Section B1

The ECLAC Methodology for SIDS

An introduction to the ECLAC Methodology for SIDS

Objectives

- Introduce participants to the methodology that ECLAC has developed and continues to develop to measure the effect of damage caused by natural disasters.
- Define the post-disaster cycle.
- Describe the main areas addressed in the Methodology.
- Define ECLAC's role in training in disaster assessment, the identification of projects and the identification of activities within the philosophy of vulnerability reduction and mitigation.
- Set the stage for the adoption of the methodology for use by participants at national level, enabling them to produce damage estimates that are in keeping with a structured approach, while paying attention to vulnerability reduction and mitigation.

The methodology is multidisciplinary in nature and draws on the expertise, skills and knowledge of a number of professionals in a number of disciplines. These people are brought together to manage information for the purpose of deriving an estimate of damage and proposing vulnerability reduction and mitigation after the occurrence of a natural event.

Introduction to the ECLAC methodology for assessment of damage caused by natural events in Small Island Developing States

This activity began in Santiago, Chile with a small ECLAC mission to a Latin American country that had suffered from the effects of a natural disaster. The mission was accomplished by a staff member who had not been appointed specifically to conduct this type of study. The first attempt was successful and set the stage for successive improvements to the manner of conducting the valuations, until a comprehensive documentation of the manner in which the assessments were to be approached was produced. The manual was unveiled to staff at the Subregional Headquarters in 2000. Its usefulness was noted and its point of reference was understood to be Latin America - largely continental Latin America. The Subregional Headquarters for the Caribbean commented on the fact that the manual did not fully address some of the issues that are germane to small islands. It then set about producing a modified document that would reflect the geographical, ecological and other realities of the Caribbean and other small island developing states. It has also recognized that the social issues that emerge from a natural disaster are significant and must be addressed in the assessment. Effects on the environment may be significant and have merited much attention in more recent times. In the case of the Caribbean countries, the coastal zone is of great importance to social and economic activity. The sustainability of much economic and social activity is dependent on the extent to which the delicate ecological balance can be maintained. This fact has been observed and is reflected in the revisions being made to the ECLAC Methodology with small island states in mind. The elaboration of material on coastal zone management and watershed management bear testimony to the perceived importance of these two areas to the Caribbean and other similar small island states.

The manual does not address the in-depth study of the origins of disasters although it introduces its work with recognition of such reports as prepared by other agencies better poised to do so. Its focus is not the actions undertaken during the emergency phase immediately following a natural event. This phase is well treated by the activities of a number of agencies that are well geared to intervene then.

The manual is therefore directed to documenting the steps to be taken to produce the valuation of damage. This is important in that it makes the case for official action to mitigate its effects, avoiding a repetition in the future, of damage due to the same correctible features that may have amplified the damage. The valuation of the damage is also important to the extent that it develops reconstruction programmes and mitigation strategies that may be funded

with the objective of disaster reduction which encompasses risk management and vulnerability mitigation. The discussion of reconstruction programmes takes into account an assessment of the worst affected social, economic, infrastructure and environmental sectors as well as geographical areas that require priority attention. It considers the capacity of the local economy and society to absorb project assistance, given the nature and size of its labour force.

Some population segments tend to be more vulnerable to damage from natural disasters. They tend to be the low income strata that settle in areas of great risk. The landslides in Venezuela in 1999 claimed at least 30,000 lives as poor people who had built their hovels on precarious mountain slopes and rock faces became victims to the severe weather conditions. The flooding that accompanied Hurricane Michelle in 2001 caused the evacuation of several riverine communities in Jamaica. Communities were disrupted and their inhabitants may never come together again.

Whereas there may be natural events that at times alter the ecology in a given part of the world, natural disasters come about only when there is interaction between man and nature.

The ECLAC Subregional Headquarters perceives an emerging use to which the methodology can be put. To the extent that the Caribbean countries are vulnerable to natural events in a manner that can impact severely on their economies and societies, planning for vulnerability reduction should not be relegated to an ad hoc exercise after a natural event. It should be brought into the mainstream of social and economic planning. The macroeconomic and social planning apparatus in the Caribbean countries should take on board the issues raised in the manual.

Defining the post-disaster cycle

The post-disaster stage may be depicted as segments of a continuum. There is actually no sharp cut-off point between the end of one phase and the beginning of the other. In terms of a linear progression of events, the post–disaster stage may look like the following depiction:

Three different stages define the post-disaster cycle. They are the following:

- Emergency
- Rehabilitation and recovery (also called “transition”)
- Reconstruction

ECLAC's entry into the post disaster evaluation is after the Emergency phase. Immediately after the disaster, much trauma and confusion is the order of the day. In this phase, exaggerations of loss of life and damage are bandied about. By the fourth week, a more detached view of the damage is possible. By that time, officials are in a position to review the earlier estimates of damage and work with the ECLAC team of assessors to arrive at a dispassionate evaluation of the damage.

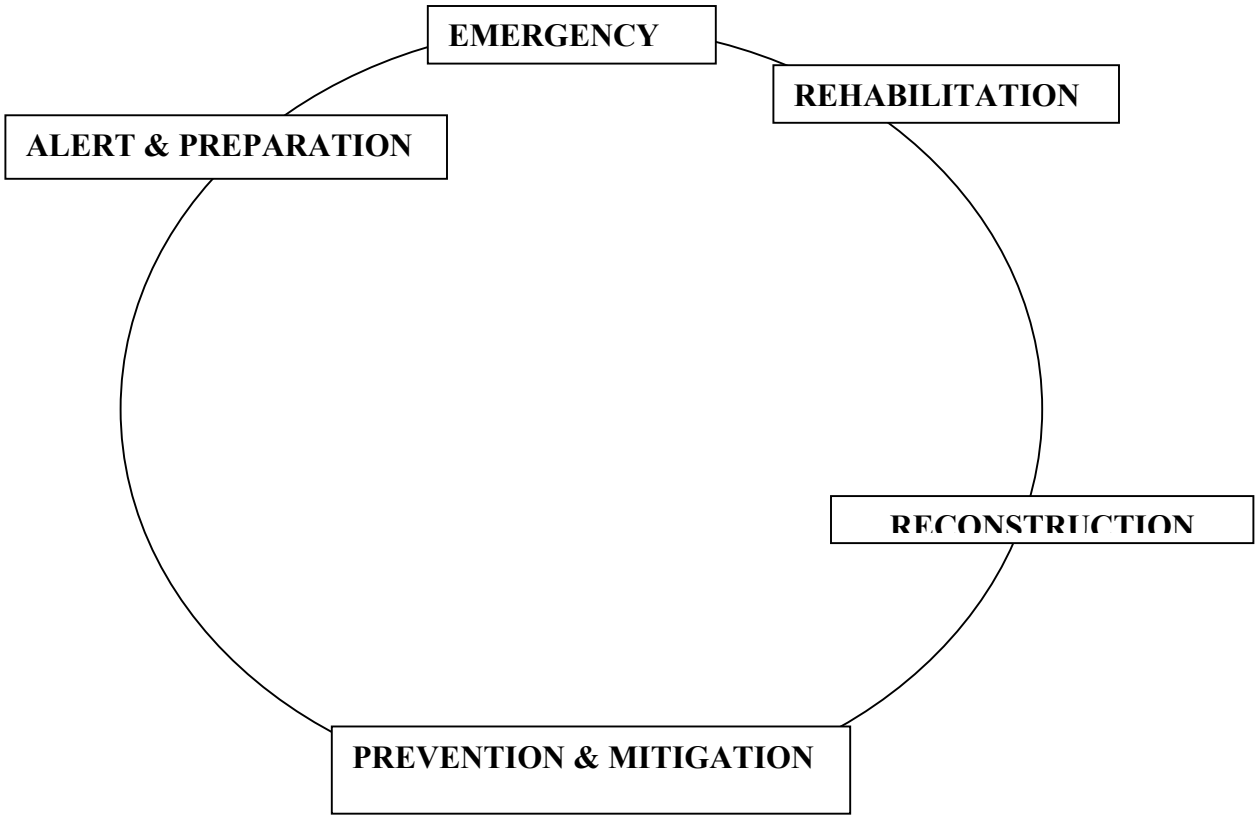
The **emergency** stage is the immediate aftermath of the event where the priority is to save lives, engage in evacuation, search and rescue and bring immediate relief to the victims. In this phase, the provision of first aid, emergency medical care, shelter for displaced persons is a top priority. At the same time, the restoration of transport and communication links, public utilities and the registration of casualties are the focus of attention. Preliminary estimates of damage are made to present an order of magnitude of the disaster.

The **rehabilitation** stage seeks to rectify damage to partially destroyed property. Essential services, public utilities and infrastructure are targeted for attention. In this phase, the emotional and psychological recovery of persons affected by the disaster is a priority. This stage sets in motion the actions that would permit a return to work and production. In this period, affected persons may be assisted by loans to facilitate repairs to property. An evaluation of direct and indirect damage and the secondary effects of the disaster is conducted at this time. This is the stage at which the ECLAC evaluation would be undertaken.

The **reconstruction** stage pays attention to those activities that restore the damaged areas to some state of normalcy. This is a medium to long term activity and pays attention to the design factors that either contributed to the damage or were not robust enough to withstand damage. Reconstruction is accompanied by mitigation as destroyed physical assets are rebuilt more robustly than before. For purposes of the evaluation, this period may extend to as much as five years.

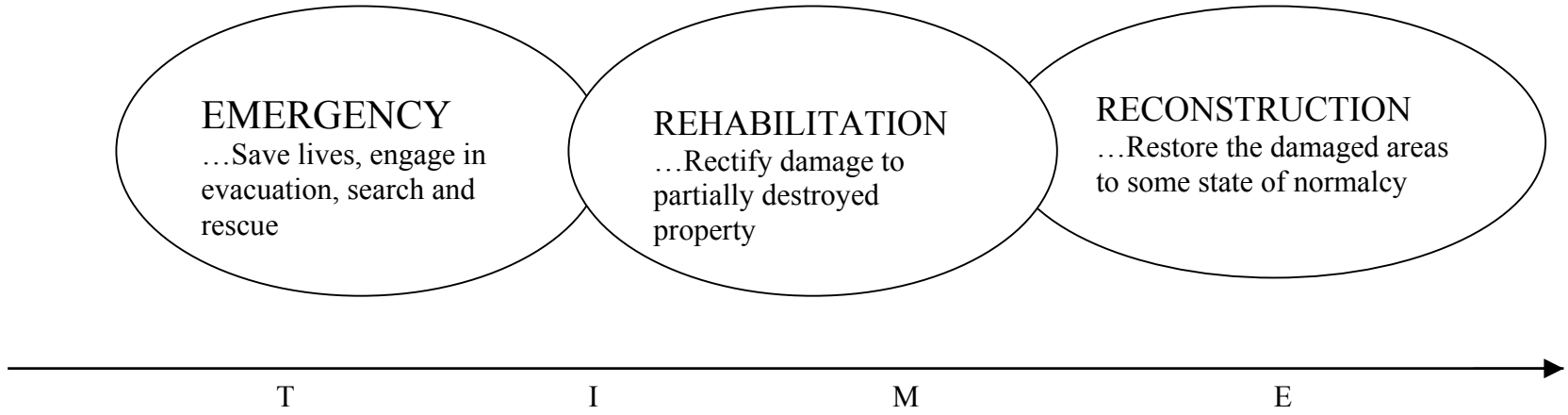
Chart 4

THE DISASTER MANAGEMENT CYCLE



The flow lines in the above graphic go in a clockwise direction, starting from the emergency phase.

Chart 5
A TIME LINE OF THE POST-DISASTER STAGES



The interlocking sets as represented in the above chart depict the possibility of overlap of phases. ECLAC's activity may well fall in the intersection of the Emergency and the rehabilitation phases, to the extent that these may overlap, as in the above diagram.

International Interest in Disasters

Among the leading international organizations there is interest in responding to natural disasters, mainly as a means of alleviating the associated human suffering.

In the **United Nations**, the Department of Humanitarian Affairs, the United Nations Development Programme and the Office of the International Natural Disaster Secretary devote considerable resources to responding to natural disasters an alleviating the human suffering for which there can be no dollar estimate.

In the Caribbean, organizations such as CDERA become involved at the emergency phase.

To an increasing extent there is recognition among the funding agencies that include the World Bank, the Inter-American Development Bank and the Caribbean Development Bank of the work of ECLAC in the area of natural disaster damage assessment.

Agencies such as the Inter-American Development Bank require an ECLAC valuation of the damage to be made as a pre-requisite to considering project financing. The ECLAC valuation therefore lends credibility to the report on damages and assists in the acceptance of the estimates as coming from an independent source.

The main areas addressed in the Methodology

The methodology is an accounting framework for measuring damage categorized into economic and social and further classified into direct and indirect effects of the natural event. It is used to produce a report that is presented in accordance with the format that follows:

- Description of the natural event that caused the disaster. This will describe the conditions leading up to and including the event, outlining in broad terms the geographical scope and nature of the damage.

- Assessment of damages to the productive and social sectors, including some commentary on gender relations affected by the event. In this section of the methodology, measurement of direct, indirect and secondary damage is made, and includes the assessment of the social conditions at the time of the event. It also considers the social and gender relations fallout after the event.

- The description of the affected population and their health, housing and education needs

- Damage to the infrastructure

- Impact on the economic sectors. Here valuations of direct, indirect and secondary damage are presented.

- Overall effects of damages and discussion of a reconstruction and mitigation programme that would:

    1. seek to avoid a recurrence of damage because of known design or human practice defects that amplify damage
    2. be compatible with the country's development strategies
    3. improve existing conditions and to foster national development

- The presentation of project profiles for funding.

ECLAC's role in training in disaster assessment

A trained cadre of nationals can conduct the assessment of damage in accordance with the ECLAC Methodology. Training recognizes the need to transfer knowledge from the trainer to the trainee. Transfer of knowledge is one of the main planks for building sustainability in small island developing states. The creation of this capability will ensure that the countries prepare for retrieval a number of data sets for conducting the damage assessment. The use of the ECLAC Methodology will impart objectivity and a quality level to the valuation that would gain ready acceptability to the international donor community. The local officials who will form the assessment team will have the benefit of training from the ECLAC team and will collect relevant data in the format required for analysis.

ECLAC's training demonstrates the use of already collected and organized data sets on a variety of subject matter areas that must be consulted before an estimate of damage is made. In this regard, the training emphasizes the need to work with the local producers of statistical data to gain an understanding of the mechanism of the economy and society so as to evaluate loss. The systematic use of national data and the integration of data sets with demographic and social overlays contribute to the derivation of quality estimates.

The training offered by ECLAC highlights a number of natural phenomena that are more directly and intimately related to small islands and island ecosystems than continental environments. Aspects of the delicately balanced ecosystems of the Caribbean countries require assessment in terms of the damage done to them. Special knowledge sets such as those possessed by coastal engineers, drainage specialists, and physical planners are required to contribute to estimates of the damage to the elements of the ecosystems relevant to the small island states.