

Sustainable Tourism Development Methodological Considerations

Introduction

Nepal's endowment of natural and environmental resources, its cultural heritage in general, and the Himalayas in particular provide the basis for mountain community and mountain tourism development. The areas visited by tourists in the mountains of Nepal are mostly protected areas (Map 1).¹ Tourists from all over the world come to see the natural beauty of the Himalayas, its flora and fauna, and the cultural heritage of the people that live in the foothills of these mighty mountains. Nepal's endowment of such unique natural areas actually spans almost the entire northern part of the country. There are few areas like it anywhere in the world, and the potential for aesthetic and recreational uses is high. However, the development of such mountain areas should accommodate the needs of the local communities that depend on the resources. Therefore, conservation needs to be emphasised, for without conservation development will be unsustainable.

This part of the study aims to bring into better focus the role of tourism development in the context of mountain development. It is argued that mountain tourism development has to be an integral part of mountain development, and that both these forms of development have to be seen in the context of mountain environmental resources. Mountain environmental resources are unique and have a high economic value, and they can be harnessed to develop mountain areas that are endowed with such resources. Tourism development in the mountain areas is sustainable only if it complements mountain development.

Concept of Sustainability

Development means transformation from one stage to another in terms of a social goal. Among other things, this transformation generally involves an

¹ The protected area network in the hills and mountains is spread throughout the east-west geography of the country in order to represent the different ecosystems and biodiversity that characterise the country, i.e., to conserve unique natural systems. In Map 1 (Chapter 3) protected areas in the mountain region are only presented.

increase in the well-being of individuals in a society. Development is a normative concept and should not be confused with economic growth, which implies an increase in real per capita GNP over time. However, in the past, the form of development that has characterised many nations, both rich and poor alike, has raised some fundamental questions related to future generations as well as to the environment. The concern about these two issues in the development context has given rise to the concept of sustainable development (World Commission on Environment and Development ([WCED] 1987).

There is no one agreed definition of sustainable development. According to the WCED, sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. This concept implies that each generation should leave a stock of quality life assets, no fewer than those that have been inherited by it, for future generations. There are two interpretations of this (Pearce et al. 1992):

- that the next generation should inherit a stock of wealth, consisting of man-made and environmental assets, that is no less than the stock inherited by the previous generation; and
- that the next generation should inherit a stock of environmental assets that is no less than the stock inherited by the previous generation.

The main distinction between the two interpretations is that, whereas the former emphasises both man-made and natural capital, the latter stresses natural capital only. Without dwelling further on the definition of sustainable development, it is important to recognise that, for development to be sustainable, the concern of both man-made capital and natural capital for future generations need to be simultaneously addressed. Achieving sustainable development, therefore, requires: a) maintenance of a high quality of environment (goods and services provided by nature); b) a greater concern for poverty mitigation in the present generation (intragenerational equity) and fair treatment of the future generation (intergenerational equity) and; c) that society's planning horizon be extended to a longer time period.

Sustainable Mountain Development

Mountain development in the present context involves mountain communities and tourism, and thus sustainable mountain development ideally should

address the needs of the present and future generations of mountain communities as well as those of tourists. Sustainable mountain development does not differ significantly from the notion and concerns of sustainable development as described above. However, since tourism is an added dimension, some explanation of sustainable mountain tourism is in order.

As a working definition, sustainable tourism development may be defined *"as the management of all resources that can fulfill economic, social, and aesthetic needs (of mountain communities and tourists) while maintaining cultural integrity, essential ecological process, biological diversity, and life support system of the Himalayan environment"* (Globe 1990). Sustainable tourism development needs to adopt the principles of sustainable resource management so that tourism destinations can continue to attract visitors without reducing the quality of their experience and without squeezing out the opportunities for sustainable mountain community development.

Tourism has certain characteristics which are unique in terms of its relationship with the environment. While in many instances tourism implies non-consumptive uses of the environment (discussed below), the extent of its use has qualitative implications for both the environment and the user, and hence it may be considered as a semi-renewable resource (Barbier 1989).

Relationship between Mountain Community and Mountain Tourism Development

It is assumed that mountain community development (MCD) is necessary to conserve Himalayan Environmental Resources (HER), and that mountain tourism development (MTD) can stimulate this process of MCD.

HER have economic value (discussed below) and can be developed to generate the necessary resources for MCD and MTD. Community development encompasses all forms of development that address the needs of the local community and generate opportunities for gainful employment. Mountain tourism development encompasses activities that attract tourists, provide employment opportunities for local people, help them retain benefits locally, and provide a strong stimulus to community development. A mountain community is a geographical region that may meaningfully be regarded as a coherent entity from the perspective of description, analysis, administration, planning, or policy. Mountain development will therefore depend to a large extent on the supply of HER. In the context of the welfare of mountain people,

mountain and tourism development should be able to improve the welfare of the population, both at present and in the future, and at the same time be compatible with the environment. Mountain development thus has to fulfil two things: first, it should ensure the region's population an acceptable level of welfare that can be sustained in the future; second, it should not conflict with sustainable development at a regional or national level.

The Himalayas are endowed with unique environmental resources that have few close substitutes (Figure 1). Mountain communities are dependent on the HER for their livelihood (Figure 2). However, overextraction of these resources will result in deterioration of HER, and thus negatively affect their livelihood. This deterioration will be reflected in the declining productivity of the resource base, as people will have to travel further away to fetch firewood, water, fodder, and other resources. Also, the negative effect will be reflected in productivity declines in agricultural, forest, and grazing lands. Additionally, loss of habitats and species will result. Many other examples can be cited.

At the same time, the HER attract tourists, although the nature of HER demanded by tourists is different from that demanded by the local community. The demand for HER by the local community is mostly of a consumptive and productive nature (local and national significance of HER). On the other hand, tourists demand these resources for non-consumptive uses (national and global significance of HER). The quality and quantity of HER exploited by the local community have implications for the HER demanded by the tourist (recreational, aesthetic, and amenity values). Furthermore, the overall quality and quantity of HER give rise to option and existence values (Figure 2). Thus HER become important in both MCD and MTD (Figure 3).

The relationship between MCD and MTD in the context of Himalayan Environmental Resources, or HER, can be amplified by using Venn diagrams. Although the focus of a study may be on a mountain community endowed with unique HER, the value of HER extends beyond the geographical confines of the community and must be addressed accordingly. In Figure four three circles, representing HER, MCD, and MTD, are seen to overlap with one another. This overlap generates seven different sections, numbered from one to seven, each of which are discussed below.

Area One

This area is entirely HER, representing minimum levels of resources that need to be conserved or preserved for all generations to come. In this area, the

Figure 1

HIMALAYAN ENVIRONMENTAL RESOURCES (HER)

Himalayan Environmental Resources

Includes all forms of resources endowed by nature, including life-supporting systems and waste-assimilative capacities. It also includes human capital and other man-made capital such as cultural and religious assets, sites, and monuments.

**"HER"
HAVE
ECONOMIC
VALUE**

**BASIC MOUNTAIN
COMMUNITY AND TOURISM
DEVELOPMENT**

Figure 2

VALUE OF HER

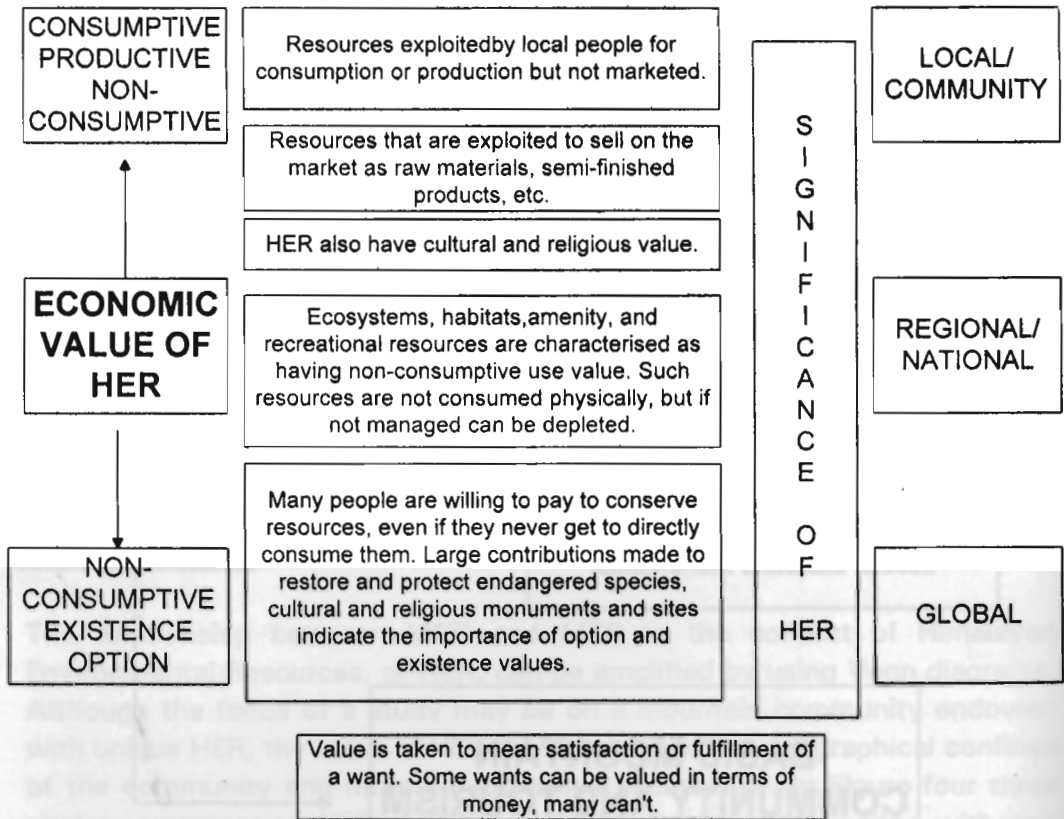


Figure 3

RELATIONSHIP BETWEEN HER, MCD AND MTD



**"HER-PROVIDES A BASIS FOR
MOUNTAIN COMMUNITY AND
MOUNTAIN TOURISM
DEVELOPMENT**

**ALL FORMS OF DEVELOPMENT
THAT ADDRESS NEEDS OF LOCAL
COMMUNITY AND GENERATE
OPPORTUNITIES FOR GAINFUL
EMPLOYMENT AND ALSO
COMPLEMENT MTD**

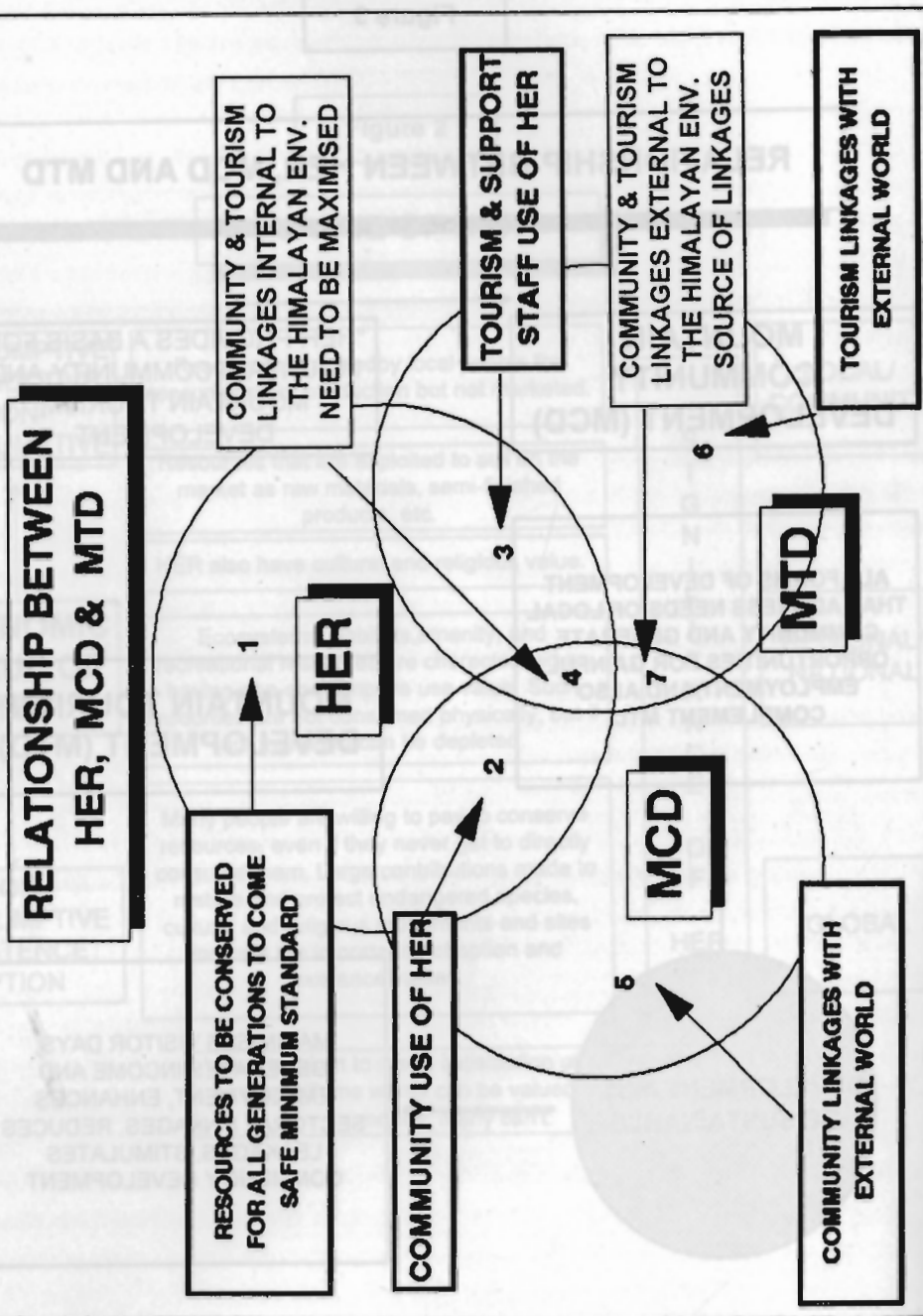
**MOUNTAIN TOURISM
DEVELOPMENT (MTD)**



DEVELOPMENT MUST
BE SUSTAINABLE

MAXIMISES VISITOR DAYS,
GENERATES INCOME AND
EMPLOYMENT, ENHANCES
SECTORAL LINKAGES, REDUCES
LEAKAGES, STIMULATES
COMMUNITY DEVELOPMENT

Figure 4



critical minimum levels or thresholds that need to be preserved to sustain gene pools, or breeding stock, etc should be defined and pre-served. The region can also be characterised as open to options and existence as well as bequeathing values. The level of HER existing in this region cannot be assumed to be substitutable by man-made capital (Daly 1991). In other words, area one is interpreted as the stock of HER that should be kept as a gene pool against uncertainty and for future generations.

Area Two

Area Two is the intersection between HER and MCD, indicating the dependence of the mountain community on HER. To the mountain communities, HER provide firewood, fodder, grazing lands, and so on, and thus the consumptive and productive use values of HER become important. The very survival of the mountain community depends on HER. HER found in this area can be used for productive purposes, and hence HER have both local and national significance (Figure 2).

Area Three

Area three depicts the HER demanded by mountain tourism. The demand for HER by tourism and community compete in areas two and three, and overextraction of HER by either one will affect negatively the other's demand. Likewise, conservation of HER by either party will positively affect the other's demand. HER in this area have amenity and recreational values which provide the basis for international tourism (Figure 2).

Area Four

This area represents the interaction of the mountain community and mountain tourism within the HER. Here, both MTD and MCD demand HER, but the demand is complementary, and the two sectors do not compete for the HER, as in areas two and three. As this intersection is maximised, the competition for HER between MCD and MTD could decrease (areas 2 and 3 shrink and area 4 expands). Furthermore, expansion in area four implies a greater linkage between MCD and MTD, as both sectors can exploit the economies of scale in development. As this linkage is enhanced, the competition for HER decreases, enabling greater conservation of HER.

Area Five

This area of MCD lies outside the HER, implying that community development also depends on the external environment. No community can live in isolation but will have to interact with the external world. Thus the mountain community's dependence on the external world is represented in area five, the community development linkage with the regional, national, and international community (or trade).

Area Six

Area six depicts a similar interaction of mountain tourism with the external world. Tourism development is dependent on resources external to HER.

Area Seven

The complementary nature of MCD and MTD also extends beyond the HER, as indicated by area seven. This is a case where benefits resulting from the complementary nature of MCD and MTD spill outside the mountain areas. In other words, area seven represents external activities that are directly related to MCD and MTD (area 4).

In the above illustration, leakages of benefits occur from areas five, six and seven. This leakage could be captured locally through development of MCD, which would imply expansion of areas two and four. Note that, as MCD expands, it will extend into area three as well, indicating that local communities will benefit increasingly from tourism (e.g., value-added). These leakages also spill over regionally, nationally, or internationally. Some competition for HER between these sectors will always occur, given the different nature of tourist demand and local community demand for HER. The two sets, namely MCD and MTD, are, however, never likely to overlap fully within the HER, given that MCD has to depend on the external environment for its development and tourism is an export sector.

Although it is possible to visualise other similar diagrams to describe different scenarios of mountain community and tourism development in the context of HER, the above illustration suffices to bring home the point that the best possible scenario is one in which MCD and MTD complement one another to the greatest extent possible. The larger the parts of these circles that overlap within the HER, the greater will be the benefits that are generated in the local area, and the greater their retention. Also, their complementary nature implies

that if tourism for some reason were to decrease or disappear, not all benefits would disappear, since MCD would still be important for generating benefits to the local people. This is desirable, since mountain tourism development should be led by mountain community development. In many parts of Nepal, mountain development is led by tourism development, and thus fluctuations in tourist arrivals result in large-scale economic losses for the local people. It should be noted that, even when the complementary relationship between MCD and MTD is present, changes in tourist arrivals will affect the local mountain economy, but the resilience of such areas will be stronger. Furthermore, it cannot be expected that all benefits resulting from tourism will be retained locally. Tourism is essentially (export) trade, and many activities are necessary in order to generate the final product, for which different products and factors have to be rewarded, many of which originate outside the mountain areas.

Carrying Capacity of the Himalayan Environment

Although the above discussion has presented a conceptual framework that helps link HER, MCD, and MTD, it does not address the carrying capacity (CC) of the mountain environment. Different types of carrying capacity concepts are often discussed in the literature.² For the sake of simplicity, carrying capacity is defined here as the maximum use by the community and tourism of a given geographical area and its HER for MCD and MTD without any adverse impact on the sociocultural, economic, and biophysical environments.

Carrying capacity is thus a multi-dimensional and dynamic concept, and it varies according to season, the changing behaviour and attitudes of tourists, and the local population, facilities, management practices, dynamic character of the environment, and level of local development. The concept of carrying capacity can be represented by a range of limits rather than a single fixed value. These limits are often determined according to the combination of three main factors: environmental threshold, investment options, and management policies. Determination of environmental thresholds is important in the assessment of carrying capacity. When applied to the mountain environment, carrying capacity indicates the number of people, including tourists, that it can support. Carrying capacity must be addressed in mountain development.

² These include *environmental or biophysical carrying capacity, social or behavioural carrying capacity, economic carrying capacity, and infrastructural carrying capacity*, which are discussed briefly below.

The carrying capacity concept can be introduced in Figure Four to illustrate the interactions between HER, MCD, and MTD. A new circle to represent the carrying capacity is introduced as illustrated in Figure Five. The introduction of this circle gives rise to additional intersections, which can be interpreted in the following manner. Each intersection is marked serially.

Area One

This area is similar to the one described above in Figure Four.

Areas Two and Three

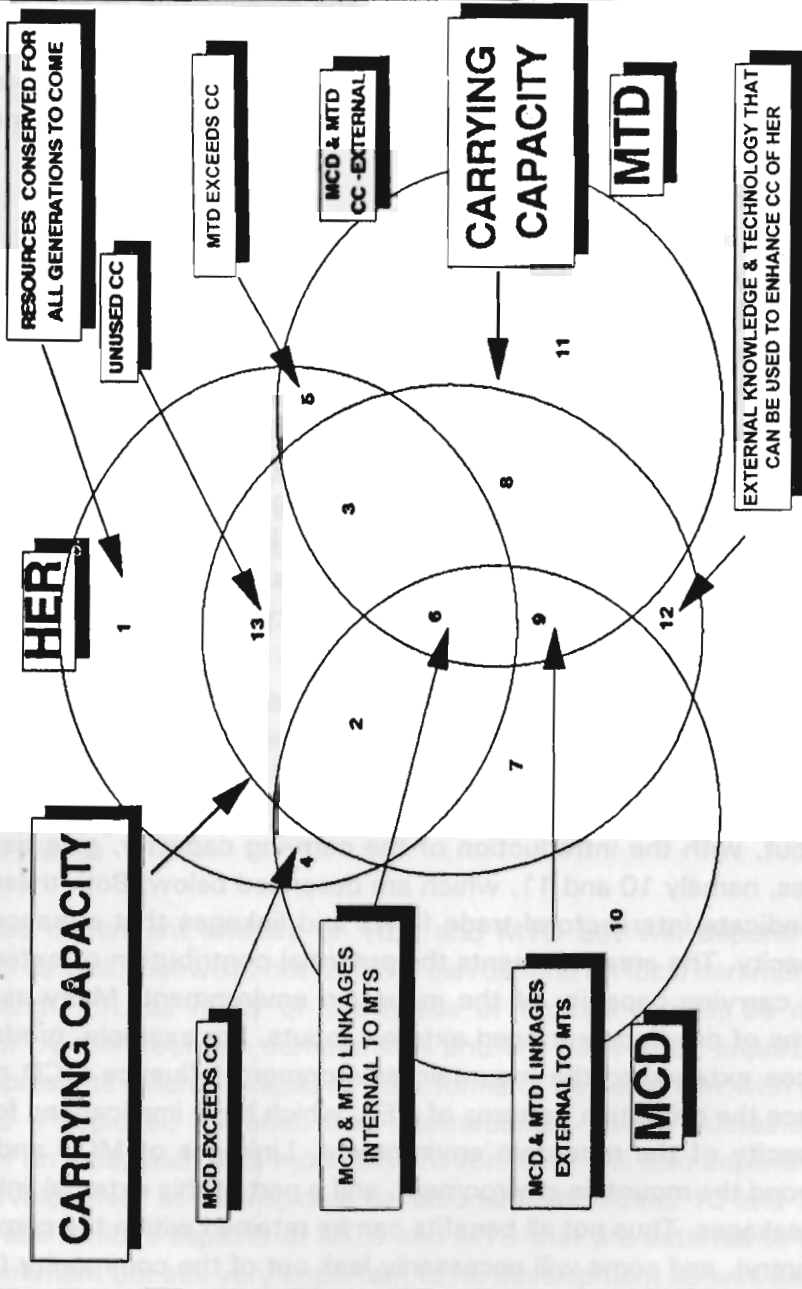
These areas are also similar to the areas described above, except that, with the introduction of carrying capacity, the scope for MCD and MTD tend to reduce. All forms of development in the fragile mountain environments cannot be assumed to be environmentally friendly, and thus the choice of development activities narrows. The needs of tourists cannot all be complementary to mountain community needs, and some degree of competition for HER between tourists and the mountain community is bound to occur. The competition for HER in areas two and three is unlikely to be symmetric. However, these areas are within the carrying capacity of HER, and thus both MCD and MTD are sustainable.

Areas Four and Five

These areas are within the MTD and HER sets, but outside the CC set, indicating that MTD and MCD in these regions are unsustainable, as the carrying capacity of the mountain environment has been exceeded. It is evident from areas four and five that, while tourism and mountain development are integrated (areas 6 and 9), both kinds of development extend beyond the limits of the carrying capacity, perhaps because of encroachment upon sensitive ecosystems, the lack of appropriate technological opportunities, institutional bottlenecks and lack of improvement in human capital and other physical infrastructures, wrong investments, lack of planning, gaps in knowledge, market and policy weaknesses or failures, lack of management, and lack of coordination between different agencies (Chapter 1). With new technology, improved infrastructure and management, etc, it is possible to exploit the potential carrying capacity while avoiding the damage that can take place in mountain areas (areas 4 and 5). It may not always be possible to completely eliminate such excesses, since there will always be gaps in knowledge. Thus, within the context of HER, each form of development has

Figure 5

CARRYING CAPACITY (CC) OF HER FOR MCD & MTD



an upper limit, which needs to be determined. Development beyond such limits can result in negative effects and become unsustainable. The portion of the HER that does not overlap with any of the three sets may be viewed as such an upper limit. Attempts should, however, be made to minimise these areas that exhibit unsustainability through the combination of demand and supply, management policy actions, research, introduction of appropriate technology, etc. A proper assessment of the economic value of environmental damage is needed, and for this natural resource accounting assumes some importance.

Area Six

This area represents the union of HER, MCD, and MTD and is within the CC of the HER. Here there is an integration or linkage of tourism with mountain community development. Both forward and backward linkages are established within MCD and MTD, and neither of these sectors competes for HER. Mountain-produced goods are utilised to the extent possible, import leakage is minimised, and greater opportunities for retaining benefits from both forms of development are enhanced. The complementarity relationship between MCD and MTD gives rise to multiplier effects as leakages are reduced, and a larger retention of benefits within the local community is made possible. Also, since this union lies within the carrying capacity, both mountain community and tourism development are sustainable.

Areas Seven and Eight

These areas are also similar to those described above (Figure 4, areas 5 and 6) but, with the introduction of the carrying capacity, give rise to two new areas, namely 10 and 11, which are described below. Both these areas (7 and 8) indicate intersectoral trade flows and linkages that enhance the carrying capacity. The area represents the potential contribution of external factors to the carrying capacity of the mountain environment. Many aspects of both forms of development need external inputs. For example, product and factor prices external to the mountain environment influence MCD and MTD, and hence the utilisation patterns of HER, which have implications for the carrying capacity of the mountain environment. Linkages of MCD and MTD extend beyond the mountain environment, and a part of this external linkage gives rise to leakages. Thus not all benefits can be retained within the community (or the country), and some will necessarily leak out of the community (as well as the country). For sustainable MCD and MTD, this external linkage cannot be avoided and hence some leakages are inevitable, although they can be minimised.

Stated differently, both these intersections represent intersectoral and international trade flows that influence the economic carrying capacity of mountain areas. Tourism is basically an international trade sector that has to also rely on resources that are external to the mountain resources. Furthermore, the full potentials of the external interactions are not fully used, as these areas are outside MCD and MTD but are within the CC of HER. Often poor marketing, policy, advertisements, etc may constrain external factors from enhancing the carrying capacity of the mountain environment.

Area Nine

In terms of linkages that take place outside the mountain environment, benefits of integrated mountain and tourism development extend beyond the mountain environment but lie within the carrying capacity. The complementary nature of MCD and MTD extends beyond the mountain environment and depends on external resources as well. Many interrelated or interdependent activities of both MCD and MTD take place outside the region for their sustainability. Planning, research, and technology, as well as many activities that affect both forms of development carried on outside the mountain environment, have implications for carrying capacity. Note that this area nine is different from seven and eight in that the latter areas are fairly independent, whereas area nine is not. A part of this complementarity (area 9) is in the form of leakages from the mountain area, and being within the carrying capacity, it is necessary for sustainable mountain development (local community and tourism development) and cannot be avoided.

Areas Ten and Eleven

MCD cannot be dependent entirely on HER and MTD but will depend on external factors as well. Likewise, not all MTD can depend on local community development and HER, as many of the needs of tourists cannot be met through HER or by the mountain communities and will have to be imported. These areas represents macro-linkages of both forms of development with the external world -- regional, national, and international -- since sustainable development of an area, such as a mountain environment, will also depend on sustainable development at the regional or national level. Areas 10 and 11, therefore, represent those aspects of MCD and MTD that are external to the mountain environment but still very important to its development as well as its carrying capacity. In other words, these areas represent interactions of MCD and MTD with sustainable development at regional and national levels, and they are influenced by many external factors as well.

Areas Twelve and Thirteen

Both these areas stand for dimensions of carrying capacity that remain unused. In the case of area 12, the unused carrying capacity is external to the mountain environment, whereas area 13 is internal. In the case of area 13, inappropriate policies, behaviour, and gaps in knowledge always result in some level of carrying capacity being left unused, and there is always scope too for of internalising external knowledge and technology (area 12) that can enhance the carrying capacity of the mountain environment. Still, it may never be possible to fully optimise carrying capacity, due to many factors. These areas (12 and 13) represent the scope for expanding the carrying capacity through research and technology, planning and management, infrastructural improvement, institutional development, and so on. Certain dimensions of the current MCD and MTD can be strengthened to eliminate parts of four and five in order to more fully utilise parts of 13, which may require external resources, knowledge, and technology (area 12).

Environmental, Social, Economic, and Infrastructural Carrying Capacity

Carrying capacity is a key concept in planning for sustainable mountain development, i.e., local community and tourism development. Carrying capacity seeks to establish ecological and behavioural thresholds beyond which biophysical and environmental (cultural and economic) factors, the quality of life of mountain people, and the visitor's experience do not deteriorate. Given the different dimensions of the environment, different types of carrying capacity concepts are often discussed in the literature.

Environmental or Biophysical Carrying Capacity

This is generally split into physical (size of space available for use) and biological or ecological (limits to acceptable impact on the flora, fauna, soil, water, and air quality) components.

Social or Behavioural Carrying Capacity

This generally refers to the level of impact tolerable before the visitor's experience is impaired. It also includes impact on the host population and its culture. Put differently, behavioural or social carrying capacity relates to individuals' perceptions of the number of people they feel comfortable with in any given environment.

Economic Carrying Capacity

Economic carrying capacity may be referred to as the ability to absorb tourism development without squeezing out desirable local development.

Infrastructural Carrying Capacity

This refers to the ability of physical facilities (of the community and tourists) to cope with community and visitor pressures and relates primarily to man-made capital.

Carrying capacity is thus a multi-dimensional and dynamic concept and varies according to season, behaviour, and attitude of tourists and the local population; quantity and quality of facilities; and management and dynamic character of the environment. The concept of carrying capacity can be represented by a range of limits rather than a single fixed value. These limits are often determined according to the combination of three main factors: environmental threshold, investment options, and management policies.

Operationalising the Concept

An attempt will be made to operationalise the above concept in two case study areas in subsequent chapters. At this stage it is not possible to fully implement the above framework for various reasons. First, the very nature of the study necessitates a greater focus on mountain tourism development. Secondly, the lack of information severely limits the implementation of the above framework, which, in addition, requires a great deal of refinement before it can be fully operationalised. As a result, in operationalising the framework, focus will concentrate on investigating critical factors only (Nijkamp et al. 1990).

By critical factors we mean crucial variables the presence (success factors) or absence (failure factors) of which are vital for the attainment of at least one element or object of sustainability but do affect other aspects of sustainability. Thus *critical factors are those which need to be changed from their current stage, or conserved or protected in their current state, in order to enhance the carrying capacity of the environment, based on some predetermined standard.* The critical factors belong to all three sets (HER, MCD, and MTD), and the state of HER, MCD and MTD may be viewed in terms of the outcomes that result as different sectors and subsectors in the mountain economy interact

with one another. An outcome is an action or inaction taken in any one sector that changes the state of the HER, MCD, and MTD. Critical factors can have negative or positive effects on MCD and MTD, and hence on HER. Negative factors (failure factors) result in an overall deterioration in the state of MCD, MTD, and HER, whereas positive factors (success factors) improve their current state.

A distinction of the following critical factors is made:

- critical resources,
- critical areas,
- critical behaviour,
- critical infrastructures, and
- critical institutions.

Critical Area and Critical Resources

A critical area is an area which by virtue of its natural occurrence experiences relatively greater stress, or is relatively more sensitive to increased human interference, or is relatively more scarce, or is characterised by extreme relative poverty and lack of critical resources, or else has potential for development (comparative advantage). Additionally, a critical area could be characterised by the representation of critical resources. A critical resource possesses the same above properties of a critical area. Critical resources can also be harnessed to promote development and conservation (e.g., water to produce electricity). Defining critical areas alone is not sufficient to protect the critical resources found in such areas.³

Since critical areas and resources are often not mutually exclusive, they can be treated under the same heading. Not all areas and resources found in the Himalayan environment can be considered to be critical. Generally, critical areas are characterised by critical resources that increase the biodiversity and cultural value of the area, are very rare, are necessary for survival, and are sensitive to human intervention. Additionally, critical areas would also encompass areas that are heavily used by people, but for which management is poor, with negative implications for the visitor's experience and for the

³ For example, certain species may be threatened within critical areas and need added attention for their protection. National parks are in a sense critical areas in the national context; poaching in there tends to endanger critical resources, such as musk deer and snow leopards, which need protection.

welfare of the local people. Some resources are more critical than others, and their presence or absence, quality and quantity can directly or indirectly influence the environment and the welfare of both visitor and host population of present and future generations.

Critical Behaviour

If human actions (both community and tourism-related) were not present, then the state of critical resources and critical areas would be subject to natural processes and we would not need to be concerned with conservation. Behaviour is critical and, if people do not follow rules and regulations, then conservation efforts, tourism, and local development cannot be successful. Attitude and perception toward conservation and development are reflected in human behaviour. Some human behaviour is more desirable than others. Management action is needed to motivate desired behaviour and to discourage behaviour that is not desirable. It is important to identify such critical behaviour of host and visitor populations. Local people, i.e., the host population and lodge owners, are both producers and consumers of resources, whereas visitors and their support staff are only consumers. All such parties may display critical consumption and production behaviour depending on the nature and extent of economic incentives and disincentives. Economic incentives and disincentives can be used as policy tools to motivate desired consumption and production behaviour while discouraging undesirable varieties (McNeely 1988). In many instances, even though there may be no written code of conduct, a community generally adheres to a code. Deviation from such accepted norms is a form of critical behaviour that can generate either positive or negative outcomes. Insofar as behaviour generates positive benefits, such behaviour needs to be promoted, and, if, on the other hand, behaviour generates negative outcomes, it needs to be discouraged.

Critical Infrastructures

In remote and inaccessible parts of mountain areas that are characterised by extreme poverty, all forms of development, including infrastructures or man-made capital, may appear to be critical. Viewing critical development in this manner and trying to develop accordingly would take many years, and, besides, resources would be constrained. Therefore, not all infrastructures can be considered to be critical. A critical infrastructure is one that reduces stress on or promotes the biophysical, economic, and social carrying capacity of the area in question and which is important in promoting the well-being of the host and visitor populations. It has been often argued that poverty is the root cause

of environmental degradation. Poverty can be mitigated only if economic opportunities in such areas are expanded rapidly. For example, increased income and its distribution will enhance the purchasing power of mountain communities and will enable them to substitute alternative energy resources for firewood, which will enhance conservation. If tourism is considered to be a driving force for economic growth in the area, attention should be given to identifying critical infrastructures (trails, campgrounds, lodges, etc) to promote tourism development, and this development should be integrated with community development.

Critical Institutions

Referring back to the concept of mountain tourism development, four partners, namely, government, non-profit organisations, the local community, and the business community, are involved in providing different supply components of tourism as well as furthering community development. These partners have definite roles to play in promoting sustainable mountain development. There should be specified roles and responsibilities and overall coordination. The overall scope of work expected from NGOs and the business community depends very much upon how the government conceives the part of tourism business under its area of jurisdiction. Thus, the management objective of the government at the central level should be clearly defined. The more the government intervenes in the tourism business, the less scope there remains for effective participation of both profit and non-profit organisations in promoting tourism development. This central level institution must have representatives from the different partners to set policy guidelines, establish standards, and to monitor critical factors.

Local people at the grass-roots' level are also key partners, and they should be involved in decision-making, in planning and implementation, and in monitoring development and conservation in local areas (destinations and sites). The combined role of the different partners as an entity in itself gives rise to forms of development that may be termed critical development. These four partners, through proper coordination and information-sharing, must be made responsible for tourism development in mountain areas that are amenable to community development and conservation.

Value of Himalayan Environmental Resources

Himalayan Environmental Resources deserve special attention for several reasons:

- the conversion of HER is in many instances irreversible;
- HER provide the basis for MCD and MTD; and
- both MCD and MTD have important positive impacts on national development as well.

Economic growth and technological change can have irreversibilities and asymmetries. HER cannot be recreated by development no matter what forms of technological development may occur (Daly 1991). HER have very limited substitutes and so the demand for their use has to be unique; namely a steep slope with significant *option demand* (Krutilla 1967; McNeely 1988). There are other forms of demand associated with HER depending on the different users that give rise to different forms of value. The different users are the local community, tourists, the support staff, and others. It is important to know how each group values HER. Understanding the different types of value placed by each group on HER provides a basis for developing a sustainable mountain and tourism development plan on the one hand and also for identifying the role and responsibilities of each agent.

Whenever an individual or a group of individuals derives satisfaction or fulfills a want from something, value is said to be generated. Economic value arises when satisfaction is derived from consuming resources directly or indirectly. The economic value of HER consists of actual value, option value, existence value, and non-consumptive use value. These HER in themselves have no value, and they are valued only because they are capable of being turned into goods and services for local communities and tourists who are willing to pay for their consumption. Thus, the demand for HER is a derived demand (McNeely 1988; Winpenny 1991).

Different people will assign different relative values to HER. It can be safely argued that local people will place relatively higher value on the direct use of HER, i.e., on those resources that meet their current needs. These direct uses, also called **consumptive use value**, refer to resources, such as firewood, timber, grass, pasture land, and other forest products, that bring benefits to the local community at some point in time and in future and do not enter the market. HER have productive use value as well. **Productive use value** refers to resources that are exploited for commercial purposes, e.g., firewood cut to sell to tourist lodges, medicinal herbs, spices, mushrooms, etc. Consumptive and productive use value together make up **actual value**, which is derived from the present or future use of resources and includes the direct personal or group benefits generated as well as benefits that accrue indirectly.

Non-consumptive use value refers to nature's functions or services. HER provide services without being consumed or traded. Many forms of mountain tourism have non-consumptive use values, which provide economic justification for conserving HER.

Option value refers to the option of individuals to postpone consumption of HER. This is an expression of preference or willingness to pay for the preservation of an environment given some probability that an individual or group will make use of it some time in the future. After all, the future is uncertain and society should prepare for unpredictable events. The best way to avoid danger (extinction or irreversible losses) is for society to preserve as many environmental niches (protected areas, nature preserves, etc), gene pools, or important environmental resources as possible. Safe minimum standard criteria should be used to prevent irreversibility and to ensure resource availability for future generations. The **willingness to pay** to preserve an environment for the benefit of our children and grandchildren is also a form of option value, better known as **bequest value**.

Existence value relates to the satisfaction from knowing that a resource exists, or else it concerns the right and welfare of non-humans. Many people value the existence of cultural sites, wildlife species, scenic places, etc, although these may not be in actual use.

Safe Minimum Standard (SMS) implies avoidance of physical conditions that would make it uneconomical to halt and reverse depletion. For example, SMS can be set for such critical resources as soil, forestry, grassland, animal species, and so on based on expert opinion. Although maintenance of minimum stocks involves costs, these costs may be meagre compared to the loss from resource extinction.

The different values discussed above have to be understood in the context of mountain development and its conservation. Consumptive use value of HER is high for the local people and provides the basis of survival to many mountain communities. Thus, for local people, firewood, litter, different forest products, and so on have a very high consumptive use value. Productive use value is more relevant at the regional and national level, although its value to the local community may also be very high. There are many resources in the Himalayas which, if properly managed can provide high productive use value to local people (e.g., harvesting of herbs, mushrooms, etc). Non-use values are relevant at the international level now that society has begun to realise that the global environment is in fact one huge environment and that its health

depends on all smaller environments. To the tourist, the non-consumptive use value of HER is high. All conventional economic methodologies, such as cost benefit analysis and resource accounting, fail to account for all these non-use values of the environment. Non-use values, although not easily quantified, should be noted nevertheless. Different methods exist to evaluate such resources.⁴

Necessary Elements for Developing Mountain Tourism

Assessment of Community Assets for Tourism Development

Community assets, which may be undeveloped and of use for community and tourism development, need to be identified. Tourism development will require additional facilities that may not be part of direct community development. The nature of tourist demand is such that it will require facilities and services generally not required by the local community. The development of such facilities and services, however, needs to be linked with local production activities in order for the local community to benefit from tourism.

The present state of community assets and the extent of services they currently provide need to be assessed. The different needs of the local community and tourists in relation to MCD and the type of MTD that is envisaged must then be assessed in the context of HER. The community assets can be broadly grouped into six different types, namely:

- natural tourism assets,
- cultural assets,
- information,
- infrastructure,
- tourism services and facilities, and
- institutions.

Natural Tourism Assets. These assets include the mountains, the forests, protected areas, waterfalls, lakes, rivers, wildlife, biodiversity and all unique natural features that are rarely found in other places and possess high non-consumptive use values.

⁴ There are different methods to evaluate environmental resources such as HER, a discussion of which is beyond the scope of the present study. Details can be found in Portney (1994); Hanemann (1994) and Diamond and Hausman (1994).

Cultural Assets. The cultural heritage of the local community is an important asset of the community. Historical buildings, sites, shrines, temples, *gomba(s)*, archaeological sites or collections, folklore, traditions, festivals, handicrafts, museums, and so on are all cultural assets of a community that can attract tourists if properly developed.

Information. Tourists like to know about the climate and weather conditions of an area in order to prepare themselves with regard to clothing and other needs. Other information about the area is also desirable. Thus brochures, information centres, museums, and so on play an important role in promoting tourism and ensuring visitor satisfaction.

Infrastructure and Facilities. Infrastructure and facilities may be considered to be the spine of tourism. The availability and quality of the facilities are important in determining the carrying capacity of tourism in an area.

Partnership in Mountain and Tourism Development

A second necessary step to better understand MCD and MTD in the context of HER is to identify the various direct and indirect users of HER. The local community and tourists are direct users of HER. The local communities' relationship with HER is unique, e.g., rural farm households, who are users as well as managers of HER. Thus, their role as a partner in MCD and MTD is critical.

Second come the tourists, who demand HER for a variety of purposes, the value of HER to them being different from that of the local community. These two groups, namely, the mountain community and the tourists, are the direct users of HER, and the value of HER to these two groups varies, as already noted above.

Also related to tourist demand is the demand for HER on the part of the private sector that takes tourists to their destination and the support staff, including porters, who accompany them. Both private sector and porter demands for HER are of a different type, since such persons do not go to the mountains for the sake of consuming resources, as tourists do, but to provide services to the tourists. *In other words, the demand for HER by the private sector and the support staff should be reflected in the tourist demand for HER.* This distinction is important since the demand for firewood by the support staff who accompany tourists to mountain areas is high. Although in some places

firewood use by tourists has been restricted, this is not true with regard to porters.

NGOs or INGOs (simply referred to as NGOs) have been playing an important role in mountain development recently. Although NGOs are not direct users of HER, they influence the use of HER in a variety of ways, e.g., through education, awareness programmes (sanitation, hygiene, toilets, family planning, etc), income-generating activities, infrastructural expansion, and so on. The role of NGOs, therefore, has been to change the consumption and production behaviour of the mountain communities which affect HER.

Also, other development agents appointed by the government play an important role. In the case of the Annapurna Conservation Area, the King Mahendra Trust for Nature Conservation (ACAP) has a strong influence on the area's overall development, including tourism. In the case of Gorkha, the Gorkha Development Project (GDP) and its several project partners (NGOs) have begun to play a similar important role, although tourism development has yet to become a separate focus of the GDP.

Furthermore, these different actors or agents can be grouped into those that demand HER for consumption and production purposes and those that can influence consumption and production behaviour, and hence the supply of HER. The demand side includes the local people, the tourists, and their support staff. On the supply side are the local people who manage HER, the NGOs, and the government. The role of the private sector is an intermediate one, i.e., that of a middleman who can play an important role in filling the gap in investment options related to tourist facilities, marketing mountain tourism, and bringing tourists to the Himalayas. If HER are seen from the national and international point of view, the role of other partners also becomes important. For example, water resources originating in the Himalayas can be used to generate electricity.

Institutions

Finally, it is extremely important to build local institutions to support sustainable mountain development and to monitor and manage HER. Without such a management body at the grass-roots' level, the whole issue of carrying capacity and a subsequent action plan to ensure sustainable mountain development becomes meaningless. Clearly, NGOs and the government should play an important role in identifying and facilitating such institutions at the local level (destination).

Integration of tourism development with mountain development at the local level is essential for promoting intersectoral linkages, maximising the retention of benefits locally, and reducing leakages. The higher the degree of linkage, the larger will be the multiplier effect of tourist expenditure. The optimisation of benefits from tourism therefore depends on the nature and extent of both backward and forward linkages of development at the community level. Tourist products need to be developed through establishing strong backward linkages with agriculture and rural industries.