data in the relevant boxes by using seeds or other simple visual means to indicate numbers.

**Report writing without delay:** to return the completed ideas to people in the field.

These methods all appear to have a heavy bias towards use among poor rural people; but there is no need why some might not be used with other people, for example, aid officials might form a focus group, be used to re-analyze secondary sources etc. What this list of techniques shows is the importance of organising those who have relevant information in a way that best draws on their expertise.

### 3.14 Pluses and minuses of RRAs/PRA in emergencies

Most of the foregoing techniques should be part of 'preparedness' and not carried out during an emergency. But if started in an emergency situation there are some points to note; RRAs/PRA have a number of strengths:

- i. the 'rapid' nature of RRA techniques most applicable of course to threats based in nature and in violence; direct observation, semi-structured interviews (SSIs) and key informants can all be used;
- ii. the flexibility of the techniques, important if geographical areas and infrastructure become disrupted. Sample surveys will not work in such circumstances (e.g. note the way in which areas of southern Sudan have been excluded from all kinds of official statistics over the last 20 years);
- iii. as the appearance of a threat is associated with changes in resource allocation and behaviour, open-ended techniques where the respondent is allowed to set the agenda are appropriate. Outsiders know relatively little about how people react to stress, except for knowledge on coping strategies during slow onset emergencies. RRAs can provide a historical perspective, and be another means of checking 'official' figures;
- iv. as shown by the VCA framework, people are not 'helpless victims' and have much to contribute to their own survival and rehabilitation; PRA has a role in exposing indigenous technical knowledge;
- v. the open-ended nature of RRAs can broaden the focus of response and analysis, especially towards non food needs;
- vi. finally, the record of outsiders in carrying out emergency assessments is often not a good one, especially in a way that people can respond more effectively to future threats; therefore there is great scope for improvement in assessment techniques that involve local people to a far greater extent.

However there are also some weaknesses:

- i. interest in RRA/PRA techniques has also lead to some very bad work masquerading as RRA/PRA; for some outsiders it has been business as usual with and casual, ill-thought out and own-judgement driven visit, talking only to other outsiders. So beware of imposters;
- ii. the term 'rapid' does not mean they are quick and easy to carry out; proper preparation and planning is needed. Also, some experience and expertise is needed, unlike the relatively basic skills required by enumerators filling in a questionnaire;
- iii. there are problems still to be resolved in the presentation of information; investigators uncover a mass of fascinating information which they are often over

anxious to share. More attention needs to be paid to how the results of RRA/PRA can be generalised to a greater degree.

### 3.15 Examples of the use of rapid techniques

#### **Case Study 1: Food and Nutrition, Slow onset, Sudan (OXFAM)**

An assessment in Darfur, Sudan (Young 1992) used three groups of methods: i) Initial assessments, which review existing information or knowledge; ii) Rapid assessments, which give a preliminary understanding of the situation after short visits to the area; and iii) Surveys, which focus on more quantitative measures. Cross-checking of findings (triangulation) is essential because of the risk of mis-information. Every situation was different, requiring a combination of all three methods, with the mix depending on information needed, time available, the skills and experience of the people as assessors, and other resources (vehicles, fuel, computing) available.

The advantages of these rapid assessments were: finding out what local people think, quick, saving time and money, giving unexpected information, encouraging the involvement of the local community so influencing the assessment, less intrusive than formal questionnaires, and no need for accurate population estimates.

The disadvantages of rapid assessments were: undetected bias may come into the results, the results only apply to communities visited, difficult for people outside the team to verify the results and direct observation limits to what is seen.

Methods for gathering information in this rapid assessment were:

**Semi structured interviews:** groups included village committees or social groups (e.g. farmers, traders, women); individuals included key informants (e.g. local elders, health workers) or ordinary people chosen as typical of a group in the community i.e. by purposive sampling.

**Direct observation:** visiting important sites such as market places, health centres, the baker or mill and the water source.

**Portraits and stories:** were a good way of describing how to cope with an emergency.

**Diagrams:** historic profiles show the nature and relative severity of recent events; seasonal calendars summarise the changes that occur throughout the year, including times of difficulty or stress.

**Ranking exercises:** wealth ranking found out about peoples' perceptions of the differences in wealth in the community and provided information that complements nutrition status data in targeting.



### **Case study 2: Threat of deterioration, Sudan (World Bank)**

A Rapid Food Security Assessment was carried out in **nine communities in Sudan** (Maxwell, 1989) as part of a World Bank food security mission with an overall objective to investigate food insecurity and three sub-objectives. A survey of available literature had exposed the following information gaps: a) the socio-economic characteristics of malnourished or under-nourished groups; b) social relations underlying poverty, especially in rural areas where there was a land frontier, and c) distribution of vulnerability though the population and identification of vulnerable groups. In addition to key informant interviews, the following methods were used: piles of grain to represent the size of different social strata in the village, piles of stones to represent components of expenditure within weekly income, group interviews to differentiate between causes of poverty and ranking lists of crop cultivation preferences.

As the first step the team met to review the checklist and discuss background information. It then made contact with the sheik or local leaders to explain the purpose of the visit and conduct a preliminary interview on the history and current situation in the community. Then, with the sheik's assistance, representative households in the community were identified (e.g. a landless family, small farmers, female headed households), which were then interviewed in their own homes, using the checklist as the basis for an unstructured conversation. Many of the case study interviews also turned into group interviews and there were about fifty in total across the nine communities. Further group interviews were conducted in the markets and shops and the team made careful observations on living conditions. The survey team then met up outside the village to discuss findings and possible interventions, writing up a report the same evening.

The rapid assessment confirmed that urban poverty and food insecurity are highly prevalent, mainly because of large scale migration to Khartoum. The focus tended to be on current vulnerability. In rural villages poor people, including many female heads of household, were very vulnerable because of their dependence on highly variable wage income. Recommendations derived from these findings included provision of consumption credit and assets for the poor, income support through public works, grain price stabilisation through village grain banks and (for female-headed households) proposals for easier transmission of remittances and targeted interventions.

### Further Reading and References

Schonhuth M. and U. Kievelitz: Participatory Learning Approaches: rapid Rural Appraisal/Participatory Appraisal: An introductory guide, GTZ, 1994.

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Mikkelsen B. 1995, Methods for Development Work and Research: A Guide for Practitioners, Sage Publications, New Delhi.

## **SECTION 4.**

## **IDENTIFYING THREATS**

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**This section describes different types of threat and categorises them, where to get information about them, raises the issues and questions to ask, techniques to be used in assessing threats and reviews the useful indicators.**

## 4.1 Types of hazard, risk or threat

The Federation's VCA identifies three basic categories of threat.

However, note that i) many emergencies and 'problems' are multi-causal and ii) types of hazard (or risk) have to be linked with characteristics of population groups are vulnerable (or not) as a consequence of exposure to that hazard.

The starting point for identifying threats can be conventional hazard or risk assessment, well developed and understood in the disasters' profession. These assessments are usually based on scientific data on previous hazard events: topographical, geological, hydrological and meteorological maps, historical records, local folklore and other surveys.

Hazards will affect peoples' resources or capacities differently; these types of resources include: productive capital, non productive capital, human capital, income and claims within the community. These five categories broadly parallel the Federation's categories of capacities: physical and material, skills and attitudes, and social and organisational.

Ideally, the tool box user should be able to pick out what types of threats s/he sees as affecting people in the country (e.g. drought, conflict, breakdown of community sharing mechanisms) and understand which household and community characteristics (for which read capacities) these affect and so be able to make statements about which population groups become vulnerable.

**Hazard, vulnerability and risk are related** as  $\text{risk} = \text{hazard} \times \text{vulnerability}$ ; in other words a hazard becomes a risk if a building, community or individual is vulnerable. The types of risk and therefore actual or potential causes of hazard are as follows:

i. Natural and human resources

Drought, Pests, Contamination, Animal disease,  
Land degradation, Human Disease epidemics, fire, flooding  
Morbidity/mortality/disability

ii. Actions of the State

Land or other asset redistribution  
Redistribution and confiscation  
Compulsory procurement  
Villageisation  
Tax increases

Declining public health expenditures capacity  
Introduction of user charges  
Restrictions on labour migration  
Cessation of services, subsidies, price support

iii. Actions by the market

Price shocks of commodities  
Rapid inflation  
Unemployment  
Falling real wages  
Rises in interest rates  
Changes in borrowing capacity

iv. Actions by the Community

Appropriation and loss of Common Property resources  
Breakdown of sharing mechanisms  
Breakdown of labour reciprocity  
Loan recall  
Destruction of infrastructure  
Disruption of marketing channels  
Embargoes, Persecution

Types of risk in i) above suggest "loud emergencies" reflecting "acute" or "current" vulnerability. Disaster response is organised to meet needs arising from these risks. Types of risk in ii), iii) and iv) above show aspects of silent emergencies reflecting "baseline", "chronic" or "normal" vulnerability. Emergency relief is not normally organised to meet this types of risk, although they contribute significantly to disasters.

Existing Information to identify hazards and effects may be available from:

Hazard mapping/satellite photographs  
Loss estimation reports  
Situation Reports  
Government analysis of political situation  
Insurance assessments  
Historical information  
The Media  
Recent Visitors to the affected area

Techniques to be used include:

Reading available material  
Convening or participating in group discussions where a range of opinion is available  
Using maps to relate information on effects of the hazard  
Visiting affected area  
Rapid Appraisal techniques for assessment of impact of hazard  
Rapid purposive sample survey (if sampling frame exists)

As important (some say, more important) as measurement (qualitative or quantitative) is the method of assessment. It is better to be approximately right than precisely wrong. Essentials in methodology include good rapport with respondents, knowledge of secondary and historical information, triangulation (cross checking) and avoiding sources of bias by not addressing representative sources of information.

## 4.2 Key Questions to address

Does the perception of different hazards vary between different population groups e.g. is withdrawal of health services more worrying for the poor than floods every five years?

Does the damage from a particular hazard have an extended string of effects? What are first, second and third round effects?

Does a hazard bring benefits to some people, rather than damage? Who is exploiting the situation for personal gain?

How does the anticipation of a hazard affect people's behaviour?

### Further Reading and references

OECD Development Assistance Committee, Guidelines on Aid and Environment No 7, Guidelines for Aid Agencies on Disaster Mitigation, Paris 1994.

Maxwell S. and M. Buchanan-Smith, 1994, Linking relief and development, IDS Bulletin, 25, 4.

**SECTION 5:                   ASSESSING CAPACITIES  
OF DIFFERENT POPULA-  
TION GROUPS**

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***The Federation framework sees capacities in three groups (to repeat):***

- i) Physical/material***
- ii) Social/organisational***
- iii) Skills and attitudes***

## **5.1 Sorting out groups of people**

A VCA has lots of stages and takes time to build up; however, some stages, once completed, do not need to be repeated. A lot of time can be saved by using what other people have done. Ideally, a VCA should not be carried out under the pressure of an emergency, although it can make a start based on the needs assessment.

VCA toolbox users might consider two inter-related stages:

- i. a static component: describing and defining different groups of people in a functional classification - ascribing various characteristics to them as a group (occupation, residence, gender etc - see later for a complete list of possible characteristics), and what they do to make a living: this is covered by what is known as "livelihoods";
- ii. a dynamic component: understanding how these groups are responding/will respond to stress; how they allocate resources, how they accumulate resources and how they behave. Much of this is covered by what are known as "coping strategies".

## **5.2 Map out the characteristics that distinguish one group from another**

Make a list of characteristics of population groups in the area covered by the Society (National or Branch). In the beginning do so by reference to official data, as this will help to find out what information is already available. Most official data will be collected and arranged by government administrative district, which may not coincide with "vulnerable" characteristics of people.

The following criteria may be helpful in identifying groups (they have been drawn from vulnerability assessments carried out by other international organisations):

Physical location: (Rural/ urban/ market centre/ size of settlement/ high ground /low ground/ proximity to roads, coast, population movements, soils).

Occupation e.g. irrigated and recessional land farmers, dry land agriculturalists, agro-pastoralists, pastoralists, fisher-folk.

Reliance on the market for food (e.g. net food buyers or sellers).

Reliance on own physical labour power (net labour sellers or buyers).



Importance of major asset e.g land, machinery, property, labour power, educational qualifications, trading connections, weapons.

Access to services such as roads, clinics, water points.

Water source.

Ethnic background.

Gender and age: male/ female/ preschool child/ school child / adolescent.

Social group: ethnicity, association with political groupings.

Season.

Time in history.

Displaced (living in own community or not), sometimes following conflict.

Once this inventory of groups is done, it will only need periodic updating. A related technique using in planning in the 1970s was known as the "functional classification".

Other criteria for selection of categories of people used in practice include:

**EXAMPLE 1: Where Conflict is the threat:**

- whether people had been the subject of violence or displacement, or intimidation due to ethnicity or living in a particular area. Vulnerability was defined in terms of accessibility i.e:

- i) those in peaceful areas not under threat,
- ii) those on the periphery of the conflict that might be reached,
- iii) those in combat areas that cannot be reached without a cessation of hostilities.

**EXAMPLE 2 For threats relating to deterioration**

- according to:

- i) their location within particular regions,
- ii) their household production systems,
- iii) the characteristics of individuals within region-specific household groups.

**EXAMPLE 3 Where the hazard was drought, distinguishing characteristics were:**

Population distribution, numbers of subsistence farmers, numbers of female headed households, livestock ownership, health facilities/ access to all weather roads, urban/rural.

## 5.3 Assessing Livelihoods

The following list of sources of capacity have been suggested:

- i. Productive capital (land, machinery, tools, animals, farm buildings, trees, wells).
- ii. Non productive capital (jewellery, dwellings, granaries, some animals, cash savings).
- iii. Human capital (labour power, education, health).
- iv. Income (crops, livestock, non-farm and non-agricultural activity).
- v. Claims (loans, gifts, social contracts, social security).

This is broadly comparable with the IFRC listing, except perhaps for not including "attitudes". Therefore we should see assessing capacities as not only the resources that people have and deploy in the face of a threat but also their behaviours.

How can these entitlements/capacities be assessed, what are the indicators to look for and try and measure?

## 5.4 What has proved most useful?

Use of existing information should always be carried out, perhaps using consensus panels to fill in gaps and to come to conclusions about what existing data mean in terms of vulnerability outcomes. Within communities and the affected people, semi-structured interviews (SSIs), key informants and focus groups will always be important to obtain a variety of information in a first round of investigation. In particular wealth ranking will be used a lot to try and understand the differences between groups of people in terms of their capacities. Measurements need be relative only, to decide which groups for example have more land, more access to the clinic and so on.

Don't be afraid to use your own judgement but make sure you get a wide spread of opinion to complement it.

## 5.5 Linking capacities with population groups

We are moving towards the point where, having identified different groups of people by various capacities, we have to understand how these capacities are used in response to a threat. This is the dynamic component mentioned in the introduction to this section. The examples mentioned below show us the area of coping strategies in response to a threat, which has received most attention in the slow onset type of disaster. We need to learn more about how people react/have reacted/will react to a threat.

## 5.6 What are coping strategies?

Coping strategies are the bundle of consumer responses to declining entitlements for, and access to food. They are dynamic and are determined by the options available. They have been most studied in relation to slow onset disasters. People affected by famine respond to the attack on their livelihoods with a progression of coping strategies, from a positive knowledge of how to survive. However, a knowledge of how people respond to a threat is essential. Then outside interventions can be built on these strategies.

Coping strategies have sequences starting with:

- i. non-erosive activities, (risk minimising and loss management) then
- ii. disposal of productive assets (erosive coping) leading to
- iii. the final stage of destitution of total non coping.

### Categories of Coping Strategies

#### **Stage 1: Insurance Mechanisms** (risk minimising and loss management practices)

- Changes in cropping and planting practices
- Sale of small stock
- Reduction of current consumption levels
- Collection of wild foods
- Use of inter-household transfers and loans
- Increased petty commodity production
- Migration in search of employment (by individuals, not family units)
- Sale of possessions (i.e. jewellery)

#### **Stage II: Disposal of Productive Assets**

- Sale of livestock
- Sale of agricultural tools
- Sale or mortgage of land
- Credit from merchants or money lenders
- Reduction of current consumption levels

#### **Stage III: Destitution**

- Distress Migration (by entire family units, with no options remaining)

Understanding how these coping strategies are progressing can be derived through use of the various techniques already described: focus groups, semi-structured interviews and ranking techniques.

## 5.7 Examples of groups affected by threats, their livelihoods and capacities

**Barbers and famines:** the first people to be affected in Indian famines were the barbers; they had no other assets other than their occupation and hair cutting was the first expenditure to be restricted as the food crisis grew.

**Pastoralists, farmers and the prices scissors:** In famine there are also problems for market-dependent households: As food production falls, the market demand for food rises so prices rise. Livestock, land and other asset markets will be flooded by distress sales, so the market value of these assets falls. Therefore as seen in many pre-famine conditions, the ratio of the amount of livestock that has to be sold to buy a bag of grain increases very substantially. Therefore side-by-side, there is an excess demand for food combined with an excess supply of assets. By different means, households are caught in a "pincer movement" the term "scissors" depicts a graph of rises and falls over time. Therefore according to their asset base different groups suffer at different times.

**Salaried people and structural adjustment:** Structural adjustment that has occurred in many countries is a form of "shock" or market-related hazard. It is a controversial subject as to whether the poor suffered more under structural adjustment or whether nothing had been done. Initially one group to miss out were those in urban areas on a fixed salary. With currency devaluation the prices of goods rose dramatically. Those people reliant only on salaries, previously being secure, now found that they could not afford the essentials of life. Many started up "new capacities" such as taking second, third and even fourth jobs to supplement their incomes.

## 5.8 Key questions to address

How are groups in one area characterised by differences in assets and livelihoods? Do these assets make them vulnerable to some threats but not others?

Have you covered gender issues? Women are the "invisible majority" in community groups as well as national statistics.

## 5.9 Summary

At this stage the national society should have a detailed inventory (which needs only minor updating as appropriate) of the different groups of people in the area and some idea of their capacities. The Society should also have some understanding of the dynamic picture: how these groups respond to a threat.

## **SECTION 6.**

# **IDENTIFYING VULNERABILITIES**

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## 6.1 Introduction and some examples

We now come to the difficult problems of the issues involved in assessing vulnerabilities. The Red Cross VCA framework does not see vulnerability as an outcome of how a hazard impinges on the capacity of individuals or households but rather sees the matter of vulnerabilities as layers and layers of causes that build up the level of risk.

To give an example of the problem of all these "layers" and in separating "vulnerabilities"; from "capacities", in the Lesotho workshop, participants were asked to give a list of possible elements of both vulnerabilities and coping capacities, and they came out with the following list that combined both:

### **Physical/material level**

Climate, Topography, Employment and business opportunities, Access to credit, Availability of arable land, Land Distribution, Soil quality, Vegetation, Livestock, Energy (draught animals, wood), Roads/bridges, Other means of communication, Transport facilities, Storage facilities, Housing, Schools, Skills, Level of formal education, Health facilities and status, Hygiene, Sanitation, Latrines, Water supply, Nutritional status, Food availability, Clothing, Overcrowding, Children.

### **Social/organisational level**

Tradition/communal values/ structures, Leadership (formal and informal), Crime, Local village organisations, External relations, Ethnic belonging, Solidarity (family, clan, tribe), Mutual agreements, Political affiliation, Organised health education, Forecasting of new problems, Stratification, In/dependence

### **Motivational/attitudinal level**

Alcoholism, Sexual behaviour, Future perspectives, Traumas, Determinism, Capacity to react appropriately.

How do we interpret this list ? For example good soil quality is a capacity, poor soil quality is a vulnerability, good nutritional status is a buffer against destitution, poor nutritional status makes people vulnerable to disease. This good/bad or capacity/vulnerability list could be extended further; storage, housing etc.

## 6.2 The need for distinguishing between layers of causes

Clearly some kind of categorisation of vulnerabilities is needed, to distinguish between the layers of causes. The framework suggested by Blaikie et al might be a useful model to copy, with modifications. This is based on the idea that an explanation of a disaster requires a tracing of the progression that connects the impact of a hazard on people through a series of levels of social factors that generate vulnerability. This explanation of vulnerability has three such links or levels which connect the disaster to processes that can be quite remote and lie in the economic and political sphere.

These three layers are:

**A) Root Causes:** This is the most distant of the levels: the set of well-established processes within society. The root causes that give rise to vulnerability are economic, demographic and political processes which affect the allocation and control of resources between different groups of people.

These processes can be subdivided into four groups:

- i. the ecological/technical conditions of production including the environment, the population/resource ratio, the level of technology and the skills of the people;
- ii. the social conditions of production including aspects such as the ownership of the means of production, the division of labour, and power relationships;
- iii. political factors in the form of interventions by the state including policies on employment, prices, incomes, subsidies, health, education and agriculture, and the legal system as a whole;
- iv. ideological factors including habits, beliefs, cultural preferences and all ideas that legitimise actions in society.

***Root causes reflect the distribution of power: resources and the control over them. People who live in marginal environments, are also of marginal importance to those who hold economic and political power, so creating two sources of vulnerability.***

**B) Dynamic Pressures:** processes and activities that translate the effects of root causes into the vulnerability of unsafe conditions. Dynamic pressures channel the root causes into particular forms of insecurity that must be considered in relation to specific hazards. These include reduced access to resources, and forces which undermine peoples' ability to be resilient to hazards. Dynamic pressures can be divided into:

- i. Lack of local institutions, training, appropriate skills, and local investments and markets.
- ii. Forces such as migration, rapid population growth and urbanisation, deforestation and declines in soil productivity.

***Root causes are channelled by dynamic pressures into particular unsafe conditions.***

**C) Unsafe Conditions:** the specific forms in which the vulnerability of a population is expressed in time and space in conjunction with a hazard. These can be divided into four:

- i. fragile physical environment: dangerous locations, unprotected buildings and infrastructure;

- ii. fragile local economy: livelihoods at risk, low income levels;
- iii. vulnerable society: special groups at risk, lack of local institutions;
- iv. public actions: lack of disaster preparedness, prevalence of endemic disease.

*The vulnerability that arises from unsafe conditions intersects with a physical hazard (trigger event) to create a disaster, but is itself only explained by analysis of the dynamic processes and root causes that generate the unsafe conditions.*

This model is useful not so much for what should appear in one column or box or another, but that it helps National Societies group observed "vulnerabilities" in a form of classification. If for example, it is observed that the 'vulnerability' of the local population to the hazard of floods is that they live too close to the river and that their buildings are then too weak and can be destroyed, the NS must decide what is in its power to do something about it. Is it for example, the deep-rooted matter of land tenure for which little can be changed? On the other hand if farmers are unable to re-plant crops after a drought because of lack of proper seed, then the NS may be in a position to affect this.

Broadly, "unsafe conditions" can be remedied in part by service delivery type interventions while those such as root causes and dynamic pressures are less amenable to direct action (here other actions are needed such as advocacy).

Examples (from the book by Blaikie et al) of distinctions between "root causes", "dynamic pressures" and "unsafe conditions" in floods, cyclones and earthquakes are given below:

## 6.3 The three layers for the progression of vulnerability: floods

### A) Root Causes:

- systems promoting unequal asset-holding prompts bias in flood precautions;
- private gain may promote wrong protection measures;
- population growth puts people in path of floods;
- migration/urbanisation often in areas prone to waterlogging;
- debt crises reduce real income of poor, makes social protection by government more difficult;
- environment degradation may increase flood risks (deforestation and soil erosion).

### B) Dynamic Pressures:

- **Class:** low income means poor self protection; livelihood is in dangerous place; few assets so less able to recover.
- **Gender:** poorer nutrition means women may be more prone to disease.



- **Ethnicity:** lower income, deprived of assets; dangerous livelihoods; discrimination in access to social protection.
- **State:** poor support for social protection; regional or urban bias leaves others less protected; inappropriate protection measures create risks for some.

**C) Unsafe Conditions**, produced by:

- **Low preparedness and poor self protection:** House site on low land and lacking artificial mound; house material easily eroded or damaged; land erodible.
- **Low preparedness and poor social protection:** inadequate warning, excluded from flood protection, no insurance scheme, no vaccination.
- **Resilience:** unable to replace assets which might be lost; livelihood liable to disruption (e.g. no wage work on flooded fields).
- **Health:** poor existing health raises risks of infection; waterlogging of home area increases disease vectors

## 6.4 The three layers for the progression of vulnerability: cyclones

**A) Root causes:**

- Limited access to resources: central and state governments unwilling to allocate resources to remote areas.

**B) Dynamic Pressures:**

- Lack of trained builders of cyclone resistant houses; lack of community training and mobilisation to plant shelter belts and dredge silted canals.
- Rapid population growth, population pressure on land and lack of non agricultural employment; poor communications with rest of the state; fishermen and farmers live near hazardous place of work.

**C) Unsafe conditions:**

- Fragile physical environment: eroded protective bunds, silted canals unable to absorb flood water, deforested coast, lack of cyclone shelters, few high quality buildings to act as shelters.
- Fragile economic environment: lack of assets and reserves; asset-less migrant workers in area during cyclone season.
- Public actions: little preparedness planning, inadequate early warning systems.
- No effective evacuation.

## 6.5 The three layers for the progression of vulnerability: earthquakes

### **A) Root Causes:**

- Limited access to resources by tenants in inner city areas.
- General preconditioning factor of historical decision where to build city.

### **B) Dynamic Pressures:**

- Lack of official action to legislate tenant laws leading to urban degeneration; lack of local investment, lack of adequate building codes for seismic protection.
- Population expansion, urbanisation resulting in high density living conditions in certain urban areas.

### **C) Unsafe Conditions:**

- Fragile physical environment: low rise tenement buildings suffering from lack of maintenance; unresistant buildings due to lack of adequate building codes; alluvial soil conditions in urban centre.
- Fragile local economy: high inflation causing lack of effective building maintenance.

Another way of looking at the division between root causes, dynamic pressures and unsafe conditions is that of baseline and current vulnerability.

- i. Baseline vulnerability, also known as chronic, static or normal vulnerability, which is the enduring level over time whether there is a recognised threat or not, and
- ii. Current vulnerability, also known as acute, transitory, dynamic or emergency vulnerability, which relates to the emergency alone. In more popular language, these are analogous to 'silent' and 'loud' emergencies. Often, after disaster assistance has met immediate needs, baseline vulnerability still remains.

## **6.6 Summing Up**

Techniques used to assess capacities can equally be used for vulnerabilities but the classification system used here enables the national society to break down the causes of vulnerability more effectively.

## **ANNEX 1.**

# **THE FEDERATION'S ASSESSMENT (VCA) FRAMEWORK**

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## I. WHAT ARE THE STEPS IN THE FEDERATION'S ASSESSMENT FRAMEWORK?

This tool box for vulnerability and capacity assessment (VCA) provides a range of simple technical tools that can be used by local level staff and middle management for programme planning for vulnerability reduction.

The tool box is to be used in conjunction with the conceptual framework developed by the Federation on VCA, which is summarised here. The original framework is very helpful in explaining concepts but experiences since the original was drawn up (in 1993) allow us to expand its format and content.

The **assessment framework** has three steps:

- first, identify potential threats
- second, identify vulnerabilities
- third, assess capacities and resources

### Step 1: Identify potential threats

These potential threats are divided into three categories, related to:

**nature** (earthquakes, cyclones, droughts, floods or pathogens);

**violence** (war, intimidation, harassment, sexual assault);

**deterioration** (declining health, education and other social services, trade shifts, government policy or environmental degradation).

### Step 2: Identify vulnerabilities

Two questions have to be answered to understand vulnerability: **Who are the most vulnerable ?** and **Why are some more affected ?** Important elements include:

**Proximity and exposure:** people who live or work near some kind of threat face a higher risk than those who do not;

**Poverty:** people who have few options, resources or resources cannot well protect themselves from threats (although poverty and vulnerability are not synonymous);

**Exclusion or marginalisation:** people who are left out of economic and social systems or are marginalised because of gender, class, ethnicity, race or religion.

### **Step 3: Assessing capacities and strengths**

People have capacities as well as vulnerabilities, and can be categorised as follows:

**Physical and material:** people with economic and material resources can survive better: cash land, tools, food, jobs, access to credit;

**Social and organisational:** communities that have social networks to support themselves are stronger; leadership and caring local and national institutions are all important;

**Skills and attitudes:** with skills, knowledge and education, people have more choices and a greater ability to improve their conditions.

### **VCA: Incorporating Steps 1, 2 and 3:**

**From Step 1,** we know what are the likely threats are in any given situation and we know how likely they are to happen and how bad the impact would be if they happened.

**From Step 2,** we know who is most likely to be affected by any of the threats we have identified in Step I.

**From Step 3,** we know what the people have themselves, and what keeps them from being vulnerable.

**The result is a Vulnerability and Capacity Assessment.** The picture is a dynamic one and lots of things can change it. Thus this tool can also be used to design our programmes and to monitor and evaluate their impact.

### **Remember, the point made in Section 1:**

Vulnerabilities must always be assessed in relation to a specified threat (or hazard): which groups of people are vulnerable to what and why.

## **II. USING THE MODEL ON A CONTINUOUS BASIS**

The VCA tool box is as much for use during day-to-day problems as for obvious "disasters"- i.e. for 'silent' and 'loud' emergencies - note these important points:

It is vital to see VCA as much as a 'development' tool as one relating to emergencies and relief, 'development' and 'relief' are separated only in external agencies, not in the minds of actions of people affected by threats;

VCA cannot be done in very short time periods during an emergency, while a "threat" is taking its full toll - this is the worst time to do it. VCA has to be built up over time during the "quiet periods". Pragmatically it is recognised in this tool box that a VCA can be started at any time, but there are still "good" times and "bad" times to do it, and the tool box techniques can be varied as appropriate;  
reducing vulnerabilities and improving capacities are long term processes.

The fact that the VCA is for general use, not only during "disasters" is already recognised in the Federation Guide at the following points (which are worth repeating here with page references to the Guide):

Threats based on deterioration: these are silent threats, happening all the time; many countries (including developed ones) are experiencing these deteriorations (p.2).

Threats unnoticed before because nobody was exposed to them can easily turn into major problems; this indicates that "problems" and "threats" are on a continuum (p.3).

People who have to cope with living under difficult conditions do not make distinctions between types of threat (except in the severest of cases). For them coping with everyday risks is a permanent activity and an integral part of their survival strategy (p.4).

The overall purpose of VCA is to understand the nature and level of risks (see in Section 3 about the need to understand multi-causal sources of hazard) that communities have to face, and as such, VCA is a diagnostic tool to be used for better informed relief, mitigation and development programmes (p.5).

VCA is not an approach only to define who should benefit from relief but also to recognise in advance, and change where possible, the conditions that give rise to problems. Indeed it is argued in this tool box manual that in most circumstances the latter has to be done before the former (p. 6).

Look at the role of VCA at different stages of the development cycle: pre-disaster/crisis stage, emergency response, post-disaster rehabilitation and long term development. Understanding that VCA is not solely an emergency-disaster technique as shown here has important implications for choices of method (pages 7 and 8).

## **ANNEX 2**

## **SEMI-STRUCTURED DIALOGUES**

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## **ANNEX 3.**

## **DIAGRAMS**

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## **ANNEX 4.**

## **WEALTH RANKING**

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