

# **Section B2**

## **Key Concepts and Definitions**



## Objectives

- ❑ Point out a number of concepts and definitions that will recur throughout the sessions. They are important to the understanding of the methodology. They must be fully understood if the ECLAC Methodology is to be used proficiently.
- ❑ Prepare the reader to understand the concepts of direct, indirect and secondary damage that are used throughout this manual.



## **Introducing a number of key concepts and definitions**

Throughout the training manual, a number of concepts and definitions are used. For ease of reference they have been included in a glossary that accompanies this training manual. A number of key concepts and definitions are presented here. These form the basis on which the assessment is built. Understanding them will make the task of coming to terms with the methodology easy.

An assessment is a valuation of property. In the ECLAC methodology it refers additionally to the compilation of quantitative information and additional background information that permits an appraisal of the conditions prevailing before the disaster and of the scope and magnitude of the damage and its secondary effects.

### **❖ Direct Damage**

Direct damage refers to total or partial destruction to the stock of productive assets, infrastructure and inventories. Plant and machinery, buildings, all immovable assets, stocks of raw material, spare parts, finished and semi-finished products and the stock of land are assessed for direct damage if such damage is sustained at the time of the natural event. Any emergency demolition or clearing activity embarked on as a result of the direct damage as described is considered to be an element of direct damage.

### **❖ Indirect Damage**

Indirect damages refer to the damages stemming from the interruption to the flows of goods and services and income. It can be defined as the sum of the value of income foregone and the increase in costs and expenditures. Loss of business stemming from a drop in tourist arrivals or because of the loss in room capacity, is the main source for the loss of income. Examples of costs include the costs for an additional post-disaster marketing campaign, and also costs for additional or temporary equipment such as generators.



### ❖ **Total Cost of Damages**

This is the sum of direct and indirect damages, in physical terms and in terms of monetary value, that were caused by the disaster. The total cost of damages does not take into account the loss of human life. It merely records the number of deaths, injured, disappeared or severely affected. The main difficulty arises from the difficulty in putting a value to human life.

### ❖ **Secondary Effects**

Secondary effects are a consideration of the impact of the event on the behaviour of the main macroeconomic variables. They represent **another view** of the impact of the natural event when looked at from the viewpoint of economic growth, balance of payments, national debt and the level of monetary reserves, public finances, net capital formation, the general price level, employment and income. Much of the effect on the population or population groups may be included in secondary effects.

Secondary effects are not to be added to the valuation of direct and indirect damage.

### ❖ **Mitigation**

Mitigation refers to the minimizing or avoiding of adverse impacts that are due in part to human actions. It involves the reduction of vulnerability to natural hazards.

The extent to which people can alter some practices or adopt new ones will determine the extent to which they would have introduced mitigation into their situations. For example, placing shutters on a dwelling house and painting the exterior walls safeguards against substantial wind and water damage.



### ❖ Risk valuation

This term refers to social and economic damage caused by disasters and the methodology to analyse them.

### ❖ Hazard

An activity or situation that is an actual or potential source of harm or injury. It may arise or be caused within a defined area.

### ❖ Reconstruction with mitigation

Re-building of physical assets that were either partially or totally destroyed in the natural event. Reconstruction incorporates mitigation to enhance the chances of survival of the asset in another similar or different natural disaster. It would not be prudent to engage in reconstruction to replace the asset in its vulnerable state, providing no benefit from lessons learned and establishing the same probability of damage to the asset as existed before the event. The implementation of mitigation signals that lessons have been learnt. This is perhaps the single most important aspect to the country, arising out of the ECLAC Methodology for small island developing states.

### ❖ Replacement Costs

Valuation of assets is done on an “historical accounting cost” basis. This takes into account the present value of assets, adjusted for depreciation, wear and tear and level of maintenance or repair. Replacement at current costs of similar goods or reconstruction with mitigation would tend to inflate the valuation. An unbiased assessment seeks to remove the chance of gain from a disastrous natural event.



## ❖ Stocks and Flows

A stock is an economic magnitude measured at a point in time (money supply or international reserves on December 31 1999). A flow is an economic magnitude measured as a rate per unit of time (gross domestic product, investment, savings are flow magnitudes). The difference between stocks and flows is often explained by the analogy of a water flowing in a bathtub or rivers flowing into and out of a lake. As put by Godley and Cripps in their textbook *Macroeconomics* (New York: Oxford University Press, 1983) p.36:

“The difference between stocks and flows and the relationship between them is illustrated by the analogy of rivers flowing into and out of a lake. The movement of water in the rivers can be measured as flows –i.e., quantities of water moving past a given point per designated period of time. The quantity of water in the lake is a stock which can be measured at any point in time, There may be a precise relationship between flows into and out of the lake and changes in the stock of water it contains. If we could be certain that there were no net movements of water into and out of the ground and air the difference between the inflow and the outflow in any period would be exactly equal to the change in the stock between the beginning and end of that period”.

