3. Introduction

Between 1998 and 2000, the World Commission on Dams undertook an extensive research program to assess how effective large dams had been in providing irrigation, electricity, flood control and water supply, and at what cost, especially displacement and impoverishment of populations, and disturbance of ecosystems and fishery resources. It also aimed to develop internationally acceptable recommendations for all stages of planning, constructing and decommissioning of dams, within a human rights framework. The research included case studies, country studies, a survey, technical reports, submissions, and forums to examine and synthesise a range of technical, social, environmental and economic evidence. It brought together views from those displaced or otherwise affected by dams, as well as from dam funders and construction agencies. The Commission was established by the joint efforts of the World Conservation Union and the World Bank to respond to increasing controversy about, and opposition to, the building of large scale dams. The Commissioners, who represented a range of interests, produced a consensus report.[1]

As mentioned in Chapter 2, although the Commission's work is a prime example of the first domain of integrative applied research, its published documents offer only limited clues about a number of key questions concerning the synthesis of disciplinary and stakeholder knowledge, such as how the scope of the problem was determined and the framing decided, as well as the methods and processes used for knowledge synthesis. This drawback is currently widespread in integrative applied research because there is no agreed way to describe such investigations. In this section I therefore expand on the five-question framework introduced in Chapter 2. For this first domain, the five questions are the following.
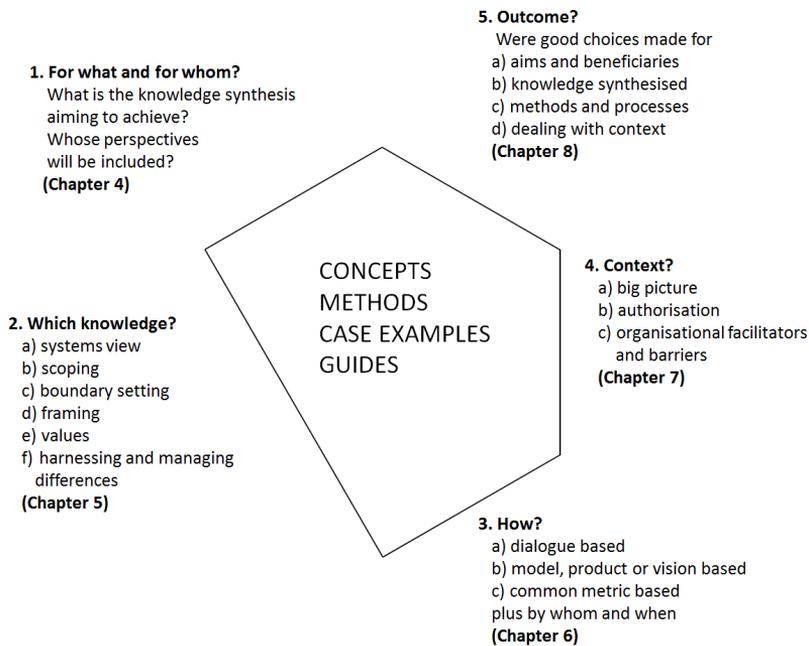
1. What is the synthesis of disciplinary and stakeholder knowledge aiming to achieve and who is intended to benefit? (For what and for whom?)

2. Which disciplinary and stakeholder knowledge is synthesised? (Which knowledge?)

---

1   World Commission on Dams (2000). The Commission's research provides a number of lessons for the development of integrative applied research and I2S. As pointed out in Chapter 2, it epitomises the problems associated with the lack of a standardised way to report on integration and implementation. Nevertheless there are useful illustrations that can be drawn from its approach, some of which are presented in this chapter. I do not, however, go into some of the most instructive elements, which relate to undertaking integrative applied research in a highly politicised environment. This is work for the I2S Development Drive. For readers interested in a taste of the issues, see Briscoe (2010); McCully (2001).

3. How is the disciplinary and stakeholder knowledge synthesised, by whom and when? (How?)

4. What circumstances might influence the synthesis of disciplinary and stakeholder knowledge? (Context?)

5. What is the result of the synthesis of disciplinary and stakeholder knowledge? (Outcome?)

The aim is to demonstrate how this framework can provide a systematic approach to planning and reporting integrative applied research, as well as to developing and transmitting the concepts and methods that make up I2S. A summary of the broad categories of concepts and methods covered by each question, along with the chapters in which they are discussed, is presented in Figure 3.1. Each question is represented by one of the walls of the knowledge synthesis storeroom and the classes of concepts and methods are listed under the question.

Figure 3.1 The Storeroom for Synthesising Disciplinary and Stakeholder Knowledge, Listing the Key Categories of Concepts and Methods

Source: Author's illustration.

I do not trace the origins of the classes of concepts and methods. They are eclectic, drawn from wide-ranging reading, research experience and reflection. Many can be found in previous work on inter-, multi- and trans-disciplinarity, as well as the more specific areas of post-normal science, systemic intervention, and so on.

It is worth reiterating the point made in Chapter 1 that, although the book describes some relevant concepts, methods and case examples, the focus is on proposing a structure for the I2S discipline. The emphasis is therefore on categories of ideas, theories and techniques. Populating the structure with the full range of existing concepts and methods, along with adequate illustrations, is the brief of the I2S Development Drive. I present the tasks that the I2S Development Drive needs to undertake for this domain in the chapters that follow. These are then brought together in one place (along with the assignments for the other domains) in Chapter 34.

In the final chapter of this section (Chapter 9), the five-question framework is used to elucidate what is involved in specialising in I2S. Three broad categories of I2S specialisation are examined: I2S for team leaders, I2S disciplinary specialists and I2S appreciation for other integrative applied research team members.