AN OPERATIONAL FRAMEWORK FOR MAINSTREAMING DISASTER RISK REDUCTION

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Abstract

This working paper introduces an operational *Disaster Risk Reduction (DRR) Mainstreaming Framework* for application at a national level. The paper argues a disaster risk reduction framework must be flexible enough to be modified through a participatory process and specific benchmarks or grades should be locally derived. Both the framework and the participatory process will help to generate political will and a sense of ownership, which are seen as vital to achieving disaster risk reduction gains. The paper also places the framework in the context of other similar initiatives and discusses the debates around definitions of 'disaster risk reduction' as a precursor to formulating a framework. The DRR Mainstreaming Framework is included in the body of the paper and is divided into four sections: Politics and Legislation, Policy, Knowledge, Practice. Overall there are 20 indicators with associated benchmarks, covering a broad range of disaster risk management issues. In conclusion, the paper calls for further testing of the DRR Mainstreaming Framework in diverse political, cultural and physical environments and also the need for building advocacy amongst academics, development organisations and governments.

1. Introduction

It appears the scramble for a disaster risk reduction framework has begun. July and August 2003 saw the establishment of two different fora, both designed as steps towards creating an overarching understanding of disaster risk reduction and how it can be measured. Firstly, the Instituto de Estudios Ambientales (IDEA), financed by The Inter-American Development Bank (IADB), convened meetings of experts in Barcelona and Colombia to discuss its *Information and Indicators Program for Disaster Risk Management* project. Secondly, the UN's International Strategy for Disaster Reduction (UN-ISDR) initiated an online conference stimulated by the organisation's *Draft Framework to Guide and Monitor Disaster Risk Reduction*. This working paper presents a first attempt at an operational *Disaster Risk Reduction* (DRR) *Mainstreaming Framework,* complete with indicators and benchmarks. It is informed by experiences gained from a period of

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fieldwork in the Eastern Caribbean from April to July 2003[2] and current academic and policy work. The DRR Mainstreaming Framework was formulated prior to the UN-ISDR's online conference.

The multi-hazard *DRR Mainstreaming Framework* is intended as a functional way to build collaboration between stakeholders in order to reduce the impact of natural disasters by integrating disaster risk reduction measures into development policies. While recognising the need for technical and scientifically-based approaches to risk reduction often associated with the natural hazards discipline, this framework lays responsibility for reducing the impact of disasters on policy-makers, communities, non-governmental organisations and the private sector. It is designed as a 'measurement tool' for establishing political commitment and community participation around disaster risk reduction, and as an aid to strategic planning. What follows is an examination of current work on risk reduction frameworks, a discussion of how the term 'disaster reduction' can be conceptualised and an introduction to the *DRR Mainstreaming Framework* that has emanated from this research.

2. Context

The development of the *DRR Mainstreaming Framework* has occurred when a number of large international organisations have become concerned with disaster risk reduction frameworks at the same time. The interest in developing a framework is the consequence of a trend towards increasing commitment and documenting 'good practice' for effective disaster risk management (UN-ISDR 2003). One example is the UN-ISDR's (2002) *Living with Risk* report, which formed a global review of disaster reduction initiatives. As UN-ISDR (2003) state:

> These different activities and reports point to the need for a framework delineating the fundamental elements and components of disaster risk reduction. A common understanding of the subject and structured approach could be extremely helpful in guiding future disaster risk reduction efforts at different levels. A widely accepted framework would permit the eventual development of benchmarks and related indicators. Such tools would be extremely valuable to measure the effects of, and provide a sound basis to guide, policies and actions for disaster risk reduction.

Of these international initiatives to develop a framework, two stand out. Firstly, IDEA (attached to the Universidad Nacional de Colombia in Manizales, Colombia) have just finished the first phase of a project called "Indicators for Disaster Risk Management", supported financially by IADB. This involved expert consultations ending in August 2003, with the first consultation centred around conceptual and operative aspects related to the design of a system of comparative national risk indicators for the countries of Latin America' (Lavell 2003, 1). The project is developing a sophisticated assessment methodology to measure key elements of countries' vulnerability to natural hazard events and the performance of different disaster risk management policies and tools (Cardona 17/09/03). As Lavell goes on to detail, IADB hope to produce 'a risk model' to be used as a tool to focus attention on risk in order to stimulate actions to reduce risks in disaster prone countries and to indicate possible priorities for the allocation of development assistance (2003, 1). Comfort (2003, 1), a member of the IDEA project expert group, supports the goal of 'developing a

[2] The fieldwork in the Eastern Caribbean formed the first period of field research for my PhD and ran in parallel to other, existing work on formulating a Disaster Risk Reduction Framework. The broader PhD examines methods by which disaster risk reduction can be encouraged in the Small Island Developing States (SIDS) of the Eastern Caribbean. I would like to thank the Economic and Social Research Council and University College London for funding this work.

system of indicators to assess disaster risk for the nations of Latin America. It represents a first step toward assisting these nations to develop the capacity to manage their own risk more effectively'. For the first stage, IDEA has released a series of papers from the expert group meeting, many of which deal with conceptual elements of risk (available online, http://idea.unalmzl.edu.co 2003). The second and third stages of the project involve designing the model and the data collection method, and then testing the 'indicators' methodology in selected countries.

The goal of the IADB project, to produce 'indicators of risk', appears to be slightly different from that of UN-ISDR. UN-ISDR specifies that the objective of their framework is to 'develop a way of capturing progress qualitatively and quantitatively, in each thematic area that contributes to reduction of those identified risks' (Schlosser and Aysan, online 25/09/03). ISDR has already developed a risk reduction matrix called the *Draft Framework to Guide and Monitor Disaster Risk Reduction*. It has been circulated to policy makers, academics and practitioners through the ISDR website, through early drafts of the forthcoming UNDP *World Vulnerability Report* and with the aforementioned online discussion forum. Presently, it consists of 5 'Thematic Areas' (governance, preparedness and emergency management, risk identification, knowledge management, and risk management application), a series of 'Characteristics' and very tentative 'Criteria for Benchmarks'[3]. In a similar way to the IADB initiative, the framework appears most suited to application at the national scale. The Internet site suggests 'the framework is provided as a starting point for an initial core set of principles and goals to understand, and thus guide and monitor disaster risk reduction' (available online www.unisdr.org, accessed 19/08/2003). The objectives of ISDR's consultation process, being to define benchmarks and identify the elements of disaster reduction so that progress can be measured, do not indicate clearly how they wish to take the process forward. Now their online discussion has been completed, it will be interesting to see how they intend to operationalize the framework considering the diversity of opinions they have received.

Another complementary project has been initiated by The ProVention Consortium with financial support from the UK government's Department for International Development (DFID). The two and a half year project is titled 'Measuring Mitigation: Methodologies for assessing natural hazard risk and the net benefits of mitigation'. In response to a lack of data on the net economic and social benefits of risk reduction, the project aims to identify and review 'good practice' both in incorporating risk assessment into pre-(development) project appraisal and in monitoring and evaluating the impact of initiatives specifically for reducing risk (Twigg and Benson 2003, 17/9/03). A key difference of the *Measuring Mitigation* initiative is that the focus is on application at the project level rather than the national level. The ProVention Consortium will produce a 'handbook on the use of cost-benefit analysis, social impact assessment, environmental impact assessment, monitoring and evaluation tools and other relevant techniques in assessing potential and actual risk reduction initiatives' (Twigg and Benson 2003). Learning from this project will feed into any disaster risk reduction framework, as an understanding of 'what works' for reducing risks over a extended period will be vital to refining the indicators and benchmarks.

Examples of the use of indicators and frameworks for development-related issues are numerous in other fields. For example, closely related to the disaster reduction framework is SPHERE's (1999) *Humanitarian Charter*, which identifies minimum standards to be attained in disaster assistance in each of five key sectors (water supply and sanitation, nutrition, food aid, shelter, and health

[3] A more detailed overview of the ISDR *Draft Framework to Guide and Monitor Disaster Risk Reduction* is available online at http://www.unisdr.org/dialogue/basicdocument.htm, accessed 1/10/03.

services). It sets out what people affected by disasters have a right to expect from humanitarian assistance and is based on the principles and provisions of international humanitarian, human rights and refugee law, and on the NGO Code of Conduct (available online www.sphereproject.org, 25/8/03). Other similar frameworks are the UK government's *Indicators for Sustainable Development in the UK* (1996) and the Flood Hazard Research Centre's *Criteria for Evaluating the Condition of a Tropical Cyclone Warning System* (1999). Further discussion of these initiatives appears in 'The Framework' section of this paper.

3. Discussion

There is no universally agreed definition of 'disaster risk reduction' and this presents a problem for the formulation of a framework. Some commentators call for 'disaster risk reduction' to be conceptualised before embarking on any framework project, while others suggest that the process of developing a framework will lead to the necessary clarification.

Lavell (2003, 5) hints at some of the frustration caused by the evolving meanings of terminology in the 'natural hazards discipline': 'Conceptually now we are faced with a situation where risk reduction is often apparently seen as being equivalent to vulnerability reduction and at times risk and vulnerability are seen as synonyms and not separate realities'. A number of participants in UN-ISDR's online discussion stated the 'need for agreed definitions and a conceptual model for risk reduction before moving into developing specific benchmarks and indicators'. The director of the IADB project agrees, stating that 'the development of a system of indicators depends on the establishment of clear concepts and precise definitions' (Cardona, 17/09/03). However, accurately characterising 'risk reduction' is a difficult and contested exercise. Cardona (17/09/03) goes on to say 'unfortunately, there are many different definitions and conceptual models of hazard, vulnerability and risk currently in use, and as a consequence the lack of a conceptual framework creates confusion and impedes the fluid communication of information'. Schlosser and Aysan (UN-ISDR, 5/9/03) take a more relaxed view of definitions and conceptualisations. Though they indicate that 'a common 'convention' to define disaster risk reduction would be useful to increase the commitment and guide co-ordinated action for disaster risk reduction', they expect their framework to 'establish some agreed fundamental principles at the global level that could be applied to specific circumstances, as well as regional, national and local contexts'. Undoubtedly, the process of developing a disaster risk reduction framework will assist in defining what it is, but it is also important to decide upon a number of key elements that constitute 'disaster risk reduction'. These elements then form a basic standard that all policy-makers and practitioners can work to deliver.

One of the few attempts at defining 'disaster risk reduction' is in the UN-ISDR's vast *Living with Risk* report. It suggests that 'disaster risk reduction' is 'the systematic development and application of policies, strategies and practices to minimise vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impact of hazards, within the broad context of sustainable development (2002, 25). They go on to state that 'disaster reduction policies' have two-fold aims: 'to be resilient to natural hazards while ensuring that development efforts do not increase vulnerability to these hazards'. Other bodies concentrate on what a 'disaster risk reduction' strategy would hope to achieve. The Inter-Agency Task Force on Disaster Reduction (2001, 4) express the need to 'recognise at all levels that disaster reduction is

a strategic concept, which results in reduction of loss of human lives, livelihoods and property as well as social, economic (and environmental) setbacks that result from natural disasters'. Abrahams (2003, 25/09/03), taking part in the UN-ISDR's online discussion, suggests the purpose of disaster risk reduction is 'to reduce or prevent the suffering and trauma of disasters on people and the things they value, and to promote community safety and sustainable development in communities all over the world'. On a broader scale, the IDEA/IABD project 'considers that Disaster Risk Management involves three different public policy components or strategies: risk identification (which includes individual perceptions, social representation, objective estimations); risk reduction (prevention-mitigation-preparedness); and disaster management (response and recovery: rehabilitation-reconstruction)' (Cardona 17/08/03).

At this stage, the working definition submitted by *Living with Risk* is sufficient, though the components and characteristics are more useful. In creating a framework, a set of principles that can be applied to any country in the world will begin to emerge. The importance of agreeing on a set of fundamental components of 'disaster risk reduction' cannot be understated. These must be concretized to compel all governments and authorities to work towards a situation where the impact of disasters on vulnerable populations and hence poverty is greatly reduced (Aysan 1999). Guidance may be found in recent discussions about 'human rights' approaches to vulnerability reduction, disaster mitigation and humanitarian assistance (Wisner 2002, Handmer 2001, Kent 2001). This debate has suggested that all people should have a universal right to be protected from the impacts of disasters, and should they be affected, have the right to humanitarian assistance. However, to protect people from disasters is something international institutions, national/local governments and NGOs have so far been unable to do. Rather than the rights-based debate tackling the elusive goal of eliminating disasters, a more realistic target is the institutionalisation of the 'disaster risk reduction agenda' that aims to lessen the vulnerability of all people to extreme events. To achieve such a target across a wide variety of geographic scales and polities, it is vital to establish universal agreement over what constitutes 'disaster risk reduction'. Similar to the how human-rights legislation has established basic standards of people's protection, the central tenets of 'disaster risk reduction' must be applicable to all political situations no matter how oppressive the regime. But as Handmer (2001) writes, 'a rights-based approach raises an important moral question: 'to what extent is it reasonable to dictate national priorities to countries and regions with their own distinctive cultural concerns, and their own urgent priorities?' Though an answer to the question on morality cannot be provided here, the 20 indicators defined by the *DRR Mainstreaming Framework* presented in this working paper may go some way towards developing the 'global' elements of what constitutes 'disaster risk reduction' and signifies an important step in developing a rights-based approach to risk reduction.

4. The Framework

A. Characteristics of a successful framework

Contributors to the UN-ISDR's online discussion agreed that **generating political will**, **flexibility** and the **ability to encourage ownership** are three key characteristics of a successful disaster reduction framework. Firstly, Mulikita (1/9/03) suggests 'the major challenge is the mobilisation of political will and resources to translate the framework at the country level. All too often disaster reduction departments are tucked away in offices, which enjoy very little political clout'. Wisner (26/8/03) is sceptical: 'So where does the political will come from? Again, my personal observation

from five continents is that political leaders respond to popular demands and only to demands – not studies, recommendations, rankings or to be honest frameworks'. Contradicting Wisner, it is possible to design a framework that empowers communities, is also a tool to organise efforts around and is a method by which popular demands can be articulated to respective authorities.

One clear advantage of using a framework with benchmarks or 'incremental' achievement levels is that targets are much more accessible. So for politicians and legislators, the pill is partially sugared. Moving up the incremental scale provides political mileage and thus a stimulus for action, as progress can be clearly demonstrated and the next 'level' can be reached much more easily. Alternatively, because the framework is transparent, failure to jump to the next level could be politically more damaging. For communities, incremental targets allow for much greater familiarity with the process and interest is generated by the government's wish to publicise its successes. The key to this incremental performance target setting is to clearly set out and agree on what is needed for achieving each grade at the beginning of the process, and to realise that everyone must work to make disaster risk reduction targets a reality.

Secondly, the framework must be flexible, so that a 'relevant starting point can be created for particular development and hazard scenarios' (Padmanabhan 28/03/03). This flexibility must be 'carried into a range of cultural and social situations so that it can be refined for a particular region or country' (Van Niekerk 1/9/03). Basaen (29/8/03) also suggests that 'the framework must be able to adapt or be contextualised within the socio-economic and political conditions of the country'. It must also be flexible enough to incorporate new expert and local knowledge on risk and vulnerability. With this in mind, the key challenge for maintaining the relevance of a risk reduction framework will be to create flexibility over an extended period of time. As Abrahams (25/09/03) puts it, 'the framework may be seen as a living framework, like coral in a sea of risk, which can be modified and added to, as issues emerge, knowledge expands and capacities change'. Other commentators focus on the flexibility of how the framework is authored. 'Emphasis should be placed on using vernacular languages to communicate with majority of the population' (Mulikita 1/9/03), with Murty (26/08/03) cautioning 'the challenge will be getting various inter-disciplinary groups to talk the same language, i.e. to be on the same wavelength, rather than getting bogged down in their own little corners'. The framework I suggest has been intentionally designed to minimise technical or scientific language, with the focus placed on accessible statements that apply to any disaster prone area. However, methods of introducing the framework into a society will vary widely, being dependent on how sensitised and willing the authorities and communities are to engage with a disaster reduction process.

Lastly, a number of commentators in the UN-ISDR online discussion voiced their concern over ownership, with comments placing emphasis on the need to promote the framework through education and by involving communities. 'Whatever framework is developed must be representative of civil society and local activists. The framework must simultaneously serve as chapter headings for a course of popular education and also as the standards against which citizens hold their governments – local, regional, national – to account' (Wisner, 26/08/03). 'If we empower local groups and not only 'make them feel part of the effort', by making sure they make active contributions, we form a team that will be self-sufficient, multi-disciplinary and multi-functional' (Pinet 29/08/03). An alternative thread highlighted the need to integrate key actors at an institutional level. 'The framework … needs to be marketed well in an attempt to popularise it amongst law makers and municipal and local authorities through organising results oriented workshops' (Mulikita 1/9/03). 'The first of objective of the framework is to raise awareness among

the government first and then the population' (Benouiar 28/08/03). Lee-Huu (29/08/03) summarises how vital a collaborative process is to the success of the framework for mainstreaming disaster risk reduction: 'To be effective, the framework would need to be accepted and owned by all stakeholders, especially key stakeholders. Political commitments need involvement of leaders and decision makers. Technical feasibility requires participation of professional groups. Implementation needs ownership of implementers at all levels and awareness of the public'. Wisner (26/08/03) notes the fine line that must be trod if a framework is to be accepted at all: 'The challenge is to create an approach that strikes a balance between the scientifically sound, the diplomatically acceptable and the politically relevant'.

B. To Quantify or Qualify

An enduring debate surrounding indicators is whether they should be quantitative or qualitative or a mixture of both. This debate has been most contentious in the formulation of sustainable development indicators. Macrae et al (1989) discuss how scientists, policy-makers and others are obsessed with quantification, especially around ideas of sustainability. However, they go on to comment: 'quantification does have limitations and clearly it is not possible to measure all human experience'. Bell and Morse (1999, 30) suggest that 'one of the major criticisms regarding sustainability indicators is that they attempt to encapsulate complex and diverse processes in a relatively few simple measures'. The UK government's *Indicators for Sustainable Development in the UK* (1996), provide a mix of quantitative and qualitative indicators negotiated through an extensive and expensive consultation process. The Department for Environment Food and Rural Affairs' (DEFRA) 15 headline indicators are all quantifiable, but reaching a target is highly subjective. For example, 'Headline Indicator 11' measures what sort of vehicles contribute to overall road traffic, and how many vehicle miles are completed each year. The trends associated with this indicator assist us to make a judgement on whether there is an 'improving choice in transport; an improving access to education, jobs leisure and services; and reduction in the need to travel' (available online www.sustainable-development.gov.uk, accessed 27/09/03).

A very different approach has been taken by Middlesex University's Flood Hazard Research Centre (FHRC) who developed a series of 27 performance targets as 'criteria for evaluating the condition of a tropical cyclone warning system' (Parker 1999). These criteria are qualitative, where aspects of the cyclone warning system are measured on a predominately linear scale from 'basic' to 'optimum' development stages. Benchmarks are statements such as 'Development Stage 4 (Average): Public Education about cyclones and cyclone warnings embedded in school curriculum, linked to some exposure in audio-visual and printed material; un-evaluated; special needs and ethnic minorities not distinguished' (Parker and Budgen 1999 pp.1.34-1.35). The ISDR *Draft Framework* uses both qualitative and quantitative indicators and this mix is supported by Comfort (2003) who believes that an indicator system 'should use quantitative and qualitative information and consider sub-indices and their weighting…' However, commentators from the UN-ISDR's online discussion questioned the usefulness of introducing quantification in an area that has no intrinsic numerical values. A more qualitative approach using 'best practices' to measure progress against benchmarks was proposed (Schlosser and Asyan 25/9/03), and this is the model used by the framework presented here. The *DRR Mainstreaming Framework* sees consensus-building and transparency among a wide range of stakeholders as vital to its success. As a result, qualitative rather than quantitative indicators are preferred as a way to engage as many parties as possible. Though as Davis (2003, 9) highlights, indicators 'are often heavily biased towards what can easily

be measured, or in the field of risk assessment biased towards the tangible data from the physical sciences and biased against the less tangible data that is needed from the social sciences'. However, the choice to use qualitative indicators allows everybody to form an opinion on the 'grading' of such indicators and does not necessary require extensive data collection. Such subjectivity promotes community buy-in to a process that could discourage participation if it was overly dependent on data collection. Though as the framework details, quantification is not completely abandoned. Sub-indicators, such as 'percentage of community trained in first aid' or 'percentage of communities with trained search and rescue teams', help to inform broader qualitative indicators examining the quality of disaster preparedness. Though 'qualitative' sources have been attached to each individual indicator as a way of prompting a more thoughtful understanding of where 'answers' may be found, there is no necessity to undertake intensive qualitative research. More importantly, building consensus among stakeholders as to the nature of current disaster reduction policy and practice is a vital early stage in the process. This exercise requires a highly-skilled facilitator, a broad range of stakeholders and clearly articulated benchmarks. A decision-making matrix or guide should evolve from this process but only through further experience. Who facilitates a meeting of this nature could become a contentious issue, but again, clarity will come from subsequent trials and further experience.

C. Operation

The Framework is made up of 20 primary indicators that ask a series of questions about the current situation of disaster risk reduction mainstreaming in a country. Each indicator has a number of suggested sources from which answers to the questions may seem obtained, but most importantly subjective opinions on the 'grading' of indicators can given with minimal need for research. Some primary indicators have sub-indicators which may be used as a surrogate if the primary answers are unobtainable. Subjective, incremental benchmarks in the form of statements are attached to each indicator, which serve as a way to grade current performance and encourage small steps towards improving resilience to disasters. There are three grades (A, B & C) for each indicator, accompanied by a 'super goal'. The 'super goal' is a characterisation of 'best practice' and has not been included in the grading system because 'best practice' can often be unobtainable. Inclusion of the super goal within the basic grading system (creating four levels) would skew the grading structure and create a system that biases towards the lower grades. This is not desirable as it may have an impact on political will. The Framework's benchmarks and indicators are predominately 'linear', where improvement to a more sophisticated level of disaster risk management is seen as a uni-directional process. However, there are a limited number of cases where divergent options are considered, thereby recognising that improving the level of sophistication may be far more complicated than a linear model. More generally, although the relationship between the benchmarks appears linear, the process used to get from a 'grade C' to a 'grade B' for example may be complex. The benchmark's apparent linearity is a way of simplifying the framework during the initial marketing phase, but as the grading, indicators and criteria are all subject to modification by local stakeholders, decisions to change the grading system may be taken. Stakeholders may also decide that some indicators should be prioritised more than others, thus changing their relative weighting. The task for stakeholders and facilitators in setting targets, grades or even deciding on what questions should be asked is in itself a sensitive political process. Through further research, cross-fertilisation and repeated field testing, a decision-making tool could be developed to inform this crucial stage in converting the *DRR Mainstreaming Framework* into policy. Whatever decisions are taken locally, it is vital to remember that the framework is flexible, being designed to

be pulled apart and reconfigured. It is important not to get lost in detail though. The crucial reason for employing such a tool is to mobilise support for a concerted multi-stakeholder effort to internalise the mantra of disaster risk reduction.

D. Participation

The *DRR Mainstreaming Framework* is a starting point for a participatory process with the key objective being to mainstream disaster risk reduction measures into development policy. The process will involve dialogue between facilitators, local stakeholders and publics, in order to create a series of indicators and targets, accompanied by an implementation plan. As acceptable indicators and targets are culturally dependent, the proposed framework will be modified through this process to mirror local expectations. Creating contextualised indicators not only improves the relevance and ownership of indicators and targets, it also leads to greater accessibility and accountability of those in charge. Ideal implementation of the framework would see collective agreement between community actors, NGOs and policy-makers to work towards a mutually agreed list of targets with a clearly defined plan of how to achieve them. However, this process may also identify areas of disagreement, where the framework helps to find where consensus is lacking. Highlighting areas of contention may be just as valuable to stakeholders as all parties agreeing on implementation targets.

Testing the framework with stakeholders would illuminate whether a top-down or bottom-up approach for developing a process would be most productive. Following from the discussion of ownership, it should be decided how a facilitator would tackle a participatory process to most productively encourage ownership. A top-down approach led by governing elites involves co-opting grassroots; alternatively a bottom-up led process, working closely with community organisations, involves co-opting governments (Warner 2003). Both approaches have their difficulties, but it is important to market the value of the framework as a tool benefiting all parties. Only then can the process generate the political will and the grassroots engagement required for disaster risk reduction mainstreaming to succeed. 'Public education and awareness will be an essential feature of the framework. However, upfront there needs to be a sensitisation programme linked with an ongoing advocacy strategy targeting decision makers at all levels' (Atu, 3/9/03). Through a trial and error method, the model of participation will evolve. Though for this framework to achieve real changes, it is envisaged that a model closer to 'citizen control' rather than 'manipulation' (Arnstein 1969) will emerge. This is because the 'drivers' of accountability and popular demand, often associated with the engagement of publics, are required to encourage elites to achieve the framework's incremental goals.

For a facilitator, whether a researcher, practitioner, policy-maker, consultant, or community activist, it is imagined that the starting point for testing the framework through a participatory process would be to convene a round table of key stakeholders. These would almost certainly include the country's disaster management organisations, the government's planning department, key NGOs and active community groups.

The first meeting would:

- Sell the framework as a concept to the stakeholders
- Explore methods of developing the framework, moulding the indicators to 'fit' local conditions.

- Decide who the lead agency should be
- Develop a plan to build advocacy for the framework across society

A series of follow-up consultations would:

- Modify the language of the indicators, level of the benchmark etc.
- Grade current performance in mainstreaming disaster risk reduction
- Define roles and responsibilities of each stakeholder (Ritchie, 29/8/03) to expedite the implementation plan
- Develop an implementation plan and timeframe.
- Build popularity for mainstreaming disaster risk reduction by actively marketing the framework as a clear, unambiguous tool for achieving incremental improvements.

5. The DRR Mainstreaming Framework

20 Indicators for Disaster Risk Reduction

1. Politics and Legislation

1.1 Political Commitment

To what extent has a national strategy for mainstreaming 'disaster risk reduction' (DRR) been implemented?

Super goal:

A lead agency has driven a process of DRR, which has been adopted by all key institutions. Clear evidence of this is identifiable in policy, practice and institutional mentality.

Criteria:

A. A national strategy for DRR exists with successful implementation in some areas. However, adoption disjointed in others because of lack of ownership, capacity or political will.

B. Key figures supportive of DRR and a national strategy in planning phase. Institutions moving towards proactive disaster planning.

C. No national strategy for DRR, institutions reactive in disaster planning, little political will to change policies.

Evidence for Discussion:

Legislation, Policy documents, Government press releases, Newspaper articles, Interviews with key actors.

1.2 Regional Linkages

What is the nature of the relationship with regional disaster institutions? Have regional and international disaster reduction initiatives been successfully adopted at national and local levels?

Super goal:

Full involvement in all regional and international disaster reduction initiatives with good relations with the relevant institutions. Clear evidence of progress as a result e.g. policy, practice, capacity improvements.

Criteria:

A. Generally helpful relations with regional/international disaster institutions, with some evidence of policy, practice, capacity improvements as a result of inclusion in many disaster reduction initiatives.

B. Sporadic engagement with regional/international disaster reduction programs, with mixed results when adopted. Turbulent or disjointed relations with regional/international disaster institutions.

C. The state has poor links with regional and international disaster management institutions. Projects have bypassed the country.

Evidence for Discussion:

Policy documents, project reports, interviews with key actors at local, regional and international level, analysis of practice, observation of results in the field.

1.3 Legislation

Has legislation been passed (with necessary compliance and accountability process) that requires risk reduction/vulnerability assessments, disaster impact and scenario planning for all development projects?

Super goal:

Legislation passed, compliance and accountability measures effective and operational with policy and practice strictly following law.

Criteria:

A. Legislation pending, with voluntary compliance encouraged and successful. Policy and practice already reflecting pending legislation.

B. Legislation passed, but compliance and accountability ineffective with insufficient application within policy and practice.

C. No legislation supporting risk reduction measures for development projects has been passed.

Evidence for Discussion:

Legislation (e.g. Development Planning Acts), Development Plan, Environmental Impact Assessments, Interviews with key actors. Risk assessments?

1.4 Emergency Powers

Has legislation been passed (with necessary compliance and accountability process) that gives the emergency department special powers to act decisively and without the constraints of normal government in pre- or post-disaster situations?

Super goal:

Legislation passed, compliance and accountability measures effective and operational with policy and practice strictly following law.

Criteria:

A. Legislation pending, with voluntary compliance encouraged and successful. Policy and practice already reflecting pending legislation.

B. Legislation passed, but compliance and accountability ineffective with insufficient application within policy and practice.

C. No legislation supporting risk reduction measures for development projects has been passed.

Evidence for Discussion:

Legislation (e.g. Disaster Management Acts), National Disaster Plans, Interviews with key actors.

1.5 National Disaster Mitigation Committee (or equivalent)

Does an inter-ministerial, multi-sectoral coordinating committee (or equivalent) for disaster reduction exist, that has access to the highest political office? Does the committee (or equivalent) have review mechanisms and has it been successful in implementing changes?

Super goal:

Disaster reduction committee (or equivalent) consisting of stakeholders established, meets regularly and has access to highest political office. Key successes achieved. Periodic review of activities.

Criteria:

A. Disaster reduction committee **(**or equivalent**)** exists, meets infrequently, though not attached to highest political office. Successes limited, review of activities irregular.
or
Disaster reduction activities handled under alternative administrative set-up, with successful projects and established review mechanism.

B. Disaster reduction committee (or equivalent) planned but yet to meet. Political will to create effective institution, with signs that proactive planning supported.

C. Disaster reduction committee (or equivalent) does not exist, with no moves to create one at the present time

Evidence for Discussion:

Committee minutes and review documents, parliamentary proceedings, interviews with key actors, observations in the field.

2. Policy

2.1 Policy Statements

Do the policy statements of key institutions refer to the importance of disasters/vulnerability and their commitment to the mitigation of risks and has this commitment been translated into practice?

N.B. This indicator can be used for a variety of institutions at different scales.

Super goal:

Policy statements clearly address the mitigation of disasters/vulnerability and risk reduction, with a conspicuous shift in emphasis from reactive to proactive planning. Practices strictly adhere to the policy statements.

Criteria:

A. Policy statements do address the threat of disasters and articulate a need for better preparedness, but shift from reactive to proactive planning is indistinct. Progress to improve practices being made.

B. Some policy statements allude to the problem of disasters, but no mention of preparedness, vulnerability, mitigation or risk reduction. Disaster planning weakly identifiable in practice.

C. There are no references to disasters, risks or vulnerability in policy statements and practices do not appear to reflect proactive disaster planning.

Evidence for Discussion:

Mission statements, policy documents, budgets, speeches, interviews with key/actors field operatives (asking to 'To what degree do you believe the policy statements are being successfully implemented?'), observation of results.

2.2 Participation

To what degree does the government engage with public participation for policy development? To what extent have disaster/development plans been authored in partnership with community representatives?

Super goal:

History of extensive collaboration with 'publics' for development of policy. The authoring of disaster and development plans achieved through thorough engagement with wide range of stakeholders, especially community interests.

Criteria:

A. History of limited collaboration with 'publics' for development of policy. The authoring of disaster and development plans achieved through limited consultation with wide range of stakeholders, especially community interests.

B. Very piecemeal collaboration with 'publics' for development of policy. The authoring of disaster and development plans achieved through very minimal engagement with narrow range of stakeholders, largely excluding community interests.

C. No history of collaboration with 'publics' for development of policy. The authoring of disaster and development plans completed in isolation with no engagement with stakeholders, or community interests.

Evidence for Discussion:

Interviews with key actors, previous policy development processes. Experience of local community groups.

2.3 Development Plans

Do the following development plans and sectoral policies integrate risk reduction programmes: Poverty eradication, social protection, sustainable development, climate change adaptation, natural resource management, transportation, housing and energy?

Super goal:

All of the listed policies incorporate thorough risk reduction measures significantly improving the mitigation of natural disasters.

Criteria:

A. The majority of the listed policies incorporate thorough risk reduction measures improving the mitigation of natural disasters.

B. Some of the listed policies incorporate risk reduction measures, though they are rather piecemeal. There have been limited benefits for the mitigation of natural disasters.

C. Policies do not include risk reduction measures, and there has been no improvement to the mitigation of natural disasters.

Evidence for Discussion:

Sector policies and plans, interviews with key actors.

2.4 National Disaster Administration

Is there a well funded national disaster management organisation attached to the highest political office (e.g. in the office of the prime minister), lead by a national disaster co-ordinator, with an adequate number of trained and experienced staff, located in/or adjacent to an emergency operations centre?

Sub-indicators:

Community Resilience: Number of people trained in first aid, number of people involved in Community Response Teams, number of people killed in previous disasters, number of people who have stockpiled food, water, batteries and radios for a week. Public relations expert full-time at office/EOC

Super goal:

Well-funded national disaster management organisation attached to office of governor or prime minister, headed by experienced disaster co-ordinator, well staffed by experienced, highly trained personnel, housed in a well-equipped facility (maybe EOC), with associated purpose-built EOC.

Criteria:

A. Well-funded national disaster management organisation in process of maturing into effective institution. Housed in prime minister / governors office and headed by experienced disaster co-ordinator. At present under staffed by inexperienced personnel but looking to improve, with facilities under development (e.g. office and EOC).

B. Under-funded national disaster management organisation attached to government department other than highest office, headed by inexperienced disaster co-ordinator, under-staffed and housed in inadequate facilities. EOC makeshift.

C. No full-time national disaster management organisation, with a disaster co-ordinator appointed ad-hoc in pre-disaster situation. No formal EOC with no trained/experience staff.

Evidence for Discussion:

Policy documents, interviews with key actors, budget speech, audit of staff and skills, observation of disaster management organisation/emergency operations centre.

2.5 National Disaster Planning

How comprehensive are the national disaster mitigation and response plans? Have there been both desktop and community-based exercises to test to their effectiveness? How successful are forecast and early warning systems in predicting danger and disseminating warnings?

Super goal:

Very comprehensive response and mitigation plans, addressing all phases of disasters. Number of desktop and community trials of plans successfully completed and feedback used to modify policies. Early warning and forecast systems successfully tested with clear and well-practiced warning dissemination plan.

Criteria:

A. Comprehensive response and mitigation plans addressing all phases of disasters, though untested either by desktop or community trial. Early warning and forecast systems in place but unproven with dissemination plan untried.

B. Either mitigation or response plan missing, with the sole existing plan untested either by desktop or community trial. Early warning and forecast systems conceived but yet in place. Warning dissemination plan still to be developed.

C. No national disaster or mitigation plan, with no exercises conducted to test disaster preparedness and response. No formal scientific forecast and early warning system with no formal dissemination plan.

Evidence for Discussion:

National Disaster Plan, National Mitigation Plan, interviews with key actors, observations of and reports on testing of plans, technical reports on early warning.

3. Knowledge

3.1 Risk and Vulnerability

To what extent have all natural hazards, their previous impacts and people's vulnerability to the hazards (with full vulnerability analysis) been mapped and has the data been used to guide policy decisions? Is there an ongoing commitment to periodically review and update the information?

Super goal:

Completed full and comprehensive study and mapping of all natural hazards, their previous impacts and people's vulnerability to them (full vulnerability analysis). This data is used by all interested parties to develop policy and is reviewed and updated at least every 3 years.

Criteria:

A. Completed full and comprehensive study and mapping of all natural hazards, their previous impacts and people's vulnerability to them (full vulnerability analysis). This data is often used to inform policy, but is not always readily available to all interest parties. There is either no plan to review and update the figures or period >3 years.

B. Study and mapping of all natural hazards, their previous impacts and people's vulnerability to them planned/under way. As yet no use of data for policy development, and no plans to review/update the studies at this stage.
Or
Mapping is not comprehensive. Use of data for policy development hampered by incomplete data.

C. No study of natural hazards, their impacts or people's vulnerability. Policy decisions are made without knowledge of the potential threats of hazards.

Evidence for Discussion:

Data files, use of maps and figures in policy documents, vulnerability reports, minutes of policy development meetings. Number of times figures updated, number of review exercises, policy documents, interviews with key actors.

3.2 Education

Is 'disaster mitigation' taught as a compulsory component of the curriculum at all stages of the national education hierarchy (pre-school, primary, secondary and higher-education) and are there vocational courses for disaster managers? Is there a co-ordinating body for disaster education?

Sub-Indicators:

Number of students educated/people trained in disaster management. Is disaster management treated as a professional qualification? To what extent is a framework for disaster reduction introduced into an educational forum? Establishment of a regional centre of excellence for disaster risk reduction?

Super goal:

Comprehensive education in disaster mitigation part of compulsory syllabus at all levels of schooling. Well-established vocational/higher education qualification in disaster management open to all members of society. Independent body that ensures all aspects of disasters examined within the education system with educators continually re-trained and provided with updated material.

Criteria:

A. Disaster mitigation part of the syllabus in certain stages of education hierarchy. Disaster management qualification being developed by higher education institution and will be online

within 18 months. Co-ordination of disaster mitigation education handled by national disaster organisation which plays an active role in promoting and diversifying interest in the subject.

B. Disaster mitigation not formally part of the syllabus but taught in certain classes throughout educational hierarchy because of particular relevance at a local level. No opportunities for professional disaster management qualifications. National disaster organisation promotes disaster reduction education through leaflets and radio programmes.

C. Disaster mitigation is not part of the syllabus and not addressed at any level of education. No opportunities to qualify as a disaster manager. No body campaigning for disaster reduction to be included in curriculum.

Evidence for Discussion:

Curriculum, interviews with educators and ministry of education, interviews with outreach officers at scientific and disaster management organisations.

N.B. Examine what material being taught, with associated judgements on the quality of such material.

3.3 Media

Do the media play an active role (in partnership with disaster management organisations) in promoting disaster reduction, encouraging public awareness and filtering risk communications? How well-publicised and how successful is the disaster reduction day/week?

N.B. Consider impact of state-run print, broadcast media.

Super goal:

Print and broadcast media fully supportive of all efforts to reduce impact of disasters. Very regular (daily to monthly) articles on disaster reduction initiatives, with strong educational components. Regular efforts to translate difficult scientific/technical aspects of risk and hazard into easy to understand programmes or articles for population. Media personnel available to translate disaster warnings into layman's language. Media free to criticize aspects of disaster management. Disaster reduction days/weeks very well supported by media in past, running many events to highlight concerns/educate.

Criteria:

A. Print and broadcast media somewhat supportive of efforts to reduce impact of disasters. Regular (monthly-3 monthly) articles on disaster reduction initiatives, with some educational components. Some rare efforts to translate difficult scientific/technical aspects of risk and hazard into easy to understand programmes or articles for the lay population. Media personnel not involved in translating disaster warnings into layman's language. Media free to criticize aspects of disaster management. Disaster reduction day/weeks well supported by media in past, who have run some events to highlight concerns/educate.

B. Print and broadcast generally ambivalent of efforts to reduce impact of disasters. Irregular (3 monthly – once yearly) articles on disaster reduction initiatives, with little attempt to educate. No efforts to translate difficult scientific/technical aspects of risk and hazard into easy to understand programmes or articles for the lay population. Media personnel not involved in translating disaster warnings into layman's language. Disaster reduction day/weeks have not often involved the media in past beyond basic advertising.

C. Print and broadcast ambivalent of efforts to reduce impact of disasters. Articles on disaster reduction initiatives almost never appear. No efforts to translate difficult scientific/technical aspects of risk and hazard into easy to understand programmes or articles for the lay population. Media personnel not involved in translating disaster warnings into layman's language. Disaster reduction day/weeks have never involved the media in past beyond basic advertising. (also Media constrained by influences from state and cannot play balanced role in process).

Evidence for Discussion:

Interviews with key actors in disaster management and media organisations. Archive research of media output.

3.4 Community Networks

To what degree are there effective community (informal learning pathways, websites, dissemination trees, databases) and professional (applied technical, scientific and traditional knowledge) disaster reduction programmes, systems and networks? To what extent are civil society institutions, NGOs and the private sector involved with the goal of disaster risk reduction?

Super goal:

Characteristics: Good (quality information, lay language) disaster info. websites and libraries for education/reference with free access for community. Disaster societies/clubs established. Extensive work with communities to establish disaster management knowledge, understand community-based preparedness, risk assessment, scientific knowledge. Technical, scientific (e.g. GIS) databases on natural hazards support all gov. agencies, NGOs and all others. Policy to encourage all decision-makers/scientists to understand traditional knowledges. Civil society institutions, NGOs and the private sector heavily involved with the goal of disaster risk reduction.

Criteria:

A. Good disaster info. media/libraries, but poor access for community. No Disaster societies. Some limited educational outreach with adequate coverage, but incomplete educational scope. Technical databases incomplete but can be access by the majority of stakeholders. Some effort to cross-fertilize information on traditional knowledges. Civil society institutions, NGOs and the private sector somewhat involved with the goal of disaster risk reduction

B. Some disaster info. on website/in library but poor access for community. No disaster societies. Some limited educational outreach in a few selected localities. No technical information database, and minimal attempt to improve awareness of traditional knowledges among policy-makers/scientific elite. Civil society institutions, NGOs and the private sector sporadically involved with the goal of disaster risk reduction

C. No disaster information website with very limited material in library. No Disaster societies. No educational outreach programme except for irregular reminder on the radio or leaflet. No technical or scientific databases on natural hazards and no attempt to disseminate information on traditional knowledges. Civil society institutions, NGOs and the private sector not involved with the goal of disaster risk reduction.

Evidence for Discussion:

GIS Accessibility, web resources, other databases. Quality and number of community outreach programmes. Attend public meetings, examine disseminated literature. Visit community organisations, non-governmental organisations, Interviews with specialists, planning officers, contractors etc.

3.5 Research

To what extent is there a comprehensive agenda for scientific, policy, planning and participatory research into risk reduction? To what degree is there useful co-operation and exchange with regional and international research institutions?

Super goal:

Very regular (every 0-3 months) attendance of regional and international conferences. Can demonstrate learning from outside of national institutions (e.g. research into Oil Spill dynamics, disposal of industrial waste etc.) been helpfully used to inform the majority of policy at the local level. Formalised network to exchange ideas with academic community both locally, regionally and internationally. Extensive, well-funded disaster reduction research occurring locally in all sectors – e.g. scientific research on hazards, social science research on policy and participation, health-care, psychology etc. with results informing decision-making.

Criteria:

A. Regular (every 3-6 months) attendance of regional and international conferences. Can demonstrate learning from outside of national institutions (e.g. research into Oil Spill dynamics, disposal of industrial waste etc) been used to inform some policy at the local level. Informal network to exchange ideas with academic community both locally, regionally and internationally. Some good-quality disaster reduction research occurring locally in all sectors – e.g. scientific research on hazards, social science research on policy and participation, health-care, psychology etc. with some of the results informing decision-making.

B. Irregular (every 6 months – 1 year) attendance of regional and international conferences. Learning from outside of national institutions (e.g. research into Oil Spill dynamics, disposal of

industrial waste etc) has not been used to inform policy at the local level. Informal network to exchange ideas with academic community both locally, regionally and internationally. Some disaster reduction research occurring locally into specific topics but not across all sectors with some of the results informing decision-making.

C. Key actors never attend regional and international conferences. Learning from outside of national institutions ignored (e.g. research into Oil Spill dynamics, disposal of industrial waste etc) and not used to inform policy at the local level. No network to exchange ideas with academic community. No research into disaster reduction occurring locally.

Evidence for Discussion:

Research groups, documents, papers. Interviews with key actors, attend research meetings. Obtain records of conferences attended, examine policy documents for linkages.

3.6 Skills, Capacity and Motivation

What do the key actors in development/disaster planning see as the priorities for planning policy? To what extent do they believe a culture of safety is infused within society and is there a week/days dedicated to safety issues? With whom do they share ideas, sympathies, both locally and regionally?

Super goal:

Language used by all key actors indicates a desire to move from reactive to proactive disaster planning solutions. Words such or phrases such as 'mainstreaming disaster reduction, vulnerability, livelihood, sustainability, mitigation etc. basis of all policy discussions and professional conversations. Safety issues pervade society, from health to traffic management to disaster planning to resource management.

Criteria:

A. Language used by the majority of key actors indicates desire to move from reactive to proactive disaster planning solutions. Words such or phrases such as 'mainstreaming disaster reduction, vulnerability, livelihood, sustainability, mitigation etc. basis for majority of policy discussions and professional conversations. Safety issues are regularly highlighted in society, but more could be done to encourage an all-pervasive 'safety culture'.

B. Language used by some key actors indicates a desire to move from reactive to proactive disaster planning solutions. Words such or phrases such as 'mainstreaming disaster reduction, vulnerability, livelihood, sustainability, mitigation etc. rarely appear in policy discussions and professional conversations. Safety issues are sometimes highlighted in society, but much more needs to be done to encourage an all-pervasive 'safety culture'.

C. Language used by key actors exclusively supports prevalence of reactive disaster planning solutions. Words such or phrases such as 'mainstreaming disaster reduction, vulnerability, livelihood, sustainability, mitigation etc. never appear in policy discussions and professional conversations. Safety issues are never highlighted in society.

Evidence for Discussion:

Interviews with key actors

4. Practice

4.1 Reconstruction/Building Codes

Has reconstruction from previous disasters been used as an opportunity to promote disaster reduction? Are there codes and standards, supported by law, to ensure disaster resilient construction?

Super goal:

Disaster reduction was successfully promoted during the reconstruction phase through strict building codes and standards supported by law. As a result the infrastructure and housing stock is significantly more robust.

Criteria:

A. Disaster reduction was promoted during the reconstruction phase, though not supported by legislation on building codes. As a result compliance was voluntary, but nonetheless relatively successful. The infrastructure and housing stock is somewhat more robust.

B. Disaster reduction was promoted during the reconstruction phase, though not supported by legislation on building codes. As a result compliance was voluntary and predominantly ignored. The infrastructure and housing stock is fractionally more robust.

C. Disaster reduction was not promoted during the reconstruction phase, not mandatory through legislation and there has been little change to the quality of the infrastructure and housing stock.

Evidence for Discussion:

Legislation (building codes acts), interviews with key actors, newspaper articles, observation in the field.

4.2 Local Community

To what degree is there a successful, well-funded, well-supported network of local disaster management committees that focus on reducing vulnerability, community preparedness and mitigating natural hazards? To what extent can these committees act independently of the central disaster authority, and do they have their own local mitigation and response plans?

Sub-Indicators:

Number trained in first aid, number quality warehouses. Well-stocked local warehousing. Community Response Teams exist. Other equipment. Community Disaster response and mitigation plans.

Super goal:

An established, well-funded, well-trained network of local disaster committees, organised around sensible boundaries (e.g. physical, social, cultural, municipal divisions) and who meet at least monthly. Committees have strong relationship with government and non-gov. disaster organisations. Ongoing training programme of members. Tried and tested community disaster response and mitigation plans (including identification of vulnerable groups and structures). Well-stocked local-warehousing facilities, with high percentage of population trained in first aid with well-trained CRTs.

Criteria:

A. An established network of local disaster committees, organised around sensible boundaries (e.g. physical, social, cultural, municipal divisions) who meet every 2-3 months. Committees have good relationship with government and non-gov. disaster organisations, however training could be improved. Community disaster response plan written but untested. Mitigation plan (including identification of vulnerable groups and structures) in development. Local-warehousing facilities limited with poor stock. Some of the local population trained in first aid, but community response teams not yet developed.

B. Local disaster committees exist in some communities, organised around key personnel. Regularity of meetings very variable, with some only meeting once a year. Committees have a rather ad hoc relationship with government and non-gov. disaster organisations, and training rare and coverage rather sporadic. No formal community disaster plans, but response plans are in development. No local stockpiling of supplies, with reliance on aid from central authority. Some local people trained in first aid, but no community response teams.

C. No local disaster committees. No formal community disaster plans. No local stockpiling of supplies, with total reliance on aid from central authority. Very limited number of local people trained in first aid, but no community response teams.

Evidence for Discussion:

Interviews, policy documents, existence of community plans, data from NGOs, observation of equipment, warehousing etc.

4.3 Insurance and Finance

To what extent does the governmental and non-governmental finance sector support disaster reduction? (E.g. low insurance premiums for better constructed homes, micro-credit and finance, community and social funding schemes for mitigation or recovery)?

Super goal:

Insurance companies offer sizeable discounts to those who have taken mitigation measures. Companies give extensive guidance, technical support on how to achieve premium reductions. Government lending institutions, businesses and micro-credit schemes to support homeowners and small businesses to take mitigation measures. Government, businesses etc. waive or reduce costs of disaster rebuild materials etc. NGOs, credit-unions, churches etc. support funds designed to help vulnerable people in post-disaster situation.

Criteria:

A. Insurance companies offer limited discount to those who have taken mitigation measures. They give some formal guidance on how to obtain discount (e.g. technical leaflet). No extra financial support to take mitigation measures, either for individuals or businesses. Some reduction of prices, reduced loans etc. in post-disaster rebuild phase. Support funds for vulnerable people post-disaster planned, but not yet operational.

B. Insurance companies are preparing to phase in reduced premiums for better protected buildings within next 18 months. They are preparing documents detailing what measures are needed to obtain the reductions. No extra financial support to take mitigation measures, either for individuals or businesses. No preferential pricing in post-disaster phase. No support funds for vulnerable people post-disaster.

C. No reduction on premiums for those with stronger homes. No technical help from companies encouraging mitigation measures. No extra financial support to take mitigation measures, either for individuals or businesses. No preferential pricing in post-disaster phase. No support funds for vulnerable people post-disaster.

Evidence for Discussion:

Interview members of finance sector, church groups, NGOs. Obtain guidelines of mitigation/premium reductions. Interview business owners and those who rebuilt following previous disasters.

4.4 Poverty Reduction

To what extent has a poverty reduction strategy been developed, and how successful has it been at addressing the vulnerability of the most exposed section of society? To what degree have poverty reduction, violence and terrorism concerns been addressed as part of a sustainable development strategy?

Super goal:

Poverty reduction strategy well established and been highly successful at reducing vulnerability of poorest sectors of society. Addressing poverty reduction, violence and terrorism concerns key elements of sustainable development strategy, with clear progress made on tackling these issues.

Criteria:

A. Poverty reduction strategy operational but has not yet had major impact on reducing vulnerability of poorest sectors of society. Addressing poverty reduction, violence and terrorism concerns included in sustainable development strategy, with some progress made on tackling these issues.

B. Poverty reduction strategy being developed, but no impact on reducing vulnerability of poorest sectors of society. Addressing poverty reduction, violence and terrorism concerns only briefly mentioned in sustainable development strategy, with little progress made on tackling these issues.

C. No Poverty reduction strategy and no impact on reducing vulnerability of poorest sectors of society. Addressing poverty reduction, violence and terrorism concerns not included in any development strategy, with no progress made on tackling these issues.

Evidence for Discussion:

Review of Policy Documents, evidence from internal and external statistical surveys, census, discussion with members of community.

6. Conclusion

The *DRR Mainstreaming Framework* has potential. It could be utilised to raise political will and commitment for disaster risk reduction, as well as providing a guide to policy and practice. It could be both operational and normative (prescribing standards), but should not be directive. As Comfort (2003, 3) articulates, 'the purpose of [a framework], in my judgement, should be to provide information regarding disaster risk to policy makers at multiple levels of authority and types of responsibility. It should, however, be sufficiently specific to serve as a guide for action at the respective levels of policy making'. But the framework is only the starting point: the series of indicators provide a guide to a locally-based process that would adapt the framework to specific physical, economic, political, social and cultural conditions. In many ways, agreeing on a flexible, transparent, straight forward set of questions and benchmarks is easy. Though As Schlosser and Aysan (25/9/03) point out, 'significant work may still be required to clarify the purpose of benchmarks and ways of measuring progress against them'. The harder part is stimulating an inclusive, participatory process with key stakeholder buy-in that uses a disaster reduction framework to achieve real gains for vulnerable communities. Any measures that increase the profile of disaster reduction at any level are valuable.

How can this framework be improved upon?

A) It is a first attempt, and incomplete. Any feedback that would help develop any aspect of the framework is most welcome.

B) More work must be done to learn from similar frameworks and studies on the use of indicators in associated fields.

C) Efforts are needed to build support amongst donors, the research community, international institutions and regional organisations (Atu, 3/9/03) for a disaster risk reduction framework approach to tackling the problem of increasing economic losses to natural hazards. As Abrahams (25/08/03) suggests the 'selling, buying and ownership of the framework will be equally important to the development of the content of the framework itself.'

D) Testing the *DRR Mainstreaming Framework* in a broad range of political, cultural and physical environments is vital to establishing what sort of framework and what type of participatory process most successfully stimulates muli-sectoral, multi-disciplinary, inclusive efforts towards disaster risk reduction. More empirical work will also help development of a series of guidelines designed to aid the facilitation of the process. Further testing of the Framework is the goal of upcoming fieldwork, scheduled to begin in March 2004.

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