

## Methodological Considerations and Processes Adopted

### Development of the Methodological Framework

There were three principal strands of ideas and efforts which culminated in the evolution of this methodological framework. The core issue is the devising of a viable process for sustainable development in mountain environments.

The first main group of ideas presents the definitional and conceptual underpinnings of sustainable development, the attributes of which can express the state of ecological harmony and the operatives of which include the transformation tools. This has emerged from a series of projects and research programmes undertaken in different parts of India by some of the members of this research team and other organisations. This has been presented in the overview study and will only be related to this study when the report is synthesised.

The second, and perhaps the more critical, dimension to the methodological development process is the current research programme itself. It focusses on the ecological concept of 'carrying capacity', and has adapted it to express the context of mountain tourism in the case study areas. The central feature of this strand is the idea of 'tourism carrying capacity' and the development of acceptable limits in terms of critical variables and linkages. This is described and adapted in the current analysis.

The third strand is from a rather unfamiliar terrain in development research, particularly tourism. It has emerged from the area now loosely defined as 'information sciences'. The similarity in plan synthesis tasks and many problems of artificial intelligence, including language comprehension, led us to explore some of the artificial intelligence models that directly address problem solving tasks. This was to enable the derivation of specific principles for problem-solving, which provide a direct link between the conceptual basis of sustainable development and the operational context of tourism carrying capacity in the specific regions. This will be elaborated upon when the database being developed (TRIP or Tourist Research Information Package) is integrated with an 'intelligent' model to enable the assessment of alternatives and options in the activities.

At the current stage of research, this eclectic combination of tools to deal with developmental decision-making should be considered necessary, as only such means allow us the required diversity to match the complex problems of mountainous regions. However, this draft report does not elaborate upon the theoretical basis for such a need.

## **Methodology Adopted for the Case Studies**

The methodology has been, more or less, common for both the case studies. In the process, there have been adaptations. While the basis of the design of the methodology is complex, reflecting the nature of the problem, the processes have been applied in a simplified manner.

In each region, an inventory of tourist resources has been carried out. This has been used to provide an overview of the specific area and also to draw out critical resources. The nature and type of the impacts and implications of tourism development have been described. Various parameters, constituted to provide for carrying capacity, have been identified in terms of three different factor sets - environmental, socioeconomic, and institutional. The critical variables and critical linkages have been highlighted.

## **Tools Used in Data Gathering**

### *Structured Questionnaire*

A structured questionnaire was prepared for canvassing in the case study areas. The questionnaire proved useful among the people of the adjoining villages and the people in the settlements. In Kinnaur, 37 out of 40 people responded. Only 25 of them expressed opinions and gave information for most of the questions. In the Badrinath area, the idea of the questionnaire was abandoned, and free discussions were held on the basis of the questionnaire.

A few important inferences could be drawn from the responses from the structured questionnaire. In the case of Kinnaur, they helped to ascertain the perceptions of the people on tourism and government agencies, their primary dependence on horticulture, and their perceptions about the possible influences and impacts of tourism on the region. In the Badrinath Tourist Zone, though this effort was more restricted, it helped to gain an insight on how people perceived tourists, the administrative structures they are given, and the impacts of various activities on the cultural and environmental aspects.

A structured questionnaire is not useful for interviewing government officials and people in the tourism trade. Even among citizens, open group discussions, involving two to three people and one to two team members, were essential to reconfirm views or enable easier articulation.

### *Check-Lists*

Specific check-lists with specific functions were prepared for discussion. These were based on the various sets of questions suggested in the review meetings. Sometimes there was only one issue discussed in detail with an official. Some examples are:

- the problems of marketing destinations in Kinnaur, and other far flung areas, with the general manager (GM) (Marketing) of a state agency;
- public relations, in a period of uncertainty with the Public Relation's Officer.
- the response to privatisation among the staff of a state Tourism Corporation.

### *Group Discussions*

Planned and impromptu group discussions, involving three to five people, were held on overview aspects, political economy, and specific problems of tourism in the case-study areas.

### *Processing Secondary Data-Sets*

Secondary data-sets include those from the tourism department, the district administration and its statistical offices, and plan programmes of sectoral agencies. These have been used to understand trends, and they also contain the base data on population and geography.

### **Critical Variables and Linkages**

#### *Identification of Critical Variables*

A list of parameters was drawn up to express the limiting factors for tourism development. Those which tended to affect the carrying capacity significantly were identified.

### Note on the Process of Involving Institutions

The objectives of the research programme will be best achieved only when the agencies that are involved in day-to-day implementation focus on the results. However, experiences with government agencies, NGOs and even the private sector have indicated that, if the outcome of the research programme is not seen as a result of the agencies' own interactions (See, e.g., Adaptive Env. Assessment and Management, ed C.S. Holling), the activities are not sustained.

At the initiation of the programme, the different agencies of the government were briefed about the nature and scope of the project. The views and the issues they raised were incorporated and discussed with specific officials involved in planning organisational strategies or at policy input levels. The draft overview report was shared individually.

The plan for case-studies was discussed and the agencies, and a number of individuals, in particular have provided inputs for the development of the draft action plan. After the review workshop, these findings will be presented in a series of working-group meetings.

#### Text Box # 1

The critical variables for the specific locations are given below (Table 2.1).

Table 2.1: Critical Variables Determining Carrying Capacity	
Kinnaur District	Badrinath Tourist Zone
Environmental Factors	Environmental Factors
<i>Kalpa-Peot</i>	<i>Badrinath</i>
<ul style="list-style-type: none"> <li>* Waste Disposal</li> <li>* Drainage</li> <li>* Littering of Slopes</li> <li>* Shortage of Water</li> <li>* Land Degradation</li> </ul>	<ul style="list-style-type: none"> <li>* Waste Disposal</li> <li>* Drainage</li> <li>* Expansion of Settlements</li> </ul>
<i>Sangla</i>	<i>Joshimath</i>
<ul style="list-style-type: none"> <li>* Land Degradation</li> </ul>	<ul style="list-style-type: none"> <li>* Sanitation</li> <li>* Encroachment</li> </ul>
<i>Pooh</i>	<i>The Valley of Flowers</i>
<ul style="list-style-type: none"> <li>* Land Degradation</li> </ul>	<ul style="list-style-type: none"> <li>* Weed Growth</li> <li>* Extent</li> </ul>

<b>Socioeconomic Factors</b> <i>Applicable to all sites</i> <ul style="list-style-type: none"> <li>* Security for Cultural Assets</li> <li>* Changes in Construction Practices</li> <li>* Already Visible Inequities</li> </ul>	<b>Socioeconomic Factors</b> <i>Badrinath/Joshimath</i> <ul style="list-style-type: none"> <li>* Temple Opening</li> <li>* Austerity among ilgrims</li> </ul> <i>Auli</i> <ul style="list-style-type: none"> <li>* Affordability of Skiing</li> </ul>
<b>Institutional and Managerial Factors</b> <i>Applicable to All Sites</i> <ul style="list-style-type: none"> <li>* No Local Institutional Mechanisms</li> <li>* Shortage of Accomodation</li> <li>* Expensive and Scarce Local Travel</li> </ul>	<b>Institutional and Managerial Factors</b> <i>Applicable to All Sites</i> <ul style="list-style-type: none"> <li>* Information Systems</li> <li>* Transport</li> <li>* Uncertainties</li> </ul>

### *Identification of Critical Linkages*

Apart from the constraints placed by the critical variables, there are physical and socioeconomic linkages that relate to the carrying capacity of a tourist centre. In the case study areas, the critical linkages impinge on the carrying capacity of the area. The constraints placed either restrict the total number of 'clear tourism days' or are likely to bring about an unacceptable local change. These have been identified for each of the areas (Table 2.2).

<b>Table - 2.2: Critical Linkages for Carrying Capacity Considerations</b>	
<b>Kinnaur District</b>	<b>Badrinath Tourist Zone</b>
<b>Physical Linkages</b> <ul style="list-style-type: none"> <li>* Landslides and Road Links</li> <li>* Telephones, Other Communications</li> </ul>	<b>Physical Linkages</b> <ul style="list-style-type: none"> <li>* Landslides and Road Links</li> <li>* Telephones, Other Communications</li> <li>* Trains to the Entry Point</li> </ul>
<b>Economic Linkages</b> <ul style="list-style-type: none"> <li>* Relationship to Orchard Farming</li> <li>* Increasing Migrant Labour</li> <li>* Mechanisms for Transaction</li> </ul>	<b>Economic Linkages</b> <ul style="list-style-type: none"> <li>* Level of Outside Control</li> <li>* Local Perceptions about Pilgrims</li> </ul>