Himalayan Resources, Community and Tourism Development in the Context of 'Carrying Capacity'

It is assumed that mountain community development (MCD) is necessary to improve the quality of life of mountain communities, as well as to conserve Himalayan Resources (HR). It is also assumed that mountain tourism development (MTD) has an important catalytic role to play in this process. Improvement in the quality of life of the mountain people and the conservation of HR necessitate the generation of new resources (traded). Himalayan Resources have economic value and can be developed to generate the necessary resources (Banskota and Sharma 1994; Banskota et al. 1994). For the sake of simplicity, it is assumed that mountain areas have potential for tourism development and community development. Community development is assumed to encompass all forms of development that address the needs of the local community. Mountain tourism development must have a strong link with mountain community development or else tourism development cannot be a part of sustainable mountain development.

Mountain regions are geographical regions that can be regarded as coherent entities from the standpoint of description, analysis, administration, planning, or policy.Therefore, mountain development will depend largely on the supply

of environmental resources. From the perspective of the welfare of the mountain people, mountain and tourism development should improve the welfare of the population; and this development should be compatible with environmental, regional, and national development. Mountain development thus has to fulfill two requirements: first, it must ensure the region's population of an acceptable level of welfare which can be sustained in the future and, second, it must not come into conflict with sustainable development at regional and national levels.

'Carrying capacity' (CC) is a key concept in planning for sustainable mountain development, i.e., local community and tourism development and environmental conservation. Carrying capacity seeks to establish ecological and behavioural thresholds beyond which the biophysical, socioeconomic, and environmental milieu and the quality of life of mountain people and visitors' experiences deteriorate. Given different environmental dimensions, different types of carrying capacity concepts are often discussed in the literature (WTO 1993; Nijkamp den Berg and Soeteman 1990).

Carrying capacity is a multi-dimensional and dynamic concept and varies according to season, time, behaviour and attitude of tourists and local population, facilities, management, and the 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 by the combination of three primary factors: environmental threshold, investment options, and management policies. Determination of the environmental threshold is important for the assessment of carrying capacity. When applied to the (mountain) environment of a region, carrying capacity indicates the number of people, including tourists, it can support. Furthermore, carrying capacity must be viewed in the context of development, as our primary concern lies in raising the standard of living of the people in this region.

The relationship between MCD and MTD in the context of Himalayan Environmental Resources (HER) can be conceptualised on the diagram given below. The large circle represents the Himalayas with its unique environmental resources (HER). Mountain community development (MCD) and MTD are represented by two other circles (as shown). These three circles or sets overlap each other to produce different subsets. Carrying capacity is represented by the additional circle.

Subset 1

Subset 1 represents the union of HER, MCD, and MTD and is within the Carrying Capacity of the ME. Here, there is an integration of tourism with mountain community development and this provides the basis for linkages between these two sectors. Both forward and backward linkages are established within MCD and MTD, and both these sectors do not compete for

the HER. Mountain-produced goods are used to the greatest extent possible and import leakages are minimised creating greater opportunities for retention of benefits from both forms of development. In other words, benefits accruing from both forms of development are maximised, giving rise to several rounds of multiplier effects which result in the growth of mountain community development. Also, since this union lies within the carrying capacity set, both mountain community and tourism development are sustainable.

Subsets 2 and 3

Subset 2 characterises tourism development, which is dependent on HER and is carried out in the mountain areas. Tourist needs cannot all be complementary to mountain needs and some degree of competition for HER between tourists and the mountain community is bound to occur. This subset is within the carrying capacity of the mountain environment and, thus, tourism development is sustainable in this region. Subset 3 is similar to subset 2, but in the context of MCD that is dependent on HER. The competition for HER in subsets 2 and 3 are unlikely to be symmetrical.

Subsets 4 and 5

These subsets are within the MTD and HER sets but outside the CC set, indicating that tourism and mountain development in these regions are unsustainable as they exceed the carrying capacity of the mountain environment. It is evident from subsets 4 and 5 that, while tourism and mountain development are integrated, both kinds of development extend beyond the limit of the carrying capacity. This could be due to lack of appropriate technological opportunities, institutional bottlenecks, lack of improvement in human physical capital infrastructures, wrong investment, lack of planning, gaps in knowledge, market and policy weaknesses or failures, and lack of management, all of which are likely to result in negative impacts.

With new technology, improved infrastructure, and management, it is possible to exploit the potential carrying capacity and avoid the damage (subsets 4 and 5). It may not always be possible to completely eliminate such areas as there will always be gaps in knowledge. However, attempts should be made to minimise these areas through the combination of demand and supply management policy actions. Proper assessment of the economic value of environmental damage is required, for which natural resource accounting assumes importance.

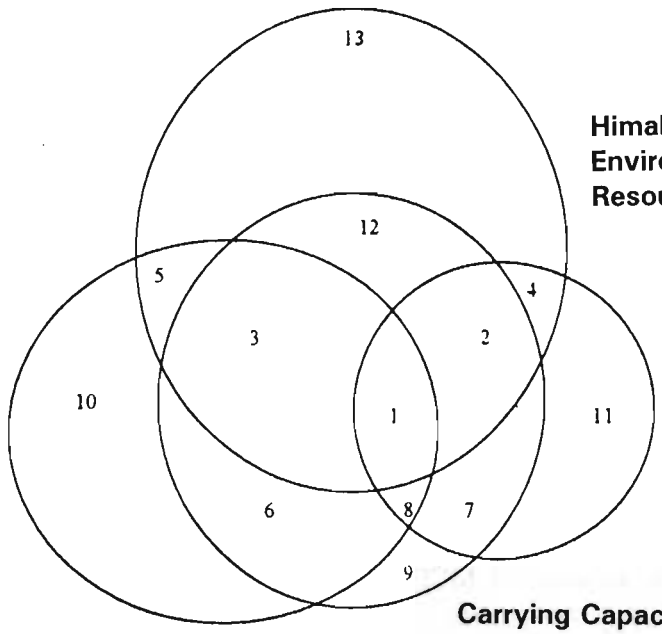
Subsets 6 and 7

Subsets 6 and 7 indicate that the carrying capacities of the mountain environment for MCD and MTD have to interact with the regions outside the mountain environment. Many aspects of both form of development need varied

external inputs. Product and factor prices extrinsic to the mountain environment influence MCD and MTD and, hence, the utilisation patterns of HER which have implications on the carrying capacity of the mountain environment. Linkages of MCD and MTD extend beyond the mountain environment and parts of these external linkages give rise to leakages. Thus, all benefits cannot be retained within the country. External leakage cannot be avoided, it can nevertheless be minimised for sustainable MCD and TCD. Stated differently, both these intersections characterise intersectoral and international trade flows which influence the economic carrying capacity of mountain areas. Hence, the area represents the potential impact of external factors to the mountain environment's carrying capacity.

Diagram

Sustainable Mountain Tourism Development



Subset 8

This area extends beyond the mountain environment, is part of the MCD and MTD sets, and also lies within the carrying capacity. This subset indicates that the complementary relationship between MCD and MTD extends beyond the mountain environment. Many interrelated or interdependent activities, of both MCD and MTD, take place outside the region for their sustainability. Planning and research activities as well as many other activities, carried on outside the mountain environment, which affect development have implications for its carrying capacity. Note that subset 8 is different from subsets 6 and 7 in that the latter subsets are fairly independent whereas subset 8 is not.

Subsets 9 and 12

Both these subsets characterise dimensions of carrying capacity that remain unused. In the case of subset 9, the unused carrying capacity is external to the mountain environment, MCD, and MTD, whereas in subset 12 it is internal. In the case of subset 12, inappropriate policies, behaviour, as well as gaps in knowledge always leave some level of carrying capacity unused and the scope exists for internalising external knowledge and technology (subset 9) which enhance the carrying capacity of the mountain environment. Also, it may not be possible to fully optimise the carrying capacity as it is constrained by many factors. Subsets 9 and 12 represent the scope for expanding the carrying capacity through research and technology, planning and management, infrastructural improvements, etc. Certain dimensions of the current MCD and MTD can be strengthened to eliminate parts of 5 and 6 and to more fully utilise parts of 12, which may require external knowledge or technology (subset 9).

Subsets 10 and 11

These subsets simply indicate more macro linkages of both MCD and MTD with the outside world - regional, national, and international. Since it has already been indicated that sustainable development of a mountain area also depends on the sustainable development of a region or a nation, subsets 10 and 11 represent these aspects of MCD and MTD that are external to the mountain environment, but which are essential to the development of the mountain environment as well as its carrying capacity. In other words, these subsets also represent interactions of MCD and MTD with sustainable development at regional and national levels.

Subset 13

Finally, subset 13 is entirely HER representing minimum levels of resources that need to be conserved or preserved. This area defines the critical minimum levels or thresholds that need to be preserved to sustain gene pools, or

breeding stock. This region also characterises HER that can be classified as having option and existence as well as bequeath values. The level of HER existing in this region cannot be assumed to be substituted by man-made capital (Daly 1991).