

PILOT

National Capacity Assessment Methodology

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1. Introduction

1.1 The Joint UNEP/OCHA Environment Unit (JEU)

The JEU is the international mechanism to mobilize and coordinate the international response to environmental emergencies.

A key responsibility of the Joint UNEP/OCHA Environment Unit (JEU) is to assist developing countries enhance their environmental emergencies response capacity. JEU is primarily a mobilization / coordination mechanism. Accordingly, it acts mainly as an organizer and facilitator of multi-stakeholder missions to provide this assistance, working in close collaboration with a number of key partners. JEU has developed specific guidelines and tools for the development of environmental emergencies centers and environmental emergencies contingency plans and uses these as applicable.

Depending on country needs, environmental emergency preparedness missions can focus on assistance in areas such as:

- Assessment of country needs and priorities at strategic, managerial and operational levels;

and, based on an assessment:

- Technical support for the development of environmental emergency centers
- Technical support for the development of environmental emergency contingency plans (CP) as fully integrated components of national disaster management plans
- Providing exposure to other key tools and resources including: UNEP-APELL methods for risk identification and management, lessons learned, and national government mechanisms.
- Ensuring follow up / brokerage with donors

Lessons learned from missions carried out in the recent past indicate that future efforts can be further enhanced by improving the quality of the information that underpins these missions, in particular, information on the specific needs and capacity of a country at strategic, managerial and operational levels. This requires the development of a needs and capacity assessment methodology (NCAM), as described below.

1.2 The National Capacity Assessment Methodology

Goal of methodology

The NCAM should help to ensure effective environmental emergency capacity building by providing sound baseline information on which to base subsequent efforts.

Objectives of methodology

1) Provide sound information on a country's current capacities to prepare for and respond to environmental emergencies at strategic, managerial and operational levels.

2) Based on 1, provide sound information on: i) country's specific training needs related to environmental emergencies, in priority order and ii) other needs that can be addressed by the international community or within the country at strategic, managerial and operational levels.

3) Raise awareness within the country of existing capacities, needs, gaps and opportunities (i.e. methodology should be highly interactive and not a one-way tool to gather information).

Scope of methodology

In their capacity building efforts the Joint Environment Unit and its partners endeavor to address issues related primarily to response preparedness. Included within this are issues such as:

- Training for rapid environmental assessment, local level preparedness and environmental emergency contingency planning;
- Technical support and advice related to: strategic issues including arrangements between agencies and organizations for effective environmental emergency response; managerial issues such as the development of environmental emergencies centers and operational issues such as hazard risk mapping.

The scope of the methodology should therefore encompass these matters.

Issues related to longer-term environmental issues, issues broader than response – for example, spatial planning, development of legislative frameworks, or issues related to recovery – while obviously linked, are outside the scope of Joint Environment Unit activities and therefore of the assessment methodology. However, the Joint Environment Unit works closely with partners who do offer training in these areas and so the methodology must be consistent with activities in these areas.

At the same time, although areas of mutual interest and possible collaboration exist, the NCAM should not overlap with seemingly similar exercises such as the Self-Assessment of In-Country Capacities for Disaster Response developed by the IASC or the systematic assessment of natural disasters risk as carried out – *inter alia* – by UNDP or the sophisticated environmental emergencies vulnerability assessments based on the APELL methodology.

Audiences

The interlocutor for the tool development will normally be an Environmental Emergencies Section or similar contained in the Ministry of Environment. However, the main national disaster preparedness body – both operational and policy/strategic – must also be closely be involved with and contribute to outcomes to ensure that outcomes are integrated into broader disaster management planning. For similar reasons UNDP must be a primary partner.

2. The five phases of the methodology

2.1 First phase – information gathering

The first phase of the methodology is the responsibility of the authorities in the concerned country, with support and guidance by the Joint Environmental Unit and by the UN county team as relevant. Its aim is to collect baseline information which will constitute a factual basis to be used in the subsequent steps.

This phase needs to be completed before the support mission is fielded from headquarters.

In practice, one or more individuals appointed by the national authorities will be given the task to collect detailed information concerning:

- **The natural disasters and environmental emergencies profile of the country**, to provide a clear indication of why the country is considered “disaster prone” and what kind of problems national and international responders have to deal with.
- **The disaster response history of the country**, to provide an insight on the national response capacity and the strategic positioning of the country in terms of international assistance, with particular focus to environmental concerns.
- **A risk and vulnerability profile**, focusing on vulnerability to both natural and technological disasters and including actual and potential hazards.
- **The national setup for overall disaster management**, including a description of the relevant legal framework and how it translates into actual institutions, a detailed description of the institutions themselves, their structure, organization, reporting lines and capacities both at central and peripheral level.
- **The national setup for the management of environmental disasters**, including a description of the main actors, their institutional placement, their internal organization, their capacity for early assessments and response, their linkages to other national and international actors.

2.2 Second phase – validation

The second phase of the methodology takes place in a workshop environment, with the participation of all the relevant stakeholders at national level and the members of the mission from headquarters. During this phase, workshop participants systematically go through the information produced during the first phase with the aim of:

- **Resolving inconsistencies**, to make sure that the output of the first phase is actually consistent with the information all the stakeholders have.
- **Filling possible gaps**, to make sure that all areas of investigation are covered at the appropriate level of detail.
- **Adding depth**, by integrating additional information which was not gathered during the first phase.

and, especially important,

- **Taking ownership**, to make sure that the final document is not a report produced by some expert or by the UN but is effectively a resource to which all stakeholders have contributed and with which they all feel comfortable.

2.3 Third phase – qualitative analysis

The third phase of the methodology also takes place in a workshop environment. This is the phase in which national stakeholders take a qualitative look at the information gathered and validated in the previous phases. The focus of the discussion will be the overall national setup for disaster management and in particular the setup for the management of acute environmental consequences of natural disasters and technological accidents.

Through desktop simulation exercises and plenary discussion facilitated by the mission members, the national participants will:

- **Identify and discuss strengths and weaknesses** of the legal framework and of the institutions deriving from it.
- **Consider whether obvious gaps or duplications exist** among the institutions (including inconsistencies in their institutional placement, roles and responsibilities, lines of reporting, etc.).
- **Consider to what extent theoretical capacities correspond to reality** in the various sectors of preparedness and response.
- **Consider possibilities for enhanced synergy** among the national environmental emergencies responders.
- **Examine linkages** between national and international (bilateral, regional, multilateral) actors.

2.4 Fourth phase – strategy

During the last session of the workshop, based on the information gathered, validated and analyzed in the previous phases, participants agree on areas that require urgent intervention in order to address the weaknesses and gaps in the legal and institutional setup for environmental emergencies. In particular, participants discuss:

- **The elements of an action plan** to address such weaknesses and gaps.
- **Areas that require external (international) support**, detailing what kind of support is needed (technical assistance, training, financial assistance, etc.) and who may be able to provide it.
- **Next steps for the immediate future**, providing an indication of priorities and a framework for possible collaboration with international partners.

2.5 Fifth phase – follow-up

Immediately after the workshop, JEU will assist the national authorities in preparing a final report of the Assessment. The report will include:

- **All the baseline information** gathered during the first phase, including the amendments made during the validation phase.
- **A synthetic qualitative analysis** on strengths and weaknesses of the setup for the management of environmental emergencies
- **A plan of action** for addressing the major weaknesses in a prioritized manner
- **Specific options for collaboration** with international partners.

3. The assessment in practice

3.1 Planning for and organizing the assessment

From the moment in which a final decision has been reached with the authorities of the country concerned to the moment when the final report is issued, the National Capacity Assessment is likely to require from a minimum of two months to a maximum of four months. Four to six weeks are required for phase I (the gathering of background information at national level), one week is required for the in-country mission, one week for the production of the workshop report by the mission members, and at least two weeks for the process of clearing the report at national level and transforming it into a full Capacity Assessment, Recommendations and Action Plan Report. Allowing for inevitable delays, it is not difficult to see how the process can realistically require up to four months.

In order to proceed swiftly and effectively, the process needs to rely on strict consultation and coordination among Geneva's Environmental Emergencies Section, the UN Country Team and one or more officially appointed governmental counterparts. The appointment of such counterparts/focal points is absolutely essential, and should be a prominent part of the agreements entered into with the Government prior to the beginning of the actual assessment process.

At country level, partners may consider setting up a Steering Committee (comprising one or two representatives from the UNCT and key representatives from the Government) which would meet regularly to coordinate activities and oversee the entire process.

The UNCT will also have to take into account the need for logistic and administrative support to the mission and, particularly, for the organization of the national workshop. This would include the identification – in close consultation with the Government – of invitees, issuing invitations, booking of an appropriate venue, arranging for interpretation and sort out administrative issues for the participants (travel support, *per diem* when appropriate).

3.2 Gathering the background information

The output of the information gathering phase will be a draft report basically answering 6 questions (A through F).

The questions are presented in ANNEX I, together with explanatory notes and examples of the kind and style of answers that are required. The examples have been drawn from previous assessments in various countries of the world.

Ideally, the gathering of information should be carried out by the authorities of the country concerned. An English-speaking person should be put in charge of a) coordinating a small team in charge of the data collection, b) supervising the production of the draft report and c) overseeing the report's translation into English. The same person will then be responsible for presenting the draft report at the beginning of the national workshop.

In case – for whatever reason – the national authorities are not in a position of producing a draft report in due time, the mission team might be asked to carry out the preliminary

desk research on tis own and the present the results during the initial stages of the national workshop.

3.3 The national workshop

PARTICIPATION: the national workshop should see the participation of representatives of all the insitutions involved in disaster management. Although the assessment focuses specifically on the management of environemntal emergencies, it must be rememered that handling those emergencies does not happen in isolation. It is therefore essential to have all stakeholders involved, as this is the only way to properly validate the information contained in the preliminary report and – especially – to look and strengths and weaknesses in a comprehensive manner. Ideally, then, the following entities should be represented:

- the body in charge of the overall disaster management at national level (civil defense, Ministry of Interior, Prime Minister office or any other specific entity);
- other governmental entities that are normally involved in the response to emergencies such as the military and firefighters;
- the Ministry of Foreign Affairs' section in charge of international aid;
- the body in charge of the management of environmental emergencies;
- the Ministry of Environment;
- the national Red Cross or Red Crescent Society;
- national NGOs active in the enviroment sector;
- the United Nations Country Team

FORMAT: if it not possible to hold the workshop in English, arrangements should be made to take its highly participatory and interactive nature into account. In particular, simultaneous interpretation should be provided for some 20-25 participants.

The workshop should run over a period of two and a half days. A draft agenda could be as follows:

FIRST HALF DAY:

- Welcome by the national authorities
- Introduction by the Mission on background, methodology and expected results
- Presentation of the preliminary report

SECOND HALF DAY:

- Facilitated plenary discussion on the preliminary report (validation phase, see section 2.2)

THIRD HALF DAY:

- Desktop simulation exercise (based on a fictional environmental emergency, aims at bridging the validation phase with the qualitative analysis by exposing

how the setup that has emerged on paper by the end of the second half day would actually work in practice)

FOURTH HALF DAY:

- Facilitated plenary discussion on the results of the simulation exercise (qualitative analysis, see section 2.3)

FIFTH HALF DAY:

- Facilitated plenary discussion on the way forward (strategy, see section 2.4)

REPORTING: The Mission members will be responsible for writing a preliminary mission report including a summary record of the national workshop and conclusions regarding the identified gaps, the strategy to address them and details about the next steps.

3.4 Site/field visit

The mission members and their national counterparts may consider carrying out a field or site visit, provided that such activity can add depth and credibility to the assessment exercise. That is to say that the visit should not be carried out for its own sake, but only inasmuch as it can contribute additional substance to the findings of the preliminary research and the conclusions of the national workshop.

Possible destinations for such a visit include the site of a recent environmental emergency, an area or an installation which is particularly at risk, facilities that are crucial in the response to an environmental emergency (such as, for instance, the national-level operations room from which disaster response is coordinated) or partner organizations that have a key role.

3.5 Follow-up

This mission report produced by the mission members will be submitted to the national authorities as input for the drafting of a final report, which will have to be issued by the Government.

The final report will contain the results of the Capacity Assessment (background information and analysis of strengths and weaknesses), a section with detailed Recommendations based on the identified gaps, and an Action Plan for follow-up on such recommendations.

Ideally, the Action Plan should not only include a description of the practical steps to be taken to follow-up on recommendations but already include project proposals, elaborated jointly between the various partners.

The final report is therefore not intended to simply be a Government-cleared version of the mission report. It is a strategic planning document, which will require close consultation between the Government, the UNCT, other interested partners at country level and Headquarters (particularly EES).

4. ANNEX I – The 6 questions

A. What is the natural disaster profile of the country?

This question explores in general terms why the country is considered at risk for sudden-onset¹ natural disasters. The idea is to provide a few paragraphs that answer a series of sub-questions:

A.1 What kind of natural disasters is the country subject to? (Consider the last 100 years)

A.2 What – in broad terms – generates them?

A.3 Among them, which are more frequent and which less frequent?

A.4 What were the consequences of the most important disasters of the last 25 years? (Indicate how many people were killed, how many were injured, what where the estimated economic losses; if possible, breakdown data per single event or at least provides details for the major events)

EXAMPLE: In terms of sudden-onset natural disasters, Ecuador is subject to frequent earthquakes, landslides, volcanic activity and floods. From the tectonic point of view, the Nazca plate subducts beneath the South American continent, giving rise to the high mountains along the coast and the great plateaus of the Central Andes. In Ecuador, the Andean arc divides into two volcanic chains that define the eastern and western margins of the Inter Andean Valley, a long, north south oriented topographic low at high elevation. Quito, Ecuador's capital city, sits within the Interandean valley between the two chains. Its 1.5 million citizens live amidst some of the Earth's more active geologic processes and hazards, including active, complex faulting, explosive volcanism, and rapid and extreme erosion and sedimentation driven by the high elevations in the area. Heavy rainfall is generally associated with larger phenomena such as El Nino and la Nina. El Nino is the name given to the occasional development of warm ocean surface waters along the coast of Ecuador and Peru.

El Nino normally occurs around Christmas and lasts usually for a few weeks to a few months. Sometimes an extremely warm event can develop that lasts for much longer time periods. In the 1990s, strong El Ninos developed in 1991 and lasted until 1995, and from fall 1997 to spring 1998. After an El Nino event weather conditions usually return back to normal. However, in some years the trade winds can become extremely strong and an abnormal accumulation of cold water can occur in the central and eastern Pacific. This event is called a La Nina. A strong La Nina occurred in 1988 and scientists believe that it may have been responsible for the summer drought over central North America. The most recent La Nina began developing in the middle of 1998 and have been persistent into the winter of 2000. During this period, the Atlantic ocean has seen very active hurricane seasons in 1998 and 1999. In 1998, ten tropical storms developed of which six become full-blown hurricanes. One of the hurricanes that developed, named Mitch, was the

¹ Among natural disasters, only drought is considered to be a slow-onset disaster. All the others (earthquakes, tsunamis, volcanoes, hurricanes, flash floods, landslides) are considered as sudden-onset disasters.

strongest October hurricane ever to develop in about 100 years of record keeping.

Data from 1904 to 2003 indicate that, in terms of number of people killed, earthquakes are the worst: each of the two most recent ones (5 August 1949 and 5 March 1987) took 5,000 lives. Floods are more frequent, but fortunately kill less. The number of people affected, though, is enormous: the most severe episode (November 1982) affected 700,000 people. Compared to the number of active volcanoes present in the country, loss of lives and property has been relatively modest.

	# of Events	Killed	Injured	Homeless	Affected	Total Affected
Earthquake	16	11,336	486	214,867	182,950	398,303
ave. per event		709	30	13,429	11,434	24,894
Flood	21	864	259	115,436	1,404,212	1,519,907
ave. per event		41	12	5,497	66,867	72,377
Slides	12	1,099	120	180	81,156	81,456
ave. per event		92	10	15	6,763	6,788
Volcano	8	1	0	7,200	239,420	246,620
ave. per event		0	0	900	29,928	30,828

B. What is the environmental emergencies profile of the country?

Before attempting to answer this question, it is essential to examine carefully the definition of environmental emergency adopted for the use in the NCAM:

“A primary or secondary (i.e. triggered by a natural disaster) technological accident that causes human losses and/or significant material losses and/or significant damage to the ecosystem”.

With this definition in mind, here too the idea is to provide a few paragraphs that answer a series of sub-questions:

B.1 What environmental emergencies occurred in the country during the last 25 years?

B.2 What – in broad terms – generated them?

B.3 What were the consequences? (Indicate losses of human lives, economic losses, severe impact on ecosystems.

EXAMPLE: During Soviet times, environmentally destructive practices were often pursued with little regard for their long-term consequences. As a result, many dangerous, man-made hazards, in particular radioactive (and other hazardous) tailings, lie in areas at very high risk from natural hazards, such as on the banks of flood-prone rivers and at the foothills that are prone to mudslides or earthquakes, thus creating a high risk of secondary technological disasters.

A particularly dangerous location is Mailuu-Suu - an impoverished town of about 23,000 people, including about 6,000 in surrounding villages - near the Uzbekistan border, upstream of the densely populated and highly productive Ferghana Valley. There was active uranium mining in Mailuu-Suu from 1946

until 1968. A State-owned company carried out mining, with the ore being used in national defense programs and power plants. Left behind are 23 radioactive tailings and 13 waste rock dumps. The tailings and waste rock dumps were constructed conveniently near the mill plants and are mostly within the flood plain of the Mailuu-Suu River, which is a tributary of the Naryn River (which flows into the Syr Darya). The total tailings volume is about 1.96 million m³. The total waste rock dump volume is 0.8 million m³.

C. What is the disaster response history of the country?

This question is meant to provide retrospective information on the disaster response capacity of the government and civil society, on whether the government usually requests for international assistance or not and whether acute environmental consequences were responded to and by whom.

The idea is, for every significant disaster response operation occurred during the last 25 years, to indicate whether it was only national response or it involved international assistance; what kind of assistance was provided, by who and to whom.

EXAMPLE: The earthquake occurred on 5 March 1987 was responded to by the Government according to its relatively limited capacity. The Minister of Interior established a coordination cell in the capital and, two days later, a command and control post in the affected area. About 3,500 personnel of the National Directorate for Civil Protection intervened directly in the assistance to the victims. Firefighters, local police and about 5,000 military servicemen were involved in the relief operations. It is estimated that the Government provided a total of some 17 million USD in relief supplies to the population. The health structures in the area were significantly affected by the earthquake and were reportedly functioning only at less than 50%. The earthquake also triggered massive international relief efforts. Two days after the disaster, the Government issued an appeal for international assistance, which was met with considerable generosity by a number of countries (including Argentina, Austria, Belgium, Canada, Chile, Germany, Japan, Italy, the Netherlands, Spain, Switzerland, UK, US, USSR), UN agencies and NGOs. International assistance included search and rescue teams, emergency shelter, relief items (mostly non-food items) and several field hospitals. The League of Red Cross and Red Crescent Societies also launched an appeal worth CHF 1,910,000 (about USD 1.5 million), mobilizing significant resources from the Movement.

The March 1997 floods also brought about large-scale international assistance, both from governments (Costa Rica, Chile, El Salvador, Germany, Israel, Malaysia, Malta, the Netherlands, Switzerland) and from UN, Red Cross and NGOs.

Repeated events of heavy rainfall connected with El Nino phenomenon are mostly responded to by the Government at local level. The most severe episodes also saw international response, mainly from UN agencies already present in the country but sometimes also from bilateral donors.

In retracing the disaster response history of the country, it is also important to report on any response to environmental emergencies that may have occurred during the last 25 years.

EXAMPLE: The Tupras Oil Refinery is situated on the outskirts of the town of Izmit, approximately 125 km South of Istanbul, in a flat area on the bank of

the Izmit Bay, which forms a part of the Marmara Sea. On 17 August 1999, the earthquake caused 3 simultaneous fires at the refinery in different locations. A warehouse caught fire, a tall chimney collapsed and hit furnace and pipelines, and several tanks with different types of naphta were on fire. Electrical supply was disrupted by the earthquake. A pipeline, bringing fresh water from a nearby lake, was broken. All communications, including GSM, went down. Roads at the refinery were damaged. Under these conditions, fire fighting was extremely difficult. To support Turkish fire fighters, several countries sent their teams. Water bombing airplanes from a number of countries also arrived. It should be mentioned, however, that water dropping was highly controversial, and not recommended by many experts also on account of using too much water. This fire continued till 22 August 1999. According to the management of the refinery, the total amount of oil products burnt (mostly naphta) was about 30,000 tones. No crude oil and leaded gasoline were burnt. 6 large storage tanks were damaged/destroyed by the fire.

As a result of the disruption of electrical supply, the only waste water treatment plant stopped working, became flooded with water from fire fighting operations, and an unknown amount of mixture of various oil products escaped into the sea through the outlet. The necessary response measures were taken. Barriers were put in the sea, and 4 skimmers were used. A British Team from the South Hampton Spill Response Centre arrived to support clean up operations. About 600 tons of oil were recovered. All fires were put out. There was no further immediate risk from marine environment point of view, as the waste water treatment plant is working again, and oil is not escaping to the sea.

However, the management of the refinery considered the situation as highly hazardous. As a result of the earthquake, floating roofs at 45 tanks out of 80 sunk totally or partially. Contents of the damaged tanks (such as crude oil, gasoline, etc.) are completely exposed to the atmosphere. A single lightning may be enough to cause a new fire(s) at any moment. At the same time volatile organic compounds (VOC) are evaporating and causing serious air pollution. The necessary steps are being taken to prevent another accident. Oil products are being relocated inside the refinery. A special Dutch team is providing assistance. However, this process is very slow, because a great care should be taken with regard to sunken floating roofs. Oil is also being pumped to a tanker. Turkish fire brigades are permanently present at the refinery. The refinery's management has appealed for urgent international assistance to help prevent a possible major accident. A number of needs have been highlighted.

D. What are the vulnerabilities to natural disasters and environmental emergencies?

Questions A, B and C have provided an historical perspective on the nature of the natural and technological hazards prevalent in the country and generalities on the response mechanisms. With question D we now move to the present time by taking vulnerability into consideration. Before proceeding, it is important to clarify the concept of vulnerability, as defined in the risk equation:

$$R = \frac{H \cdot V \cdot V}{C}$$

Whereby R (risk) indicates the probability of suffering losses and is determined by, H (hazard) or the intensity of the event (natural or technological) capable of producing a disaster, V (vulnerability) or the potential for losses or other adverse impacts, the second V (value) or the value of the potential losses, highest in case of human lives, divided by C (capacity) or the resilience of communities and the capacity to help themselves.

The vulnerability we are talking about here is of three kinds, and can be investigated answering three sub-questions:

D1 - What are the broad social and economic factors such as poverty, underdevelopment and population displacement that may have an impact on overall vulnerability?

EXAMPLE: Poverty, unproductive agriculture and weak governance continue to threaten Madagascar's unique natural resource base and its biodiversity. The vast majority (70%) of Madagascar's population (growing at over 3% per year) depends on low-productivity, extensive agriculture for its livelihood. Yet, this is the main and most severe source of environmental degradation. Deforestation, bush fires, and extensive cropping of marginal lands result in destruction of ground cover necessary to prevent soil erosion, contributing to an annual loss of significant amounts of topsoil. Degradation threatens not only biological diversity, but also watershed and soil stability vital to the agrarian economy, and carbon storage to mitigate climate change. Seventy-one percent of Madagascar's people were living in poverty in 2000. Poverty in Madagascar is more widespread in rural areas; 75% of the rural population lives below the poverty line, compared to 50% in urban areas. Forty-nine percent of Malagasy people are illiterate. Infant mortality (under age 1) has improved slightly to 88 deaths per 1,000 and maternal mortality is stable at 488 deaths per 100,000. This situation is mainly due to low economic growth and a rapidly increasing population against the backdrop of the country's 20 years of failed socialist economic and regulatory policies that discouraged private sector investment and growth.

D2 - Are there specific vulnerabilities to natural disasters?

EXAMPLE: Nicaragua has got a large concentration of society functions to Managua, both in the public and in the private sector. Managua is at risk from 15 faultlines through the city. Twice in the 20th century the city was destroyed by earthquakes, with movements of faultlines within the city. There are also a number of volcanic centers within the city limits, that could reactivate in a future earthquake. Being located in a spreading zone with faultlines and volcanic centers that possibly can give rise to widespread lava eruption, Managua is very exposed to natural hazards. The city is also subjected to flash floods, flooding from Lago Xolotlán, and at some risk from mass movements and from nearby active volcanoes; however, the great risk is from the local tectonic movements. Managua being the capital and the economic centre of Nicaragua, the whole country is highly vulnerable due to the vulnerability of Managua. The most important effort to decrease the vulnerability of Nicaragua no doubt would be to decentralize the administration, and create secure systems that are not jeopardized by a destruction of Managua. Government institutions may be relocated to other cities, and incentives be used to stimulate economic growth in other parts of the country than Managua.

D3 – Are there specific vulnerabilities to environmental emergencies?

EXAMPLE: Slow release of radionuclides and other hazardous wastes like heavy metals and arsenic occurs to the ground- and surface-waters of the Mailuu-Suu area, due to continued drainage and seepage from tailings and waste rock dumps. High levels of radioactivity have occasionally been observed in water and sediment samples from the Mailuu-Suu River. Typically, however, values of uranium concentrations in water are close to drinking water standards, due to the dilution effect of large volumes of river water. For sediments the concentrations of radium and total alpha are below the limits for soil used for agricultural purposes, while the uranium concentrations mostly exceed the limit. While these conditions have existed for some years, no action now would allow continuous expansion of the contaminated area, with attendant health and environmental impacts. Some of the tailing dams also appear to be unstable now due to lack of routine maintenance.

Being mountainous, the Mailuu-Suu area is prone to floods and landslides, and is in a seismically active area. There are more than 200 places around Mailuu-Suu where potentially active slippage areas are home to historically-active landslides. During the last 10 years an increase in landslide activity has been observed, possibly due to a cycle of wet weather and a large number of seismic events. Several hundred buildings have reportedly been damaged or destroyed and nine people have died as a result. Two of these landslide areas, named Tectonic and Koi-Tash, currently present a high potential for further activation and slippage down the valley slopes.

E. What is the national setup for disaster management?

With this part of the information gathering process we are approaching the very core of the NCAM methodology. This question explores that national system for overall disaster response; the specific response to environmental emergencies will be explored in question F.

It is important to understand that at this stage the information is purely descriptive and intended to provide the background for the in-depth discussion that will be held during the next phase of the methodology (the national workshop). During the workshop, the information gathered at this stage will be completed with additional details and participants will add a qualitative dimension, identifying strengths and weaknesses and possible gaps and overlaps.

The idea is to answer two sub-questions:

E1 - What is the country's legal framework for disaster management?

EXAMPLE: The legal framework for disaster management at national level is provided by the Natural Calamity (Relief) Act of 1982. The Act covers natural and technological disasters and gives the Ministry of Home Affairs certain emergency responsibilities. The law, which deals exclusively with the response side of disaster management, is considered rather sketchy and does not provide for the participation of civil society organisations (with the exception of the Nepal Red Cross) nor of international actors in the response activities. In addition to the 1982 Act, in 1993, with the support of the (then)

IDNDR National Committee, the government elaborated a National Action Plan on Disaster Management in Nepal, which was presented at the first World Conference on Disaster Reduction in 1994. The Plan was revised in 1996, but, according to many interviewees, was never put into practice. Reasons for that include a) lack of an entity to oversee the implementation of the plan, b) lack of real political commitment on the part of the national authorities, c) conflicting mandates among governmental entities and d) the difficult political situation.

E2 - How does the national legal framework translate into an institutional setup? (For each institution, provide information on reporting lines, internal organization and capacities in terms of human, material and financial resources)

EXAMPLE: The Central Natural Calamity Relief Committee (CNCRC) is the top body of the disaster response system in Nepal. This Committee, headed by the Minister of Home Affairs, consists of the Minister of Health, the Minister of Physical Planning & Works, Secretaries of other ministries, representatives from the Royal Nepalese Army and the Nepal Police, the Director Generals from the Department of Mines & Geology and from the Department of Hydrology & Meteorology, as well as representatives from the Social Welfare Council, the Nepal Red Cross Society and the Nepal Scouts. Following a disaster, the CNCRC meets as and when required to address the needs of the affected population. The Committee is also involved in coordination of rehabilitation efforts. The Committee controls a Central Disaster Relief Fund, which occasionally is supplemented by the Prime Minister's Fund. At the district level, the District Natural Calamity Relief Committee (DNCRC) is the nodal body for coordinating relief efforts. This Committee, chaired by the Chief District Officer, consists of representatives from public sector organisations such as the District Health Office and the Nepal Red Cross Society. The Natural Calamity (Relief) Act, 1982 also accommodates the provision for the establishment of regional and local disaster relief committees as and when required.

F. What is the national setup for the management of environmental emergencies?

This is the final question for the information gathering phase of the NCAM. It follows the same format of question E, but it concentrates specifically on the response to environmental emergencies. As this is the ultimate subject of the NCAM, the question explores two additional areas that were not considered in the previous question.

The sub-questions are therefore four:

F1 – Where is the management of environmental emergencies institutionally located in the overall national system for disaster management?

F2 - Which individual institutions are involved? (For each institution, provide information on reporting lines, internal organization and capacities in terms of human, material and financial resources)

F3 - What other national capacities exist that are relevant for the management of environmental consequences of natural disasters or of technological disasters?

F4 - What international actors are present in the country with specific activities and/or capacities for the management of environmental consequences of natural disasters or of technological disasters?