Annex 1

Case Study

Guidelines to the Social Sector and Questions for Case Study

1. Be sure that you collect accurate baseline data regarding the population in the affected area.
2. Be sure you collect accurate baseline data regarding the social sectors in the affected area(Number of schools, houses, health facilities, cultural centres i.e museums, et al)
3. Liaise with the relevant and knowledgeable personnel for extent of damages.
4. Detail, using worksheets, extent of damage and develop an audit trail for costing.

❖ Relevant Questions

- What is the magnitude of the affected population.
- What is the extent of damages in each social sector.
- What is the cost.
- Determine the secondary effects, if any.
- Identify at least one project for recovery and mitigation.

Guidelines for the manufacturing and commercial sectors

1. Identify the different sources of information for the manufacturing and commercial sectors.

2. Determine the importance of the manufacturing and commercial sectors.

3. Analyse the composition of the manufacturing and commercial sectors in terms of firms, products, employment and geographical location.

4. Analyse the linkages of the manufacturing and commercial sectors with the rest of the economy (employment, income, contribution to fiscal revenues, linkages to other economic sectors).

5. Define the methodology for assessing the damage in both sectors.

6. Compute estimates of the damage.

7. Identify the reconstruction priorities of the sectors.

Exercise for manufacturing and commercial sectors

This exercise posits a hypothetical case. Assume that a natural disaster, say a hurricane has occurred in region X in 2003. Further, assume that: i) the production losses amount to 84 thousands of units of national currency and that the damage to the manufacturing sector and the trade sector are provided in Tables 1 and 2; ii) GDP for 2002 is equal to 43.7 millions of units of national currency and the GDP estimated for the year 2003 before the disaster occurred was equal to 44.7; iii) The ratio of value added to the gross value of production is equal to 0.37. The requirements of the exercise are to estimate the direct and indirect damages to industry and trade and to calculate its impact on GDP.

Table 1
Direct damages to the manufacturing sector

	Number of companies	Employment	Buildings and installations (000)	Machinery and equipment (000)	Furnishings and vehicles (000)	Inventories (000)	Total
Total	1064	6250	257.1	340.4	167.5	207	
Large companies	14	1800	14.2	90.2	14.5	35.0	
Mid-sized companies	400	1200	182.0	232.2	141.0	160.0	
Small companies	650	3250	60.9	18.0	12.0	12.0	

Source: ECLAC, 2001

Table 2
Lost value added for the commercial sector

	Number of establishments	Employment By establishment	Total employment	Annual value added	Accumulated losses (millions)
Small shops	1500	5	7500	560	4.2
Fruit and market stalls	500	3	1500	340	0.5
Gas stations	50	15	750	1120	0.8
Department stores	5	15	75	2360	0.2
Total	2055		9825		5.7

Source: ECLAC, 2001

Table 29 provides the estimations of the direct damage to the manufacturing sector by category (buildings, machinery, furnishings and inventories). The total direct damage is equal to 972 thousands of units of national currency. Total damage is obtained by summing direct damage (equal to 972 thousands of units of national currency) and indirect damage which refers to production losses. Production losses was given as a part of the data of the problem and is equal to 84.2 thousands. Thus total damages equals 972+84.2 = 1056.2 thousands of unit of national currency.

To be able to calculate the effect of the damages to the manufacturing sector on GDP it is necessary to obtain the value added of the lost production. The values added is computed for the manufacturing sector by applying the ratio of the value added to the gross value of production provided in the description of the available data. That is by multiplying (0.37) by 84.2. Thus the value added for the manufacturing sector is equal to 31.15 thousands of units of national currency.

In the case of the commercial sector. The value added is obtained by multiplying the value added per worker by the total employment in the affected establishments. This total value added is computed in the last column of table 2 above by multiplying the value added per worker by the total employment in the affected establishments. The total value added lost in the commercial sector equals 5.7 millions of units of national currency.

The total value added lost in the manufacturing and commercial sectors is equal to 5.7 + 31 = 5.73 million. The GDP estimated for the year 2003 before the disaster was equal to 44.7 million. Subtracting 5.7 million from 44.7 million gives the GDP in absolute value taking into account the effects of the disaster on the manufacturing and commercial sectors. The GDP taking into account the disaster is equal to 39.1 million. The rate of growth of GDP for 2003 prior to the disaster was 2.3% and -9% after taking into account the disaster. Thus the secondary effects result in a decrease of 12% percentage points in the rate of growth of GDP. Table 3 summarizes the results.

Table 3
Effects of manufacturing and commercial sector damages on GDP
(Secondary effects)

	2002	2003	Rate of growth
GDP without disaster	43.7	44.7	2.3%
GDP with the disaster	43.7	39.0	-11%

Source: ECLAC, 2001