# Section C5

# Tourism

**Objectives**

❑ The pre-disaster scenario.

❑ Estimating the direct and indirect damages.

❑ Indications of tourism induced secondary effects.

❑ Establish the path for reconstruction and recovery.

**Introduction**

Tourism is a major economic sector and earner of foreign exchange in the insular Caribbean and is increasingly becoming important in Central America. However in most countries tourism is an ill-defined sector because the tourism sub-activities are classified under a range of headings in national income accounting. Nevertheless in most countries the "Hotels and Restaurants" (SITC Rev.3, division 55) category gives an indication of the importance of tourism to the economy.

Within the broad concept of tourism one can distinguish the following components which are of importance to the different countries of the region. These can be either divided by source, e.g. domestic and international, by place of stay (hotels or guesthouses, yachts or cruise ships) or by main purpose of visit, e.g.

- Holiday, mostly coastal tourism (many Caribbean islands[1], certain coastal areas of Central America and Mexico), tourism based on the natural and cultural heritage (mostly Central America), and yachting and other forms of marine –based tourism.
- Business travel
- Conventions
- Visiting friends and relatives.
- Other (e.g. shopping, events)
- Excursionists (e.g. Cruise Ship visitors)

The importance of each sub-category can differ according to the amount of money visitors spend and contribute to the economy. For the methodology below we will focus on tourism expenditures.

Tourism in the Caribbean is seasonal, with a high season from December to April and a low season from March to November. This does reduce the vulnerability of the sector to the impacts of tropical storms and hurricanes because these storms tend to occur during the low season, a period when the tourism sector focuses on maintenance and may have reduced staffing levels. However this 'timing advantage" is counteracted by high risk development practices when accommodation facilities are constructed in high risk zones, establishments engage in operating practices

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[1] These would include those islands forming part of Mexico, Central American or South American countries)

which put additional stress on those very natural resources which constitute a first defence against the effects of tropical cyclones, or both.

**Photo 24**
**Anguilla:  Impact of Hurricane Lenny on tourism infrastructure**



Source:  Anguilla Planning Office

## Delimiting the affected zone

In small islands the whole island may be affected by a tropical cyclone, but in the larger islands or in multi-island countries the impacts of the weather system may be much more localized. A first task is to establish the boundaries of the affected area.

## Overview of the sector: The pre-disaster scenario

Understanding of the tourism sector in the area prior to the disaster is the starting point for the evaluation. Generally it is helpful to prepare a table with the main indicators of past tourism performance. This table will provide a basis estimating direct and indirect damages. Below is such a summary Table 16, drawn from an assessment of Anguilla following hurricane Lenny in 1999.

**Table 16**
## Indicators of Past Tourism Performance

| Indicator | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 (e) pre hurricane |
|---|---|---|---|---|---|---|---|---|
| Accommodation (Rooms) | 920 | 978 | 913 | 951 | 866 | 915 | 1045 | 106 |
|    Hotel | 447 | 518 | 523 | 538 | 489 | 539 | 588 | 678 |
|    Guest house | 75 | 62 | 50 | 45 | 45 | 45 | 46 | |
|    Apartments,villas,other  (rms) | 398 | 398 | 340 | 368 | 332 | 331 | 411 | |
| No. of Tourists (thousands) | 32.1 | 37.7 | 43.7 | 38.5 | 37.5 | 43.2 | 43.9 | 49.1 – 50.0 |
|    By air | | | | 28.3 | 26.8 | 31.3 | 27.9 | |
|    By sea | | | | 10.2 | 10.7 | 11.8 | 16.0 | |
| Average intended length of stay (days) | | 9.7 | 9.4 | 9.5 | 9.4 | 9.5 | 9.2 | |
| Estimated visitor expenditure (US $ million) | 38.2 | 47.1 | 53.9 | 48.5 | 48.0 | 57.2 | 58.1 | 64 - 65 |
|    Tourist | 35.8 | 44.1 | 50.4 | 45.6 | 45.9 | 54.1 | 54.9 | 61 - 62 |
|    Excursionist | 2.4 | 3.0 | 3.5 | 2.9 | 2.1 | 3.1 | 3.2 | 3.2 |
| No. excursionists (thousands) | 61.1 | 73.7 | 82.1 | 68.6 | 48.7 | 70.7 | 69.9 | |
| Accommodation Tax (EC$ million) | 3.4 | 4.4 | 4.9 | 5.2 | 3.5 | 5.7 | 6.3 | 7.5 |
| Contribution to GDP (Current factor cost, EC$ million) | | | 68.8 | 57.7 | 54.3 | 625 | 66.3 | 69.0 |
| Contribution to Balance of Payments (EC$ million) | | | 152.0 | 135.7 | 137.2 | 163.0 | 166.5 | 185.0 |

e = estimate
If the data permits it, a column giving the year to date performance of the tourism industry should be included before the 1999 (e) pre hurricane column.
Source: 1992 to 1998 Government and ECCB data. 1999 Mission estimates, except for contribution to GDP which is a Government/ECCB estimate.

The last column is prepared following an analysis of the trends in flows of tourist arrivals and, if available, tourist expenditures and of the major tourism dependant economic and public finance variables. The use of sophisticated models is not advocated. Rather rely on expert opinion and on a simple comparison of the current year with that of the previous year. This evaluation will result in estimates for room capacity (including rooms under construction), pre-disaster arrivals, tourism expenditures, balance of payments and the contribution to GDP.

Another aspect of the above analysis is the identification of those components of the tourism infrastructure and superstructure not covered by the evaluation of other sectors. Typically this could include hotels and guesthouses, natural and cultural heritage attractions, marinas, yachts and other vessels used for marine based tourism (e.g. dive vessels, sport-fishing boats, etc.). It may also be necessary to include cruise ship harbours and jetties if these are not included in the evaluation of port and harbours. By and large these are stock variables.

Based on stock analysis, which should include estimates of facilities under construction or planned, and the flow analysis an estimate needs to be made of the tourism's sector performance in absence of the disaster. This estimate would form the baseline against which the tourism sector's performance after the disaster is compared[2].

The stock assessment would form the beginning of the worksheet that will be completed for the estimate of the direct damages.

The Table 17 below is a fictitious example of the beginning of a worksheet, which will form the basis of further examples and exercises in this chapter.

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[2] Different estimating methods (and data sources) will have to be used for foreign tourism, domestic tourism and cruise ship visitors

**Table 17**
**Example worksheet**
**pre disaster capacity**

| Name | Rms/berths | Employees | Category | Notes |
|---|---|---|---|---|
| Laguna Hotel | 350 | 400 | Luxury | |
| Mary's Guesthouse | 15 | 3 | Simple | |
| La Mer Marina | 25 | 55 | Marina | 350 slips |
| Buccaneer | 45[3] | | | Charter boat, 15 boats, 3 cabins each |
| Mt. Peak Reserve | | | | Nature reserve |
| Charlies | 25 | | medium | Under construction, ready by December |

The total number of rooms and berth will be the same as accomodation in the pre-hurricane of the (previous) summary table.

## Estimating direct damages

Direct damage refers to the damage suffered by the productive assets, infrastructure, equipment, inventories and soft furnishings. By definition they are damages that occurred at the same time as the disaster.

The direct effect on buildings will be similar to those as described in the housing sector. However direct damages to soft furnishings, inventories, landscaping and equipment will have to be included also. Damages to beaches may be so severe that human intervention is considered to be necessary and the cost of artificial beach restoration should then be added to the direct cost of the tourism sector.[4]

Based on Table 17, the continuation of the worksheet would then proceed to the estimate of the direct damages by property as indicated in the example worksheet below. Depending on the tourism product a different table may have to be constructed for each major component (e.g. yachting, hotels, nature reserves) to allow for a detailed analysis. A typical worksheet for hotels and guesthouse would be:

[3] Total cabins equivalent to number of rooms
[4] This cost may also be included in the environment section of the report. In that case the assessor should be aware of possible double counting.

**Table 18**
**Example worksheet**
**Direct damages for hotels and restaurants**
**(Cost in US$ 000's)**

| Name | Rooms damaged | | Rooms destroyed | | Other buildings | Equipment | Soft furnishings | Inventories | Landscaping + beach restoration |
|---|---|---|---|---|---|---|---|---|---|
| | No. | Cost | No. | Cost | Cost | Cost | Cost | Cost | Cost |
| Laguna Hotel | 70 | 3500 | 50 | 5000 | 300 | 1200 | 400 | 200 | 10,000 |
| Mary's Guesthouse | 1 | 15 | 1 | 40 | | nil | 5 | nil | nil |
| Charlies | 25 | 250 | na | na | | nil | nil | nil | nil |

Separate tables may be necessary for other buildings (restaurants, pools, lobby etc.), equipment, soft furnishings, inventories (including stocks of food and drink) and landscaping and beach restoration.

A table for yachts would differ from the hotel/ guesthouse table in that yachts are the crucial variable and not number of cabins or berths. Also, often equipment and soft furnishings will be included in the estimated cost of direct damages to yachts. Stores (stores are equivalent to inventories in the marine sector) are onboard supplies plus inventories a charter boat company may keep in stock.

A table for marinas is also different in that slips are the crucial variable. However, accommodation should be accounted for in the worksheet for hotels and guesthouses.

Alternatively adding two columns, one for yachts and one for slips, could expand Table 18.

Direct damages for cruise ships are rare because most ships will divert following a storm watch warning. Damages to infrastructure should be accounted for under infrastructure: ports and harbours.

*Exercise 1:*

*Prepare a similar table as Table 17 for La Mer Marina and the Buccaneer. Assume that 20 ships are fully destroyed at an average cost of US$ 25,000 each. For the Buccaneer assume that 8 boats are lost at a cost of US$ 450,000 each and 3 boats got damaged at a cost of US$ 50,000.*

## Estimating indirect damages

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.

Depending on the severity of the disaster the Loss of Business (LOB) can be significant and the procedures outlined below show the estimating procedure.

The initial supply constraint stems from the closure of airports, roads and ports and harbours. Because these closures affect all aspects of life and in particular the emergency operations the restoration of transportation infrastructure is invariably of high priority. Three types of indirect costs can be involved:

- Loss in tourism receipts because of a drop in arrivals. These losses will be partly offset by expenditures by relief workers and missions from outside the affected area.
- Loss in tourism receipts because existing guests leave before the event
- Additional costs incurred by tourism establishments because of non-departure of existing guests.

Of longer duration can be the loss in accommodation capacity (loss of rooms and of yachts). On an establishment by establishment basis the analyst needs to estimate how the direct damages will affect the operations of that establishment. This can be estimated by:

**LOB = No. of rooms not available \* no of days of non-availability \* realised room rate \* occupancy rate.**

Whereby LOB = Loss of Business of the individual establishment. Realised room rates[5] and occupancy rates may not be available on an establishment level and the analyst may have to rely on expert opinion.

Note that not all losses in room capacity have to result in LOB. Indeed if the occupancy rate is low then the loss of a few rooms may not prove to be a constraint on operations.

The estimate of the LOB may require the use of separate worksheets. Table 20 would set out the basic information that is necessary to estimate the dollar value of the LOB as shown in Table 19.

In Table 19 the column with notes shows the information when rooms or yachts will become available and this information is used in Table 20 to estimate the days of non-availability of rooms or yachts.

**Table 19**
**Example worksheet**
**Datasheet for the LOB estimate**

| Name | Rms or yachts | Rms or yachts not available | OLS % | OHS % | Rate LS US $/ day | Rate HS US $/ day | Notes |
|---|---|---|---|---|---|---|---|
| Laguna | 350 | 120 | 70 | 90 | 250 | 350 | 50 rms available by December 15, all others available by end of January |
| Marys | 15 | 2 | 50 | 70 | 60 | 80 | Rms available by December 15 |
| Charlies | 25 | 25 | | 80 e | 120 | 200 | 3 months delay in completion |
| La Mer | 25 | 25 | 50 | 70 | 60 | 80 | 10 available by December 15, remainder by January |
| Buccaneer | 15 | 11 | 40 | 80 | 300 | 500 | Only 6 owners decide to replace yacht. 6 months delivery. Company decides to ship in 8 yachts by December 15. |

Whereby: OLS = occupancy rate low season, OHS = occupancy rate high season, LS = Low season, HS = High season, E = estimate

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[5] Realised room rate is the rack or published rate less any discount.

Table 20 is estimated by using the data shown in Table 19 in the formula, which is repeated below.

**LOB = No. of rooms not available * no of days of non-availability * realised room rate * occupancy rate.**

For example, the LOB for the low season for Laguna is estimated by multiplying the 120 rooms which are not available during the low season, by the number of days the disaster to the end of the low season (30 days), times the realised room rate of US$ 250 per room per night, times the expected occupancy rate of 70 percent. For Laguna this results in a low season LOB of US$ 630,000.

**Table 20**
**Example worksheet**
**Estimating the LOB**
**(US$ 000's)**

| Name | No. of LS days | LOB LS | No. of HS days | LOB HS | Total LOB |
|---|---|---|---|---|---|
| Laguna | 30 | 120*30*250*0.7=630 | 45 | 45*70*350*0.9= 990 | 1520 |
| Marys | 30 | | na | | |
| Charlies | na | na | 90 | 90*25*200*0.8= 360 | 360 |
| La Mer | 30 | | 45 | | |
| Buccaneer | 30 | | | | |

Source:
Whereby: LS = Low season, HS = High season, E = Estimate, NA = Not applicable

*Exercise 2:*

*Complete Table 20 for Marys, La Mer and Buccaneer and estimate the total LOB.*
*Will all suffer Loss of Business?*
*Why is there no LOB for Charlies in the low season?*
*Discuss the decision by Buccaneer to ship in 8 vessels. Is it a LOB item?*

Following the above estimate of the LOB it needs to be assessed if there are possibilities for substitution in accommodation facilities within the country or the region. (For example a business visitor may decide to stay in hotel Capri rather than in hotel Laguna). If substitution is possible and likely then the above LOB estimate should be corrected to derive a net LOB.

Cruise ship schedules are established well in advance and tourism or port authorities should be able to provide detailed information on cancellations and restoration of cruise ship visits. The indirect effects stemming from such cancellations. Port charges and lost sales for vessel supplies should be accounted for in the appropriate sectors. The losses for the tourism sector are the losses in cruise visitor expenditures.

However, tourist expenditures are only partly spent in hotels and restaurants. Here a tourism expenditure survey can provide valuable insights in the first round expenditure patterns of tourists. If the survey is recent then little or no adjustment may be necessary. If the tourism expenditure survey is a few years old then the dollar figures are out of date. Arguable, however, expenditure patterns are less likely to change dramatically and the coefficients of the tourism expenditure survey can be used to estimate the total, first round, indirect effects.

**Table 21**
**Example worksheet**
**Analysis of Tourism Expenditure**

| Expenditure Category | Percentage |
|---|---|
| Accommodation | 54.3 |
| Meals/drinks | 23.7 |
| Transportation | 7.4 |
| Entertainment | 3.9 |
| Shopping | 6.8 |
| Other | 3.9 |
| All expenditure items | 100.00 |

The earlier derived LOB divided by the percentage of expenditures spent on accommodation will result in an estimate of lost tourism expenditures.

*Exercise 3:*

*Use the total LOB as estimated in exercise 2 and Table 21. above for the tourism expenditures, to estimate lost tourism expenditures.*

## Secondary Impacts

The secondary effects are the effects on macro-economic aggregates. In many Caribbean countries tourism is a major economic activity and tourism receipts form a major part of exports of goods and services. Therefore the post disaster performance of the tourism sector will have major impacts on the macro economic variables.

✳ **Employment and Income**

An immediate income effect will be the loss in service charges[6]. Whether or not staff will be dismissed following a disaster depends on national legislation in the country, the general employment level, gender, skill levels and if LOB is covered under insurance.

When an establishment goes completely out of business then the employment effect can be estimated based on previous years' data. Employment cost range around 30 percent of sales (plus or minus 5 percentage points)

The loss in employment may be offset by an increase in construction labour. Indeed the experience from previous tourism assessments indicates that accommodation establishments use existing staff for cleaning and reconstruction purposes.

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[6] In the English speaking Caribbean service charges are set at 10 percent. Whether or not these service charges are paid out to staff depends on the country and on the establishment.

✳ **Sectoral GDP**

A detailed review of the relevant parts of the national accounts can assist with the sector evaluation. Where this is not possible a crude tourism multiplier may have to be applied. A first impression of the range of values of such a multiplier can be obtained following the comparison of GDP and tourism expenditure data in previous years.

✳ **Balance of Payment Effects**

The immediate impact on the balance of payments is the loss in foreign tourism receipts, which is equivalent to tourism expenditures corrected for domestic tourism. This decline is offset by a reduced demand for inputs.

The reconstruction effort will be characterised by an increased demand for imports of construction materials, soft furnishings and equipment. At least part of this will be offset by insurance payments (typically around 80 per cent of insured damages will be reinsured) and private investment flows.

✳ **Government revenue and Expenditures**

There will be a loss in tourism related fees, direct and indirect taxes (e.g. departure taxes).

Possible increased tax subsidies (import duty waivers are common after a major disaster).

Possible increased welfare payments to tourism workers.

**Sources of information**

National:

Tourism authorities such as Ministries of Tourism, Departments of Tourism and Tourist Boards
Hotel and Tourism Associations
National Statistical Institutes
Central Bank
Insurance Companies
Past Tourism Expenditure Surveys
Port Authorities
Telephone Directories
Individual Tourism Establishments

International:

Caribbean Hotel Association
Caribbean Tourism Organisation
IMF
Reinsurance Companies
Internet

**Session results**

This session has shown the steps involved in preparing an assessment of the tourism sector. Particular attention was paid to estimate direct damages and to estimate of Loss of Business.