3 Impact Assessment Process, Measures and Methods

Learning objectives

☐ Know how to plan and implement an impact assessment

☐ Understand the uses and difference between the four process models: forecasting impacts, strategic, retrospective and post-event

☐ Be able to select and use appropriate impact methods and measures, and determine key impact questions and indicators for different IA applications

☐ Learn the variables that influence impact measurement: magnitude or severity; duration; spatial patterns; direct or indirect effects

☐ Know what methods are available for IA, and when to use them. In particular: Leopold matrix, rapid impact assessment, network diagrams, field and quasi experiments, trend analysis, scenarios, mapping, decision trees, simulation models, calculators, and visualizations

3.1 Introduction

We start with four planning or process models: one for forecasting impacts (the kind usually required by legislation for major projects); one for post-event or post-development IA; one of retrospective assessments of the impacts of events and tourism on a given state of the economy, environment or society; and another for strategic impact assessment (for policies, programmes and strategies). Figure 3.1 compares these models, with the ten steps in the forecasting model being the benchmark.

Then a range of generic methods or tools are presented, all of which can be adapted for many possible applications. Most basic is the IA Matrix, generally used to break down a project into its components and identify possible impacts of each. Other generic methods include flowcharts, checklists, mapping, decision trees, scenarios, consultations, forecasting with simulations, and trend analysis. Logic and TOC models have been explained in the previous chapter. Additional methods are discussed in the ensuing chapters, more pertinent to social, cultural, ecological, built-environment or economic impacts.

3.2 The IA planning process: four models

There are four models to consider, reflecting four major applications of IA compared in Figure 3.1. The steps outlined in the ensuing sub-section are the reference point for the comparisons.

3.2.1 Steps in the IA Process (Forecasting Impacts)

This model is the most generic, with many of its issues and elements being applicable to the other processes. This process must incorporate one or more forecasting methods, as discussed later in the chapter, or be tied to the Theory of Change Model with underpinning logic or theory. Compare these steps to the TOC model in Chapter 2.

Step 1: Initiation

Forecasting is typically done when there is a legal requirement to predict the impacts of proposed major developments, but also as part of feasibility studies for mega events and expensive investments in venues. These types of IA can influence decisions to bid or invest, or not, and of course to shape the nature of the event/project and decide upon mitigation actions.

A detailed specification of the event, project or change is desirable, but there might be uncertainty and alternatives to consider. Who is calling for the IA, or why is it required will influence how the IA is done, and its parameters. This could be highly political, responding to lobbying or stakeholder demands, so the mandate has to be determined and resources committed; a timeline has to be specified.

Step 2: Screening

If legal requirements have to be met, then a formal process will have to be followed, otherwise there will likely be flexibility in the process design and contents. In a formal IA there might be a requirement to establish a steering committee or a chain of responsibility, and who gets involved.

Step 3: Scoping

This refers to determining the size and parameters of the IA project. An IA might be restricted to economic, social or environmental impacts, or comprehensive. If stakeholders have a say in this determination, the scope is probably going to be wide. The objects and subjects of IA can be determined at this stage (e.g., a narrow economic impact study looking only at local business benefits, versus a full TBL study for the entire community and its environment).

Setting *Key Evaluation Questions* (KEQ) or *Critical Impact Issues* will help determine priorities and limits. This leads to the question: "What evidence will be provided, and how will it be used in reaching decisions?"

Step 4: Technical work

The technical work has to begin with a thorough analysis of the proposed event or project. An advisory panel might be useful at this stage, consisting of people with the necessary expertise to advise on the process. An initial question is: "What is there in the proposal that will likely change existing conditions or have a new impact?" A *baseline* will be established, being the existing conditions (or state) that might be affected by the proposal. In a narrow study this could be limited to economic conditions, but in a full TBL study the baseline conditions are very wide. Field work and original research might be required, complemented by reviewing existing data. Stakeholder input will be needed.

This is where a variety of generic methods can be employed, as described later in this chapter, plus methods specific to events and tourism as discussed in subsequent chapters. IA usually includes a matrix to identify elements of the proposal that might cause different types of impact.

Strictly speaking, IA and feasibility studies have different aims, but they can be combined. It seems foolish to determine potential impacts and not raise the question of whether the project is actually feasible in technical terms, as well as being financially viable, and desirable in terms of stakeholder preferences.

Assessment of alternatives is a feature of many IAs. This type of analysis compares alternative developments or policies as to impacts and eventually reaches a conclusion on which one is best, if any. Opening the process to public input probably will result in suggested alternatives (including "don't do it!"). Decision trees are discussed later, being adaptable to this purpose.

Step 5: Public and stakeholder consultations

There is no logical reason why consultations should not begin, perhaps informally, as soon as an event or project is suggested. Indeed, early input, media coverage or lobbying might lead to the decision to undertake an IA. A narrow IA process will consult only the key stakeholders, but this could be a difficult political issue. In stakeholder theory the question of 'legitimacy' always arises, being the determination of who has a claim to be heard or actively engaged in the process (Larson et al., 2015). In a broad IA, gaining legitimacy will require open public consultations augmented by targeted consultations with those who are deemed to be critical because of their knowledge, their power, or their probability of being impacted. Convening a citizens' advisory body might be desirable, especially where there is no established mechanism for pubic input. Methods include: open pubic forums; focus groups; general resident and specific stakeholder surveys, as discussed later.

Step 6: Forecasts

Impact forecasts have to be made, but uncertainty and risk almost always enter the picture so the assessors must answer the question "What is the prob-