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Tourism for Local Community Development in the Mountain Areas of NWFP and the Northern Areas of Pakistan

Phase Two - Case Studies of Kalam and Hunza

Development Research Group
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Phase Two - Case Studies of Kalam and Hunza

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MEI Series No. 95/12

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Preface

The present Discussion Paper is one in a series of papers related to Mountain Tourism that have resulted from a NORAD-funded project entitled "Mountain Tourism for Local Community Development". The Project was initiated in 1994 with the objective of reviewing the status of mountain tourism in selected regions of the HKH (the mountains of Uttar Pradesh and Himachal Pradesh in India, Nepal, and the Northern Areas and North West Frontier Province in Pakistan), identifying the key issues with respect to mountain tourism and economic and environmental development of local communities, undertaking location-specific, in-depth investigation on the key issues, and developing a framework for Action Plans for sustainable mountain tourism and local community development in the case study areas.

The overview studies have already been published in the MEI Discussion Paper Series. The present paper is a case study on Mountain Tourism for Local Community Development in the Kalam Valley, NWFP, and Hunza, Northern Aeas, in Pakistan. The thematic focus is on the inventory of tourism resources, nature and perception of the various impacts of mountain tourism, carrying capacity considerations, perception of the linkage between tourism and community development, and the development of framework for the Action Plan and Guidelines for Sustainable Mountain Tourism oriented towards local community development in the case study areas.

The case studies from Nepal and Pakistan are also published in the MEI Discussion Paper Series.

On behalf of ICIMOD, Dr. Pitamber Sharma is the Project Coordinator as well as the technical editor of these papers.

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Background and Objectives

Background

The case studies being presented in this phase are a continuation of the study on "Mountain Tourism for Local Community Development in the Mountain Areas--NWFP and the Northern Areas of Pakistan" and include a carrying capacity analysis of the resource base. The previous study, like the present one, was sponsored by the International Centre for Integrated Mountain Development (ICIMOD) to determine the status of mountain tourism in the Hindu Kush-Himalayan ranges located in Nepal, India, and Pakistan. The focus in the NWF Province and the northern areas of Pakistan is essentially resort and adventure tourism; hence the selection of the two particular areas -- Kalam and Hunza. These areas abound in tourist resorts and contain the largest concentration of high mountain ranges and towering peaks in the world, together with a large number of fascinating treks. Although only a few of the well-known peaks are frequented and only some of the treks are popular with tourists, the potential is vast and the resource base untapped. Similarly, only a few of the resorts have been developed, and these attract the largest number of tourists.

Studies on tourism mostly concentrate on the macro-objectives, and justify tourism on the basis of its macro-achievements, namely, foreign exchange earnings, overall income and employment generation in the economy, and the spawning of economic activity in the related services' sectors. However, the effects of tourism on the local economy and environment are generally ignored, or, at best, take a back seat. The approach of this set of studies is different. It makes the local community the centrepiece and studies tourism as an engine of local community development by stimulating its production base, gearing up its service sector, and filtering economic impulses on to the local community via linkages effected through participation. Such an approach is also expected to be environmentally friendly, firstly by diverting pressure from the existing natural resource base of the area through diversification of economic activity and, secondly, by warding off the exploitative activities of tourism service developers from outside the area by involving the collective interests and choices of the local community.

Major Issues

The Hindu Kush-Karakoram ranges surrounding this area are sufficiently endowed with tourism resources to make this area the centre of adventure and resort tourism. However, the demand of local communities for the resources to meet their basic needs of food, energy, and shelter have also to be met from the same resource base. There is thus competition for the resources between tourists, who have the financial strength to meet their needs, and the local communities, for whom even staying alive is a struggle, and whose habitat becomes a locus for the recreational uses of others. In such a situation, tourism-related activities are not an unmixed blessing: in fact, they are fraught with a variety of problems in the absence of a well thought out development effort focussing on the needs of local communities simultaneously.

The greatest impact of tourism is visible in the environmental and economic spheres. The development activities being pursued are essentially autonomous in nature and have been brought about by the influx of a large number of tourists in these areas. This has resulted in large-scale building activities on mountain slopes that are not stable and pollution and large-scale deforestation, both to meet the growing needs of the people for food, fuel, and construction as well as to provide space for tourism resources. In the areas of adventure tourism, activities such as trekking and mountaineering have led to large-scale environmental problems such as land, water, and air pollution due to the absence of or lack of observance of environmental protection codes.

In almost all cases the carrying capacity of the areas has neither been determined nor adhered to. This is a major indication of the lack of planned development in the area that keeps in mind the competing needs of the tourists and the local communities, and it has been cast into bolder relief by the concentration of tourists in a few well-known destinations -- resorts, treks, or peaks. Whatever development has taken place has been demand-induced, and no effort has been made to diversify attractions and reduce the tourist load in keeping with the carrying capacities of the major tourism resources.

A principal constraint on the proper utilisation of resources and the levelling out of the tourist load is the seasonal nature of tourist activities in the area. Adventure tourism and resort tourism are seasonal in nature and available for only a few months of the year (resort tourism is effectively open from April to October, while mountaineering is confined to the few months from May to August). This leads to problems of accommodation and shortages of essentials (including foodstuffs), congestion, spiralling prices and environmental problems

in the peak seasons, and lack of gainful employment and tourism-related income during the rest of the year.

Tourism can have positive economic effects upon the local communities only if its benefits can filter down to them. There must be strong linkages between the tourism industry and the local production base and labour market and participation in the basic decision-making, on the one hand, and minimum leakage of benefits out of the other. There does not seem to be any sizeable integration between the expenditure incurred by tourists and the benefits to the local communities in the case study areas. It is of paramount importance, therefore, to develop a structure out of the tourism industry that will enable such linkages to take place. Only then can tourism contribute to the upliftment of these communities and the industry be woven into the development fabric of the area.

Another drawback is the absence of markets in the area. Existing retail trade can meet only an insignificant part of the overall demand and supply of the area. The presence of developed local markets would also contribute to linkages between sectors and employment creation. However, the prerequisites for a well-developed market are a good communications system, a class of business people, the production of goods, and the financial assets to undertake these activities. This will have to be encouraged and brought about.

Tourism is generally viewed as an economic activity, and its contribution measured in terms of its contribution to the GNP, national employment figures, foreign exchange earnings, and industrial production growth in the hotel and transport sector. No effort has been made to view tourism and its impact from the perspective of the local communities. In fact, there is an acute shortage of research and data on these aspects of tourism.

Although tourism has been given the status of an industry, efforts are needed to look at developments in this sector from a holistic point of view, specifically in the context of the development of mountain areas while keeping in mind, firstly, the unique characteristics of the area and, secondly, the benefits that ultimately accrue to the local communities. This will not come about by itself; firstly, because those who initiate the developments are disposed to narrow self-interests, and, secondly, even if efforts are made to involve local communities, they suffer from a paucity of educated and skilled manpower, as well as a lack of investable resources. Involving communities like these requires first an understanding of the necessary preconditions of their involvement, and then the provision of some of these preconditions.

Again, if development is to be sustainable, it will have to go hand in hand with protecting the environment and conserving the resource base of the area. This will call for efforts for evolving environmental codes for the area which will be observed both by the tourists and the local people. It will also imply adjusting past habits and behaviour patterns, for which training and dissemination of information will be required. However, and more importantly, the basic needs of the people for fuel, heating, and economic/gainful employment will have to be ensured through proper planning, policies, and investments tailored to the specific needs of the area.

National policies have so far had marginal impact on the area, since the policies were never intended to impact on all areas of the country equally but more on those areas that have a profile and which figure high on the national macro-level agenda. Areas like the ones under consideration here need policies that target them directly, consider their disadvantaged position, and can help in the trade-off between their immediate needs for exploiting the resources and the conservation of these resources.

The areas also need input for development of HRD, training, and other essentials concomitant to development. Although the Kalam Integrated Development Project and the AKRSP are both working towards this end, there are still gaps that public sector programmes need to fill.

Objectives of the Case Study

As distinguished from the Overview, the aim in the case studies has been to narrow the focus on particular tourist destinations; to carry out an in-depth study of various relevant issues; and, as far as possible, fill the data gaps witnessed in the case of the overview. It was also agreed that, in the case study of Kalam, the focus will be on resort tourism, while in the case of Hunza, the study will concentrate on trekking.

More specifically, the objectives of the case studies have been:

- to develop a database on tourists and tourism infrastructure of the case study area;
- to assess the environmental and economic impact of tourism activity on the area and the local community;
- to study the strains placed by tourism on the carrying capacity of the

major tourism resources of the area and to assess its present and potential carrying capacity;
- to analyse the employment structure and production base of the area,
- to assess, if possible, tourism linkages with employment creation, income generation, and feedback to the economy and to identify leakages of income and benefits;
- to analyse the nature and role of interventions by government, NGOs, and the community, together with an assessment of their impact;
- to develop indicators for monitoring the carrying capacity;
- to make recommendations for a sustainable development strategy for mountain tourism in the Northern Areas; and finally
- to develop guidelines for an action plan of the area.

The Work Plan

With regard to the Kalam case study area, the proposed work plan, which was further refined during the Pokhara workshop held in August, 1994, was to focus on the following seven principal elements.

- The development of a database on tourists and tourism infrastructure
- Assessing the environmental and economic impact of tourism activity
- Analysing the employment structure and production base of the area
- Assessing, if possible, tourism linkages with employment creation, income generation, and feedback to the economy
- Identifying, as far as possible, leakages of income and benefits
- Analysing the nature and role of interventions by the government, NGOs and the community, together with an assessment of their impact
- Developing guidelines for an action plan of the area

In the case of Hunza, the work plan contained the following major elements.

- Information about the number of trekkers and trekking parties
- Mapping and inventorising at least one of the treks and recording all observations
- Interpretation of these observations in order to assess environmental impact
- Assessing benefits from trekking and the retention of these benefits
- Throwing light on the use of tourism towards the promotion of mountain and local community development
- Developing guidelines for an action plan of the area

In essence then, the work plan for the two case study areas was to revolve around the major objectives of the study, as listed above. To achieve these objectives, the consultants were expected to develop a methodological mix of field research and desk analysis. This work plan was further revised in the light of the discussions which took place and the points agreed upon for incorporation during the review meeting held in March this year in Kathmandu and during the subsequent correspondence with the study coordinator.

Organisation of the Report

This introductory chapter is followed by a chapter on the setting and methodology. Chapters 3 and 4 are devoted to an introduction of the case study areas -- Kalam and Hunza respectively. Chapter 5 contains an assessment of the impact and implications of mountain tourism in Kalam, while Chapter 6 studies the impact and implications in the case of Hunza. Carrying capacity considerations in Kalam and Hunza form the subject matter of Chapter 7 and 8, while Chapter 9 contains a summary of the major findings, and of the major implications of the findings for policies and programmes related to tourism and local community development, along with recommendations for the mountain areas.

2
Setting and Methodology

The Setting

As has been mentioned in the foregoing chapter, the major objectives of this study include narrowing down the focus on particular tourist destinations; carrying out an in-depth study of the various aspects of tourism in the case study areas; and filling as far as possible the data gaps witnessed in the case of the Overview. Again, the interest in mountain tourism is essentially imbued with concerns for the development of the mountain areas and local communities. Tourism is thus viewed as an engine of development for these areas and communities, and as such will have to be informed with all the dimensions of sustainability if it is to perform this role with its full potential, i.e., it must be environmentally friendly; it must benefit local communities directly and involve them in all or most of the activities related to tourism in the area -- the area which is primarily their habitat; there must only be the least avoidable leakages of income and benefits; the extant carrying capacity of the tourism resource base must not be strained, while efforts must be made to extend this capacity; the culture, flora and fauna, and natural characteristics of the areas must remain intact -- in fact, they must endurably remain the core of tourist attractions in the areas.

The development of mountain tourism will fit into this context only if it forms part of a strategy to develop the mountain areas and to improve the lot of the local communities. Recreation for the visitors will thus be conceived *as a good for the good of the local communities*; its promotion as an activity will derive justification from the activities that it can promote for the host community; the environment of friendliness towards it will be conditioned by its friendliness to the environment; and "the more, the merrier" shall turn out to be true only if MORE will, in fact, be merrier.

Organisation of the Report

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studies the impact and implications in the case of Hunza. Carrying capacity considerations in Kalam and Hunza form the subject matter of Chapters 7 and 8, while Chapter 9 contains a summary of the major findings, and of the major implications of the findings for policies and programmes related to tourism and local community development along with recommendations for the mountain areas.

The development of mountain tourism bears upon the wide-ranging activities that affect the ecology and land use as a result of tourists visiting an area; the tourism-related employment that is generated (in the service sector, retail trade, hotels, transport, cottage industries, etc); the benefits that are retained by the communities and the disbenefits suffered by the local communities. Such a development is expected to contribute towards the betterment of the local communities; and to do so with a careful eye on the fragile resource base that has to sustain the existing and growing pressures of local numbers and visitors.

The local resource base, it should be noted, has to meet competing claims and accommodate competing uses. The local communities are greatly dependent on this resource base for their livelihood, with little options in the way of alternative sources of income and employment in the area. The use of mountain resources to meet the fuel and heating needs of the local communities leads to the exploitation of the forests and results in deforestation and the deterioration of the resource base. With an increase in population, there is demand for land for cultivation and housing, which prompts encroachment on to the higher slopes and the forest belt, this, in turn, leading to a receding forest line and the extinction of flora and fauna. In the process, the wildlife of the area loses its traditional habitat. This process is further complicated by the tourism sector, which competes for the same resources. The structure of the tourism industry is, however, such that it does not indemnify the local community for the losses they suffer; nor does the latter profit very greatly from the income and employment generated in this sector, except perhaps peripherally. The result is that expanded tourism may coincide with the impoverishment of local communities, the migration of their members to other places in search of income and employment, the encroachment on their habitat and culture, and, possibly, their eventual resentment.

All these factors need to be investigated more closely, and the problems and prospects of tourism, as a vehicle of area development through local community participation, brought into sharp focus. If tourism is, however, to

lead to sustainable development and be imbued with the considerations outlined above, the carrying capacity of the resource base will have to be given due weight. Carrying capacity aims at setting the threshold for the area beyond which the environmental, ecological, social, economic, and cultural quality of life of the people deteriorate. This capacity is a varying and dynamic concept, and there are no fixed limits for it. It will vary over regions and over time, with variations in the behavioural pattern of the actors (the tourists and the local population), in the different facilities available, and in the different abilities to manage the environment and resources. The carrying capacity may be predetermined by a number of factors, namely, environmental (including the resources, the level of the existing population, its rate of growth, and the number of tourists using the resources); economic (including the level of development of infrastructure and investment in the different sectors to plan for a quick response to demand from tourists while ensuring the livelihood of the local population); and links with macro-development (where national policies pursued can focus and target the needs of the mountain areas).

There are a number of factors which are deemed critical. A factor is termed critical when it has a positive or negative effect on the local communities and the resource base in the context of tourism activities. Some of the critical factors are given below.

- Resources
- Regions and areas
- Attitudes and behaviour
- Institutions
- Infrastructure
- Social development
- Economic security

Resources become critical where human interference can lead to stress, and some areas are more prone to stress due to the fragility of the environment than others. Here, conservation is needed to make the resources sustainable. Resource development needs development of infrastructure, institutions, HRD, etc, and it is an important condition-in fact, the *sine qua non* of economic development. However, in the presence of constraints on resources (such as the competing uses of the same set of resources and the non-renewable nature of some of the resources), the types of development activities to be pursued will have to be identified, and this identification will have to be based on well-defined criteria of choice if these activities are to be beneficial to the area and the local communities.

Critical regions/areas refer to those areas that are relatively more fragile and prone to stress, and hence to degradation due to tourism-related activities. Every region/area has some vulnerable spots in this category. Besides the critical geographical regions, other areas that may become critical for tourism are facilities such as accommodation and food trails, camps, historical sites, etc- all cases in which tourist activities such as trekking, camping, and so on, may affect the environment and cause damage to it . Specific areas that may be affected are waterholes, glaciers, trekking routes, rivers, picnic spots, and camping sites.

Overuse of resources, littering of areas with non-degradable materials and garbage, and following of unhygienic practices, all contribute to making an area critical. With the identification of the critical areas, it should be possible to plan conservation measures and environmental management programmes.

Behaviour and attitudes become critical when individual and collective actions increase the level of stress felt by the area. This can have a far-reaching impact. For example, hunting can lead to the destruction of species (as is visible in some of the mountain areas in Pakistan), even as deforestation has led to soil erosion and other types of environmental impact. Similarly, tourist activities have led to pollution of land, water, and air. In such situations, changes in the habits and attitudes of the community, as well as in the habits and behavioural patterns of the tourists, become essential. This can be done by setting up 'codes' that need to be followed, providing incentives to confirm and punishment for non-conformity and also by providing training through community involvement and participation. Here again, the existence of alternatives to the use of natural resources, e.g., firewood, becomes critical.

Institutions play a critical role in providing the facilities that are essential for the development of tourism. The existence of intermediaries, such as travel agents, the transport sector, and the hotel industry, is vital. Moreover, institutions can get the local community involved in the supply of services and the development of small businesses through participation, which can take a number of forms. These institutions can also influence habits and behaviour by following and ensuring the following of a 'code' of behaviour in the use of resources and with the protection and preservation of the environment. At a higher level, the existence of institutions to formulate policies, establish codes (with built-in punishments), and coordinate the actions of the different actors are also critical for tourism development.

Infrastructure plays the role of providing the necessary essentials concomitant to development. This includes roads, buildings, accommodation, essential services, and the industrial and production base. Along with the provision of infrastructure, the involvement of the community in its operation and maintenance is equally important. It is thus important to assess the present state of infrastructure, identify the needs of the area for sustaining the level of existing tourist activities, gauge the intensity of use, and assign maintenance responsibility.

Social development here refers to the level of development in the social indicators of the local population, particularly in education, training, and HRD. This is critical for two reasons. Firstly, a trained labour force will be necessary if the local community is to be gainfully employed and involved in the process of development and to benefit from tourist-related activities in all sectors of the economy, and, secondly, a community with a certain level of social development will be aware of the level of environmental degradation taking place and the need to arrest the process and undertake conservation measures for the greater good of the community.

Economic security is critical if the community is to engage in a trade-off between the use of resources to meet their basic needs and the conservation of non-renewable resources. The economic development of mountain areas will require policies and planning to target these areas directly rather than through the so-called 'trickled down effect'. This is the only way benefits will accrue to the communities with minimum leakage. Backward and forward linkages can also be expected only in such a situation.

These factors, along with the existence of natural resources specific to tourism (including scenic assets, bracing climate and weather conditions, and facilities for utilising those natural resources), tourism services, government policies, management of resources, and institutions, all play a critical role in determining the impact of tourism and the carrying capacity of the area.

Methodology

In order to fill the gaps in the data relating to the specific areas of the case studies, and to determine the carrying capacity of the two areas selected, a well thought out methodology had to be adopted. It was, however, obvious that, in view of the multifacetedness of the case studies, no single method/approach would suffice. Thus, a whole assortment of methodologies

was selected and applied to secure the desired outcome. Also, it was necessary to adapt the various methodological components separately to the two areas. Hence, the methodologies used for the two areas vary from one another in some details. They are, therefore, given separately.

a) Kalam

Socioeconomic Survey

One of the principal components of the methodological mix was a socioeconomic survey of the area. Such a study was necessary in order to become acquainted with the socioeconomic fabric of the area, to ascertain the facts and figures, and to pinpoint the critical factors required for subsequent exercises. A team of trained researchers was sent to the area with an interview schedule meant to cover a random sample of tourists, hotel and restaurant owners, transport owners and operators, local officials and relevant KIDP (Kalam Integrated Development Project) staff, local people of the area, and a few employees/labourers. Some information was also obtained from the official records/documents of KIDP.

Impact Study and Carrying Capacity Analysis

The task of assessing the impact of tourism on the area and conducting the carrying capacity analysis was entrusted to another team consisting of a senior regional planner, an ecologist, a tourism specialist, and field researchers. The work was partly carried out at the Ministry of Tourism, partly at the premises of the DRG and its associates, and partly in the field. The main elements of the methodology adopted were as given below.

Desk Research

- Desk research involved obtaining topographic and other maps of Kalam sub-division; and
- delimiting the Kalam valleys on a map for purposes of the exercise in hand.

The catchment area of tourism based at Kalam has been delimited on Survey of Pakistan topo sheets nos 43 A/6, A/7, A/10, and A/11, comprising:

- Kalam proper,
- Ushu Valley (gol), up to Mahodhand Lake,
- Utrot Valley, up to Andrap Lake,
- Gabral Valley,
- upper watersheds of these valleys, and
- adjacent technical mountaineering areas.

- Pertinent mountain tourism traffic data were obtained from the Research and Statistics Wing, Ministry of Tourism, for quantitative estimates of the past volumes, trends, and projections of mountain tourism traffic in Kalam by season, class, and broad activity. The following steps were involved.

  - Information on the number of rooms was taken from hotel guides for various years. Room occupancy data were taken from the Tourism Division's survey report, *Lodging Industry in Pakistan, 1985-92*. The two sets of data were collated to estimate the number of hotel guests.
  - Given the estimate of the number of hotel guests, and using the parameters (adjusted) given in the report, "Tourism in Swat: A Survey Report", on the relationship between hotel guests and all categories of tourists, an estimate was derived of the total tourist flows to Kalam.
  - A monthwise breakdown of tourist flow was made using the occupancy data.
  - Tourist activities in Kalam were estimated using the parameters (adjusted) given in *Tourism in Swat: A Survey Report.*
  - The mode of transport used by tourist was taken as an indicator of their socioeconomic characteristics. Air and car travel was equated with the upper income group; wagon, jeep, and Suzuki with middle income; and bus travel with lower income.

- Undertaking an asset survey from maps of tourism plants, infrastructure, and of natural, man-made and cultural environmental factors.

  In Kalam, the focus is on resort tourism which includes wilderness experience, non-extractive use of nature parks, enjoyment of scenic beauty, individual and group rural recreation, and passive and active recreation around lakes. The estimates of the carrying capacity of the various tourism elements in Kalam proper and the surrounding valleys, in their present and future state of development, have been based on WTO (World Tourism Organisation) guidelines, which treat:

- rivers and lakes as prime environmental assets;
- crop areas as suitable for individual and group rural recreation;
- forest areas as nature parks, suitable for mushroom gathering and non-extractive activities;
- non-forested rangelands as suitable for wilderness enjoyment;
- fair-weather metalled and unmetalled routes as suitable for trekking; and
- steep and high mountain slopes above 4,000m as suitable only for technical mountaineering.

- Measuring from maps the areal extent of prime environmental assets.

  The areal extent of prime environmental assets was computed by using a Koizumi KP-80 digital planimeter and taking an average of five readings for each area. The length of treks was estimated by measuring a thread laid along the trail paths.

Field Research

Developing and administering questionnaires to a quote sample of 31 respondents consisting of local residents, the tourism service industry, and tourists in order to:

- measure the ecological, social and moral, and economic impact of tourism;
- assess the volumes and seasonality of traffic and the capacities of plant and infrastructure; and
- evaluate the degree of attainment of tourist image values.

Desk Analysis

An assessment of the residual capacity of Kalam and surrounding valleys with and without the development of tourism facilities was made through two approaches

- Normative: relating current and projected tourism traffic numbers to estimates of carrying capacity
- Intersubjective: analysing the responses of the local community, tourism trade, and tourists to questions administered through structured interviews to a quota sample of 31 respondents

b) Hunza

Socioeconomic Survey

A socioeconomic survey of the area was one of the components of the methodological mix in the case of Hunza also. A team of trained researchers was sent to the area with an interview schedule meant to cover a random sample of people -- tourists, hotels and restaurant owners, government officials and NGO representatives, and people of the local area -- to secure their responses and to record participant observations. Some information was also secured from documents released by the AKRSP.

Impact Study and Carrying Capacity Analysis

Another team, consisting of an ecologist, a regional planner, a tourism specialist, and field researchers, was entrusted with the job of assessing the impact of tourism on the local people and the area and of undertaking a carrying capacity analysis. The work was partly carried out at the Ministry of Tourism, partly on the premises of the DRG and its associates, and partly in the field. The main elements of the methodology adopted were as given below.

Desk Research

- *Obtaining maps of hunts*

  Since Survey of Pakistan GTS sheets for Hunza are restricted, the exercise relied on the Karakoram Trekking and Mountaineering Map on a scale of 1:200,000.

- *Delimiting the Hunza tourism area on the map for purposes of the exercise*

  The delimitation was made with reference to common circular treks, with the base station at Karimabad, and/or base camps at Nilt, Minapin, Aliabad, Nagar, Hopar, Hispar, Gulmit, Ghulkin, Pasu, or Sust.

  Areas for treks based out of Chalt into the Bar Valley, along the Naltar Valley and across Diantar Pass, have been excluded on the basis of ground information that Gilgit is becoming the more usual base station for these treks.

- *Obtaining pertinent mountain tourism data from the Research and Statistics' Wing, Ministry of Tourism*

  - Information on the number of rooms was taken from hotel guides for various years. Room occupancy data were taken from the Tourism Division's survey report, *Lodging Industry in Pakistan, 1985-92*. The two sets of data were collated to estimate the number of hotel guests.
  - Given the estimate of hotel guests, and using the parameters (adjusted) given in the report, *"Tourism on KKH: A Survey Report*, on the relationship between hotel guests and all categories of tourist, an estimate was derived of the total tourist flows to Hunza.
  - A monthwise breakdown of the tourist flows was made using the occupancy data.
  - Tourist activities in Hunza were estimated using the parameters (adjusted) given in *Tourism on KKH: A Survey Report*.
  - The mode of transport used by the tourists was taken as the indicator of their socioeconomic statistics. Air and car travel was equated with the upper income group; wagon, jeep, and suzuki with middle income; and bus travel with lower income.

- *Assimilating the technical categories and the rules governing trekking*

  The focus of this study is on trekking. The estimates of demand for trekking need to be related to the various technical and legal categories of treks in the Hunza area.

  The following categories have been established by Travelwide Services (Pakistan) Limited.

  - *Grade A, Easy*: Comprising fair-weather metalled and unmetalled tracks at altitudes between 2,000 and 3,500m, suitable for persons with basic physical fitness but no technical knowledge or experience.
  - *Grade B, Moderate*: Unmetalled tracks, averaging 2,500 to 3,500m, with plenty of hill walking and an occasional pass crossing at 4,500m, suitable for persons with good physical fitness but no technical knowledge or experience.
  - *Grade C, Strenuous*: Treks to altitudes of 3,000 to 4,000m, with passes crossing over 5,500m; requires very good health plus basic use of ice axe, crampons, and rope.

- *Grade D, Alpine*: Climbing to altitudes from 4,000m to 5,999m. Climbing knowledge with good experience and prime fitness is mandatory.

Trekking Zones

Pakistan's treks are classified into three zones: open, regular, and closed. Regular treks require a permit, the escort of a licensed guide and mandatory briefings and debriefings at the Ministry of Tourism, Islamabad. The open treks do not involve such formalities. No treks are permitted in the closed zones.

All treks in Hunza are in the open zone. Thus, there are no restrictions or official records of trekking expeditions in the area.

A list of 35 registered tour operators in Pakistan was obtained (Annex 2). Major operators among the adventure tourism trade were identified, and data on the number of trekking, mountaineering, and white-water rafting tours handled by them for the Hunza area from 1992-94 were obtained. In addition, these major operators were requested to make estimates for the whole industry.

- *Undertaking an asset survey of natural, man-made, and cultural environmental factors*

  This entails delimiting the high mountain peaks, glaciers, trekking trails, and whitewater stretches in Hunza as prime tourist attractions on the basis of government and private sector publications.

- *Measuring the areal extent of prime environmental assets*

  The areal extent of glaciers was computed by using a Koizumi KP-80 digital planimeter and taking an average of five readings for each area. The lengths of treks and whitewater stretches were estimated by measuring a thread laid along the trail/stream paths.

- *Estimating current and potential carrying capacities*

  This entails applying WTO and other specialist guidelines for acceptable (at current levels of development) and maximum (with full development) densities to the areal extent of prime environmental assets.

Trekking Zones

Developing and administering questionnaires to a quota sample of 21 respondents, comprised of local residents, the tourism service industry, and tourists, in order to:

- measure the ecological, social and moral, and economic impact of tourism;
- assess the volumes and seasonality of traffic and the capacities of plants and infrastructure; and
- evaluate the degree of attainment of tourism image values.

From October 19 to 25, 1994, two field researchers interviewed ten local residents, five tourism service operators, and six tourists in Karimabad, as per the structured questionnaire in Annex 2.

Desk Analysis

An assessment of the capacity of the Hunza tourism catchment to absorb more tourists, with and without development of tourism facilities, was made through two approaches:

- normative: relating current and projected tourism traffic numbers to estimates of carrying capacity; and
- intersubjective: analysing the responses of the local community, tourism trade, and tourists to questions administered through structured interviews to a quota sample of 21 respondents.

3
Introduction to the Kalam Case Study Area

Geography and Socioeconomic and Demographic Attributes

Location

As can be seen from the map, the Kalam Valley forms part of the Kalam sub-division of Swat in the North-West Frontier Province of Pakistan. Kalam proper is about 110km from the capital of Swat, Saidu Sharif. However, one starts entering the valley soon after Bahrain (the distance between Bahrain and Kalam is about 40km). North of Bahrain the valley widens into a fascinating area surrounded by the snow-capped peaks of the Hindu-Kush ranges, which are covered with forests of fir, pine and deodar and a vast variety of wild plants and flowers. North of Kalam, the valley widens and opens on to a six kilometre-wide plateau, where the Ushu and Utrot rivers meet.

Population

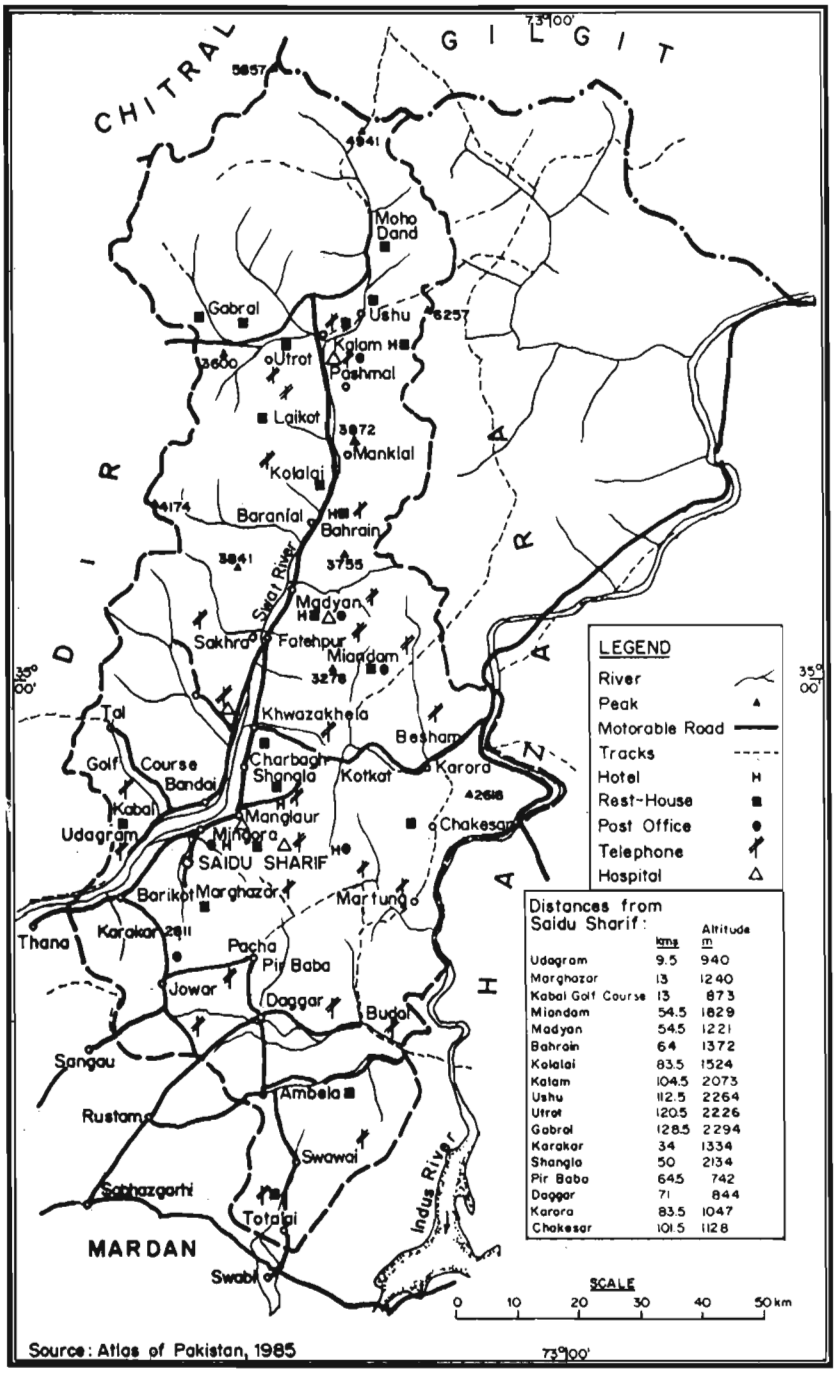
According to the 1981 census, the population of Kalam area was 26,000. This population is reported to have been growing at approximately four per cent per annum (sources: District Census and the KIDP). From projections made on this basis, the population of the area should be touching 45,000. The male-female ratio, according to the same sources of information, is 51.5 per cent to 48.5 per cent.

Migration Patterns

In view of the severe winters, large segments of the population migrate out of Kalam. The migration period starts from November and may stretch up to March of the following year. According to local sources, about 80 per cent of the people migrate out of the area to other parts of the country. It is mostly whole families that move out. The motives for migration are, according to the socioeconomic survey conducted by the DRG, seeking work (75%) and seeking fodder for animals (25%).

The direction that this migration takes is predominantly to the districts of Peshawar, Mardan, Charsadda, Nowshera, and Swabi. A small fraction of able-bodied workers (mostly between the ages of 24 and 45 years) move to Quetta for work in mines and to Karachi for all sorts of odd jobs.

MAP OF SWAT


CHITRAL
GILGIT
DIR
BUNER
MARDAN
73°00'
35°00'
5857
4941
Moho Dand
Gabral
Ushu
6257
Kalam
Utrot
3600
Peshmal
Laikot
3872
Manklai
Kolalai
4174
Baranial
Bahrain
3841
3755
Swat River
Madyan
Sakhra
Fatehpur
Miandam
3278
Tal
Khwazakhela
Besham
Golf Course
Charbagh
Shangla
Kotkai
Karora
4268
Bandai
Kabal
Udagram
Manglaur
Mingora
Chakesar
SAIDU SHARIF
Barikot
Marghazar
Martung
Thana
Karakar 2911
Pacha
Pir Baba
Jowar
Doggar
Budal
Sangau
Ambela
Rustam
Swawai
Sabhazgarhi
Totalai
Indus River
Swabi
LEGEND
River
Peak
Motorable Road
Tracks
Hotel
Rest-House
Post Office
Telephone
Hospital
Distances from Saidu Sharif:
kms
Altitude m
Udagram 9.5 940
Marghazar 13 1240
Kabal Golf Course 13 873
Miandam 54.5 1829
Madyan 54.5 1221
Bahrain 64 1372
Kolalai 83.5 1524
Kalam 104.5 2073
Ushu 112.5 2264
Utrot 120.5 2226
Gabral 128.5 2294
Karakar 34 1334
Shangla 50 2134
Pir Baba 64.5 742
Doggar 71 844
Karora 83.5 1047
Chakesar 101.5 1128
SCALE
0 10 20 30 40 50 km
Source: Atlas of Pakistan, 1985

Female Participation

Female participation is visible in farming and related activities. Women carry out the weeding, crop cutting, picking, and sowing in the family fields. They also work in their homes, extracting ghee from milk and butter and making clay pots and baskets. However, they do not work at paying jobs nor are they paid wages for the work which they put in. A few cases of widows and other needy women working as domestic servants for daily wages/monthly salaries have been reported to the survey team, but these are said to be hardly a fraction of a percentage point. There is neither any direct nor indirect participation of the women of the area in the tourism sector (source: survey).

Education and Health

The survey shows that there are 23 formal (and 15 mosque) primary schools in the area. In addition, there are seven primary schools for girls and one high school for boys. The literacy rate is reported to be around 10 per cent and a bare one per cent for females.

Female literacy is being improved through what are known as the 'home schools', introduced by the Swiss under the KIDP.

There is a rural health centre in Kalam, a basic health unit in Gabral, and dispensaries in Ushu and Utrot. These are there, however, to meet only the very basic requirements of health care. More serious patients have to be moved to properly equipped hospitals elsewhere.

Forestry

This area has good forest cover, and Kalam proper has about 471sq.km. of forest. Royalty from forests is a source of income for the inhabitants of places where the forests are in the 'protected' category. During the summer months the area is used as grazing grounds by nomads and herdsmen who move down from the mountains with their herds of cattle.

While cutting down trees continues unabated as a per common right, there has been an extension in social forestry and nurseries. The area has also seen the introduction of machinery relating to forestry and the closing down of illegal sawmills at Kalam.

The Economy

Production Base of the Area

There are two cropping seasons, spring and summer, and two main crops in the Kalam Valley, namely, potatoes and maize. Some wheat is also grown at low altitudes. Fruits and vegetables grown in the valley include turnips, tomatoes, onions, peas, apples, and nuts. The KIDP, which is responsible for introducing new crops and improving cultural practices in the area, aims at achieving self-sufficiency for the valley in terms of cereals, and sizeable exports of vegetables (chiefly potatoes and turnips) to other areas.

Tourists and the tourist industry draw mainly on potatoes, tomatoes, and fruits. The area has expanded its production base, but this base is not varied enough to cater to more than 10-15 per cent of the needs of the tourist industry (socioeconomic survey). The balance has to be brought from other parts of the district and province.

Markets

While there is a local market, Kalam *bazaar*, and bigger and busier markets in such nearby towns as Madyan and Bahrain, Mingora remains the principal market both for sales and purchases. Mingora is thus the main outlet for what Kalam has to spare out of its locally produced fruits and vegetables, and it is the prime receiving area of the leakage of income (certainly, the bulk of 'first-round' leakage).

Impact of Tourists on the Production Base

A change in the production base has been brought about by the efforts of a donor-funded project, namely, KIDP. The socioeconomic survey has not detected any particular impact of tourists on the production base. Thus, even where there is scope for change, given the lack of outside intervention, no perceptible change has been reported in response to tourists' needs.

Infrastructure

The area is accessible by a metalled road from central Swat. Kalam is further connected by a metalled road up to Matiltan (12km) which passes through the Ushu Valley. Another road, connecting Kalam with Utrot, is partly metalled.

Jeeps, coaches, and buses are the main means of transportation. There is no railway or air connection.

To supplement rainfall, there is some artificial irrigation through watercourses. This system of artificial irrigation is being further developed by the KIDP.

The area is supplied with electricity. However, wood remains the principal source of energy, while the KIDP is making efforts to introduce improved stoves.

Settlement Pattern

There has been a tremendous change in the settlement pattern of the valley. There is a rash of construction - hotels, restaurants, shops and shopping centres, and homes sprawling all over the valley and dotting the mountain sides. As one observer has remarked, Kalam is a "*perfect example of instant over development responding to tourist demand*" (John Yost -- NWFP Tourism Strategy Development Project, 1992). Land sales have gone up, and so has the price of land. Leasing, however, is a more common form of making land available for hotels.

The valley is fairly narrow and stretches all along the river, and construction is also concentrated along or close to the river. This spawns environmental hazards and pollution that affect the river.

Again, that most of the construction has been undertaken by people from outside Kalam, on sites sold or leased by the local population, causes resentment amongst the locals. They no longer own the land, nor do they own the tourist assets that have sprung up on the land that once belonged to them, nor do they benefit in any other major way from the increase in tourism. They thus feel dispossessed in a very real sense, whereas they wish to participate, share in the benefits, and retain the income which they now see going to others.

Occupational Base

There is no industry in the area (except for three sawmills), agriculture, livestock, forestry, tourism, transport, and daily wage work being the main occupations of the people.

Employment

The main sources of employment for the local people are:

- as helping hands in hotels;
- as lower echelon government employees; and
- as self-employed persons in transport and minor catering activities.

The main occupations of the local people in the tourism sector are:

- watchmen/guards,
- porters/helpers,
- vehicle drivers/cleaners,
- guides, and
- petty businessmen.

Although no official documentary verification is available, the survey staff of DRG were told by the local people that these jobs together provide employment to approximately 500 people, which is roughly one third of the number of non-locals employed in the area.

Income Retention and Leakages

The socioeconomic survey shows that tourists' main expenditures are for hotel rooms, food, and beverages. This is followed by sightseeing and transport. The main forms that the expenditures take are:

- rentals,
- payment for food and drinks,
- transportation/sightseeing, and
- wages/tips, etc.

Hotels, motels, and restaurants are the major beneficiaries of the money that tourists spend in the area. This is followed by the owners of transport. Since the first group of beneficiaries are predominantly non-locals, the greatest part of the income flows out of the area. Add to this the cost of fuel, repair and maintenance of the transport vehicles, beverages, cigarettes, and most of the food items and sundries, and a picture of the magnitude of leakage of income and benefits, directly and indirectly, clearly emerges. The structure of the tourism industry and the production and service base of the area are such that there is little retention of benefits in the area. The banking and credit system

governing the system of the supply of goods and services all contribute to these leakages.

Local Participation

Until lately, there was no participation of the local government in the tourism sector. In 1994, however, with greater provincial government awareness of its share of responsibility for the tourism sector, the local government declared its intention to play a more active role, but there is still a lack of ideas, including a master plan and a lack of initiative in the wider sphere of public action. Improvements here and there in the physical infrastructure, therefore, remain the principal mode of participation.

There is, however, no other known programme of a local body, cooperative or NGO to organise local participation.

Linkages with Other Programmes

The area development programme of the government is aimed at developing the physical infrastructure of the area. However, much of this is confined to minor works with little impact on the economy or life of the people of the area.

Interaction of KIDP and Tourism Sector

The Swiss-sponsored KIDP has made a sizeable, albeit an indirect, impact on the tourism sector by its development intervention in the support base of the tourism industry. This intervention has taken different forms, such as:

- developing an ecologically balanced production system;
- promoting awareness about a more efficient and fuller utilisation of farmers' resources;
- taking initiative in the health sector to check the spread of diseases;
- improving production technology;
- increasing local participation in development;
- construction of roads;
- afforestation;
- skills' development for forest management;
- inculcating frugal habits;
- improving the irrigation system; and

- improving the social and educational condition of the female members of the community.

The major thrust of the KIDP programme is on the development and conservation of forest resources, with special emphasis on afforestation; forest harvesting and related training; and improvement of agriculture.

There is also a women's component that concentrates on improving the education and training status of women along with the provision of some training in food and fruit preservation.

The project has brought about changes in the income level of the people and has also contributed to the conservation of forest resources along with the proper utilisation of these resources. Despite its contribution to the overall development of the Kalam area, the project has not had any significant impact on tourism in the area, nor are there any linkages with the tourism sector directly. However, insofar as the work done by the KIDP has been supportive of the production base of the area and promotive of the physical and social infrastructure, it has helped in improving the aggregate quality of the product, including the tourism product. Some of the work carried out and planned to be carried out by the KIDP could further strengthen linkages with the tourism industry, e.g., the introduction and marketing of fruits and vegetables for tourist consumption; environmental protection to keep the natural attractions of the valley intact, and human resource development. These steps may also prevent the sale of land under duress by the poorer sections of the local communities.

Tourism Assets of the Area, History, and Main Features

The predominant type of tourism is the resort/recreation variety interspersed, of course, with hiking and other types of sports and adventure tourism. These latter types are tourists involve either merely pass through the Kalam Valley, or use it as a staging ground for further undertakings farther afield.

The tourists visiting the Kalam Valley are mostly domestic tourists whose average stay is about one week. The principal tourist season is June through August, though there is a trickle of visitors the rest of the year.

The main tourist attractions of the Kalam Valley are:

- a salubrious summer climate and scenic beauty,
- a variety of flora and fauna, specially birds and fish,
- many varieties of mushrooms in forest areas,
- white-water rafting from Mahodand to Bahrain,
- treks along the Ushu, Utrot, and Gabral valleys, and
- handicrafts in Kalam proper.

The components of tourist traffic in all categories to Kalam may be seen in Figure 1. The major component in the first category is social calls (49%), closely followed by rest and recreation (37%), and business (12%).

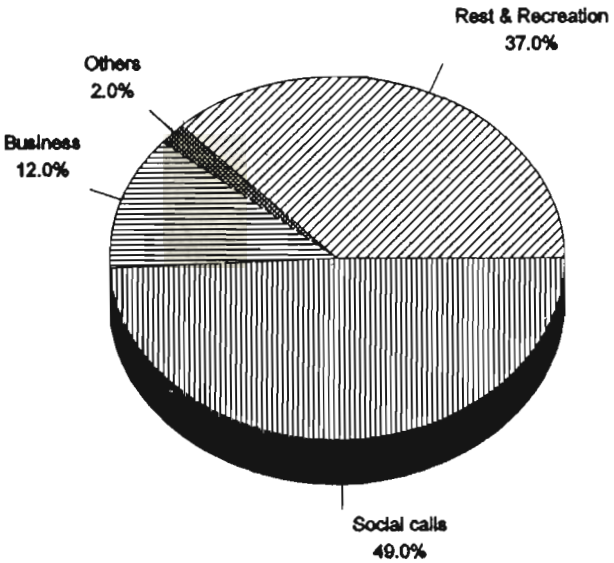
The composition of tourists by socioeconomic class is revealing. The Valley is essentially a destination of lower and upper income groups, with only a five per cent share claimed by the middle income group. The upper income group is essentially the rest and resort/holiday-making group, while the lower income group includes visitors on social calls, petty business, and recreation. The middle income group is a motley of rest and recreation seekers visiting both Kalam and other destinations.

As regards the tourist infrastructure, there are some 90 hotels and motels, with a total number of approximately 1,500 rooms and 3,500 beds. Of these, barely 10 per cent can be categorised as first class.

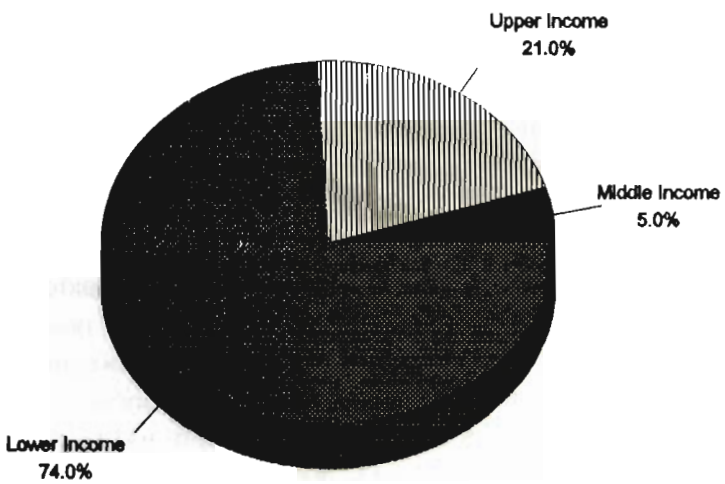
The Kalam Valley is enclosed by high mountains on all sides, with the beautiful Mount Falakser visible on the horizon. There are also a number of glaciers (that are visible along the route to Mahodand another picturesque spot in the Kalam Valley). The Swat River is formed by the confluence of the Utrot and Ushu rivers at Kalam. Its waters collect at Mahodand and flow on from there with great swiftness. All these rivers are fed by melting snows in the high mountains. The currents of the Swat are a source of particular attraction for tourists; they harbour trout and support agriculture.

The mountain regions are rich in wildlife . Some of the plants are of medicinal value. There are beautiful pheasants and other birds rich in colour. The region also produces plenty of fruits and vegetables (during the summer season).

Figure 1: Components of Tourist Traffic to Kalam
(for the years 1990-1994)



by activity



by socioeconomic class

Source: MoT, R&S Wing, Tourism in Swat: A Survey

Recent Trends in Annual and Seasonal Tourism

Figure 2 shows the annual trend in tourism flows to Kalam (and for comparative purposes to Hunza) over the period 1981 to 1994, as estimated by the Ministry of Tourism, Research and Statistics Wing.

The salient features to note are as follow.

- The rising trend through the period, but especially during 1992 and 1993, as a result of which total flows increased from around 10,000 tourists in 1981 to nearly 100,000 per annum in 1993.
- Compared to Hunza, the rising trend was lower during the middle 1980s, but accelerated during the early years of the 1990s.

The objective-normative approach was supplemented by the knowledge of local communities, the local tourist industry, and experienced tourists.

Figures 3 and 4 illustrate the perceptions of local residents and the tourism industry respectively, regarding the annual trends in tourism traffic as mapped by individual respondents on a ratio scale for the past decade, including 1994. The combined recalls graphically provide the modal perception of the respondents.

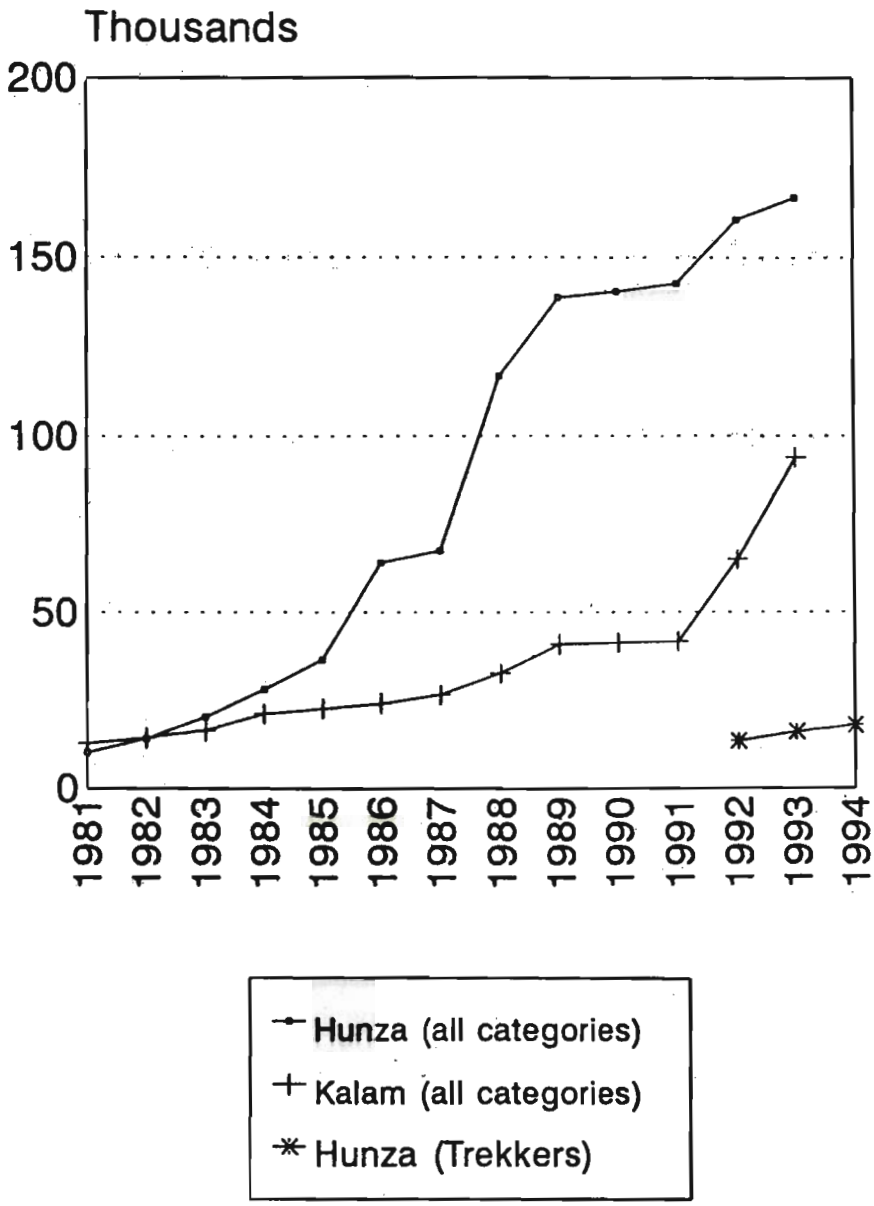
The salient features to note are as follow.

- For the period 1984 to 1993, the perception of most respondents matches the data provided by the Ministry of Tourism. To a surprisingly uniform degree, most respondents map a generally rising trend.
- However, for the year 1994, a significant number of respondents, including half the tourism services' industry (presumably the most affected and knowledgeable), recall a sharp decline in the number of tourists. This may be correlated with an upsurge of fundamentalist activity in Malakand Division in May 1994.

Figure 5 depicts the seasonal flow of tourists to Kalam, as estimated by the Ministry of Tourism. Salient features are as follow.

- A peak tourist season during July, August, and September, accounting for 56 per cent of the annual flow
- A continued concentration of tourists in the peak season during the period 1991 to 1993

Figure 2: Annual Trend in Tourist Traffic to Kalam and Hunza



Source: MoT, R&S Winmg; Tour Operators

Figure 3: Recall of Tourism Trends

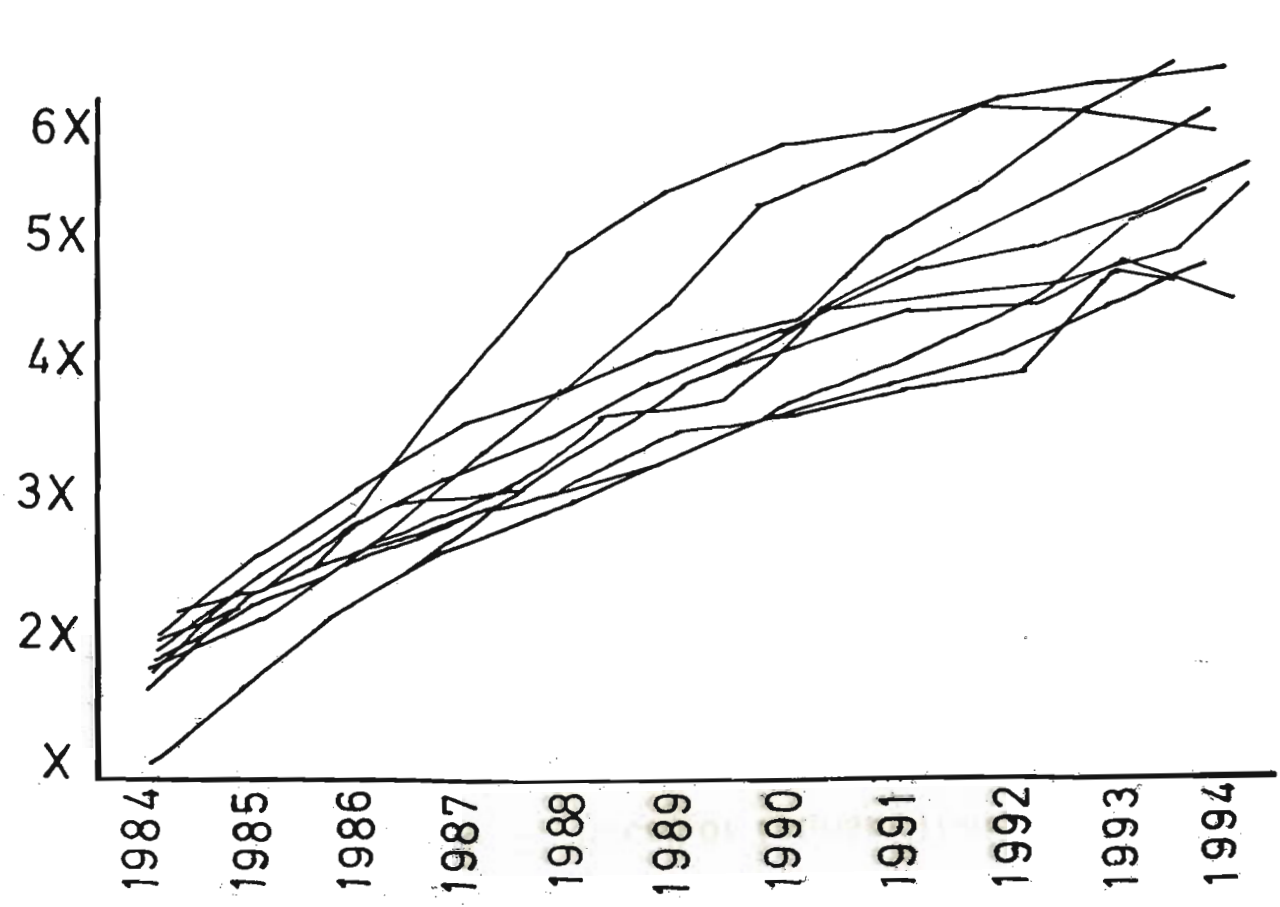
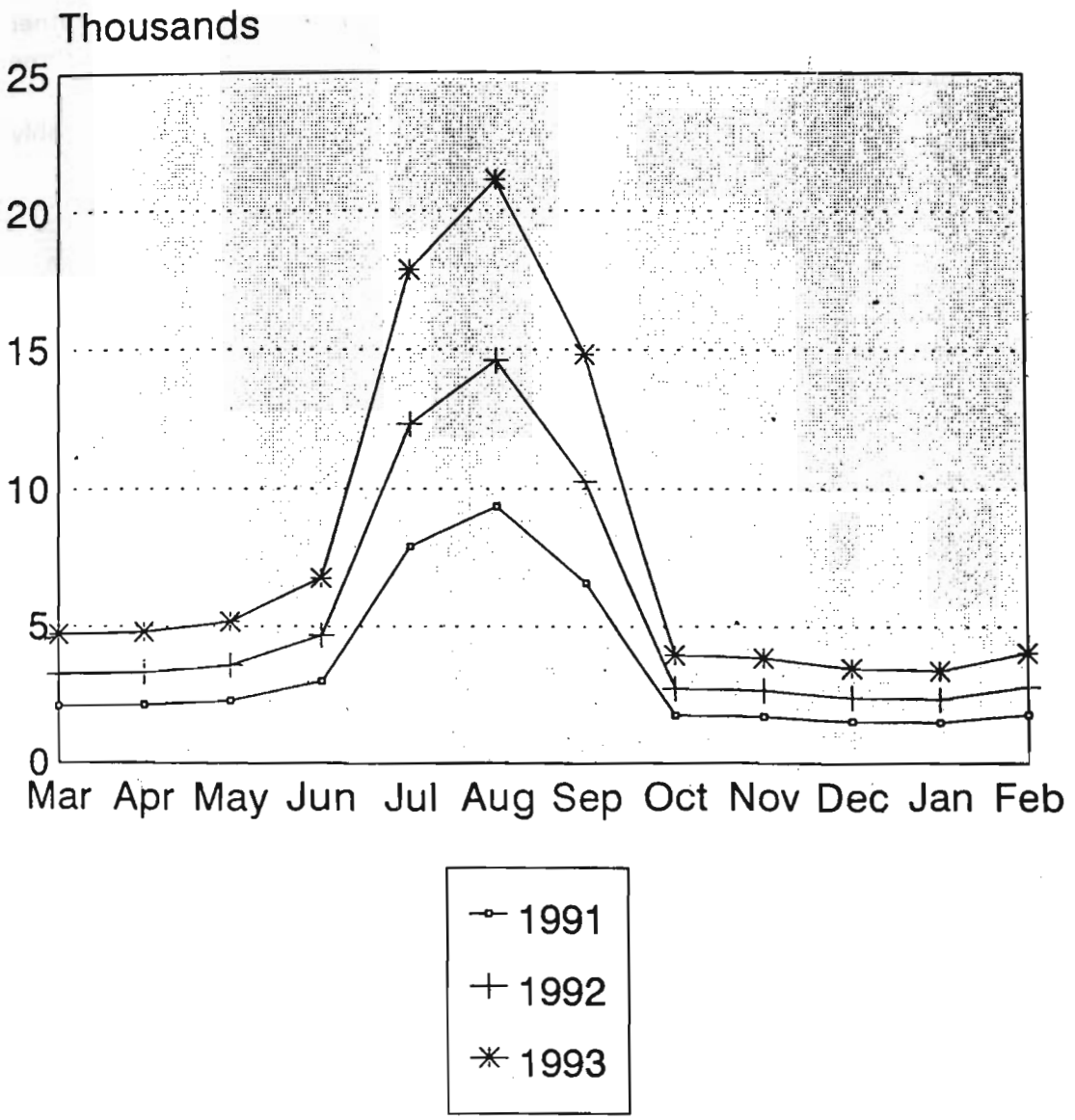


Figure 4: Recall of Tourism Trends
Kalam (Tourism Industry)
6X
5X
4X
3X
2X
X
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994

Figure 5: Seasonal Flow of Tourist Traffic to Kalam

High and Low Season Tourism Traffic (all categories)



Source: MoT, R&S Wing, Estimated from Tourism Guides

Figures 6 and 7 illustrate the combined recall of local residents and the tourism services' industry regarding the seasonality of tourist flows. Noteworthy features according to local knowledge are as follow.

- A summer peak season in both sets of perceptions, which broadly coincides with the Ministry of Tourist data.
- In contrast to MoT data, a peak season that begins earlier, in June rather than July. Furthermore, August is not exceptional, but one of the three peak months.
- A low (winter) season with very limited tourism, in fact considerably poorer than estimated by MoT.

Figure 6: Recall of Tourism Seasonalilty

Kalam (Local Community)

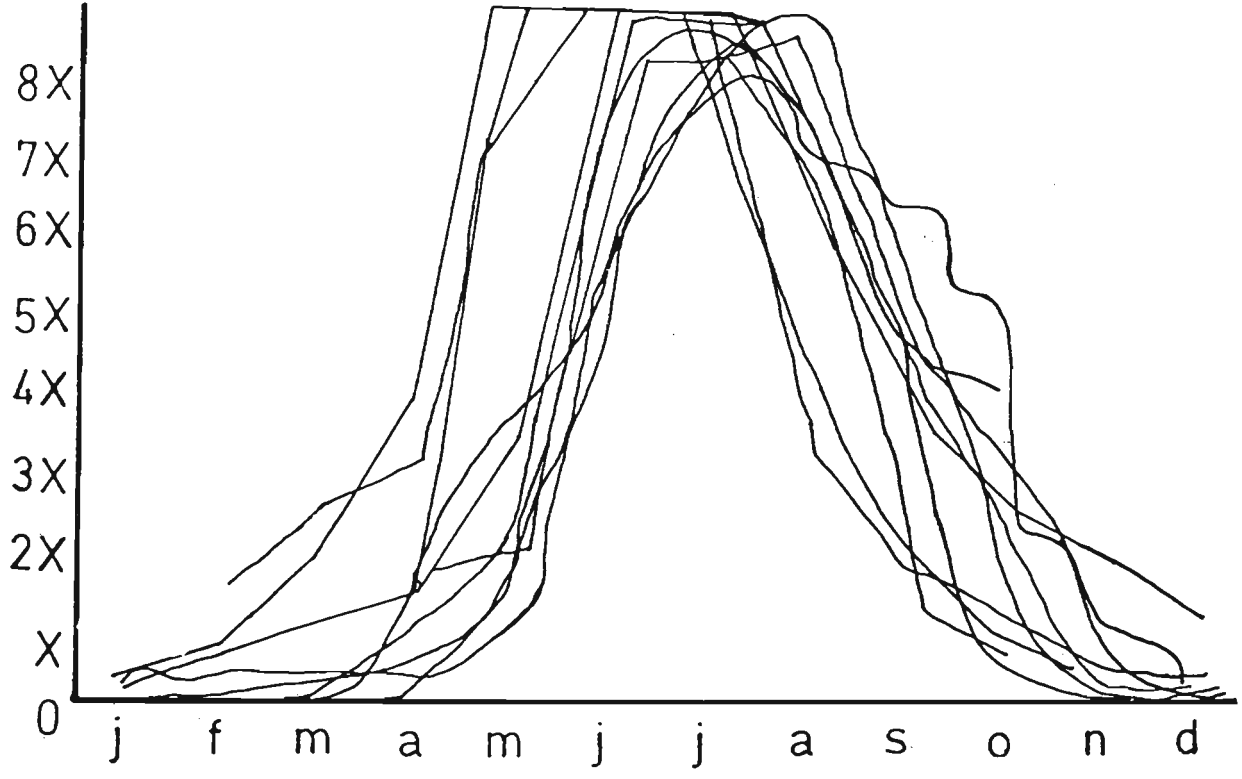
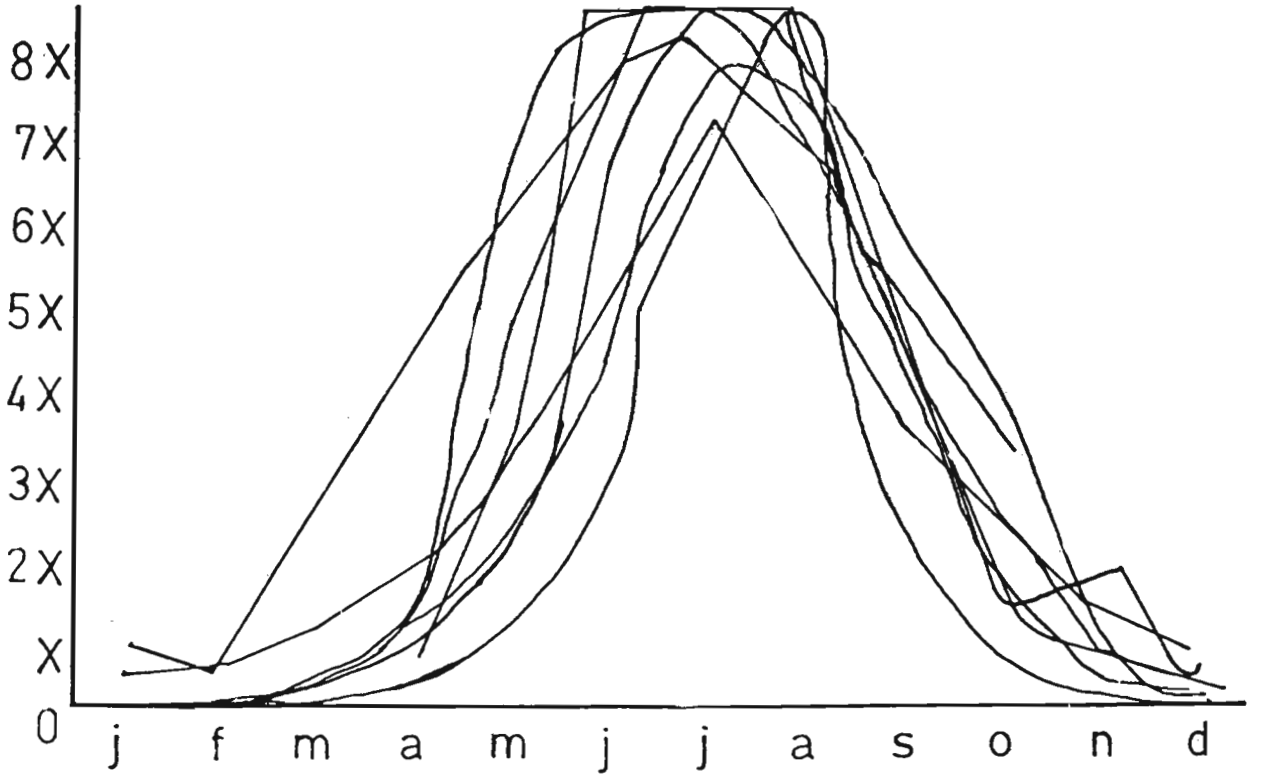


Figure 7: Recall of Tourism Seasonality
Kalam (Tourism Industry)



4
Introduction to the Case Study Area -- Hunza

Hunza -- Its Past and Present

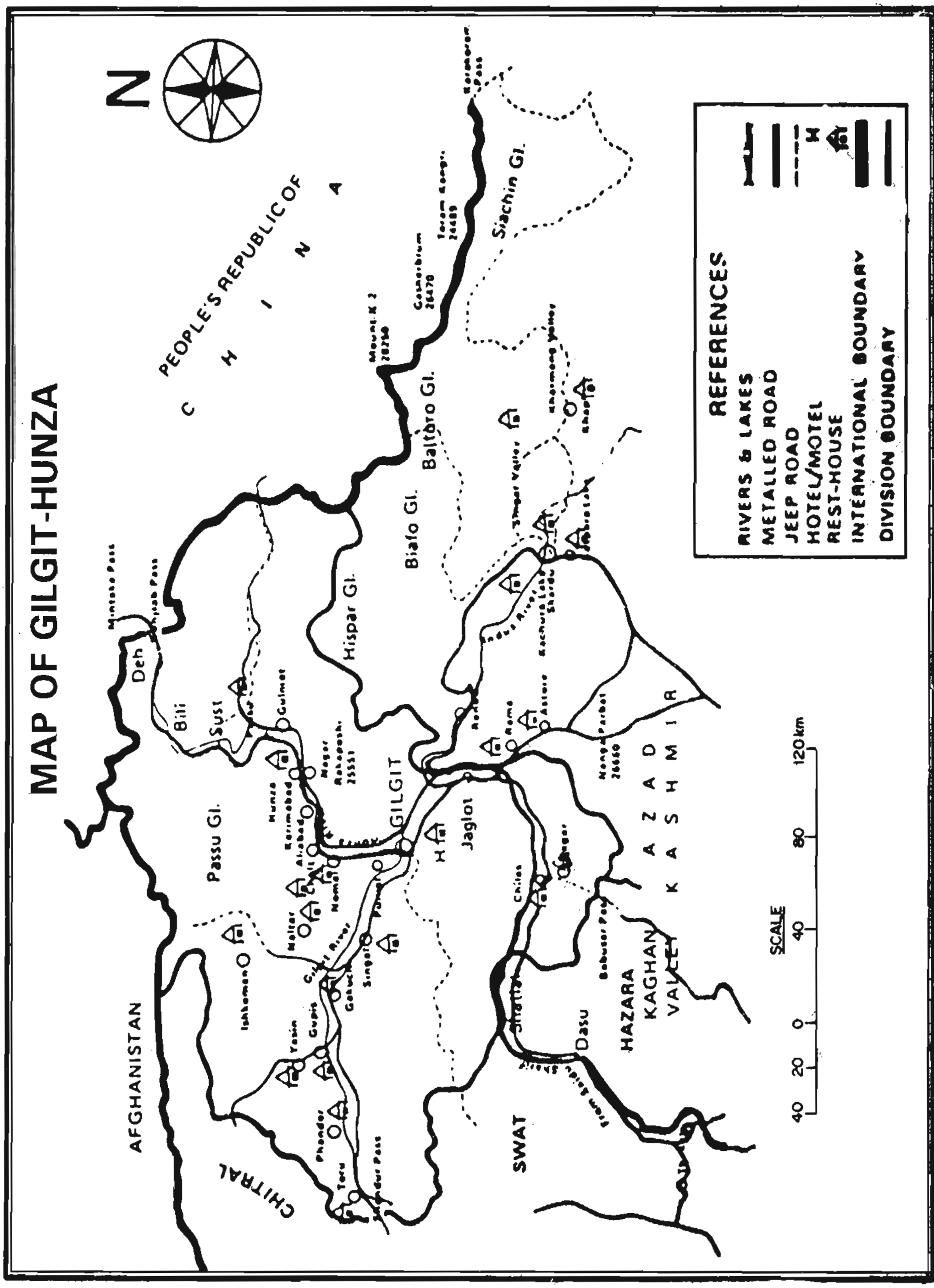
Hunza has its roots deep in history. It has been mentioned in the chronicles of the Chinese travellers Huang Tsang and Fa Hien and in those of Marco Polo. It has been host to the hordes of Alexander the Great on his trek to India, to Buddhist pilgrims who crossed through on the way to and back from Gandhara, and, much later, to the forces involved in the 'Great Game' of the 19th century. And though it has been at the centre of so many crossroads, it has nonetheless maintained an isolation of its own and remained tucked away far back into the rugged mountains.

The opening up of the Karakoram Highway in 1978 ended this isolation and saw a rapid pouring in of tourists. With an altitude of over 2,400m, Hunza receives an annual average rainfall of 145mm. April, May, July, and August are the wettest months and October to March is the area's dry period.

Hunza is today one of the three sub-divisions of Gilgit, which itself is one of the five districts of the Northern Areas. Eric Shipton, a famous mountaineer, described Hunza as *"the ultimate manifestation of mountain grandeur -- rich, fecund, and of an ethereal beauty"*. The valley is divided into three regions -- the lower (Shina) region, the central (Burushal) region, and the upper (Gohjal) region. It is inhabited by a number of tribes, each speaking a language of its own. In the summer, the valley is visited by a sizeable number of Kyrghiz nomads from the north who earn money by performing certain specialised jobs.

Hunza is a tourist destination for mountaineers and adventure tourists and possesses a series of breathtaking mountains, the important ones among these being the snow-capped peaks of Rakaposhi (7,388m). There are innumerable treks available here waiting to be discovered and frequented. The magnificent mountains and scenery, along with the isolation, make it a unique place for those seeking adventure.

White-water sports are also possible in Hunza on the Aliabad-Gilgit route.


MAP OF GILGIT-HUNZA
N
PEOPLE'S REPUBLIC OF
C H I N A
AFGHANISTAN
CHITRAL
SWAT
HAZARA
KAGHAN VALLEY
AZAD KASHMIR
GILGIT
Passu Gl.
Hispar Gl.
Biafo Gl.
Baltoro Gl.
Siachin Gl.
Deh
Bili
Sust
Jaglot
Dasu
Gupis
Yasin
Ishkoman
Phander
Singal
Gulmet
Hunza
Karimabad
Aliabad
Nomal
Rakaposhi 25551
Nanga Parbat 26650
Mount K 2 28250
Gasherbrum 26470
Chilas
Shatial
Babusar Pass
Gilgit River
Indus River
Rama
Astore
SCALE
40 20 0 40 80 120km
REFERENCES
RIVERS & LAKES
METALLED ROAD
JEEP ROAD
HOTEL/MOTEL
REST-HOUSE
INTERNATIONAL BOUNDARY
DIVISION BOUNDARY

Hunza abounds in wildlife, and it is known for such animal species as the Marco Polo sheep, Himalayan ibex, orial, or the blue sheep, snow leopard, brown bear, Tibetan wild ass, alpine weasel, markhor, musk deer, lynx, wolf and fox. The area also shares the bird life of the Northern Areas, and species found here include the monal pheasant, snow partridge, *chikor*, ram *chikor*, eagles, vulture, and falcon. To protect wildlife, the government has established the Khunjerab National Park over an area of 870 square miles (or over 2,200sq.km.), a game reserve of over 921 square miles (or nearly 2,350sq.km.), and five game sanctuaries of over 716 square miles (or over 1,800sq.km.).

The two towns of Aliabad and Karimabad contain a number of modern amenities such as banks, post offices, and telephone exchanges. Hotel accommodation is also available at Karimabad, Aliabad, Gulmit, and all along the Karakoram Highway. The PTDC has a motel at Hunza with 27 rooms. Another place which is fast catching the tourist's eye is Sust, the last village in Pakistan before China.

Socioeconomic and Demographic Features

Population and Diet

The population of Hunza is around 40,000, and is growing at 3.8 per cent per annum (this figure is in fact for the whole of the district of Gilgit). The staple diet of the people is fruits and cereals. This diet, together with a pollution-free environment and the general lifestyle of the people, seems to be responsible for the well-known longevity of the Hunzakuts.

Education and Health Facilities

The average literacy ratio is over 14 per cent (better than 24% for males and slightly more than 3% for females). Elementary educational and health facilities are available in the area, and Hunza is involved in the overall public sector development programme for the Northern Areas.

There are schools run by the government, but the Agha Khan Education Service (AKES) also provides educational facilities to the region - the so-called Diamond Jubilee Schools, all of which are mixed schools.

There is a government hospital in the region, along with the Agha Khan Health Centre, which is essentially meant for mothers and children. There is an acute shortage of lady doctors and lady health visitors in the government programme. Family planning programmes in the government sector are virtually non-existent.

Migration and Employment

Due to lack of income-generating activities, there is a high rate of migration of able-bodied men in search of jobs. Lack of employment opportunities is acutely felt by educated youths in particular. Tourism is expected to provide jobs, but the major job categories available for the locals are those of porters and guides. This is because non-locals are unable to undertake these jobs due to their lack of familiarity with the mountain terrain. The other jobs available are in the service sectors (domestic servants and transport- related jobs). The hotel and catering industry also provides some jobs. These are essentially seasonal in nature and last only for the tourist season. There is a considerable potential for jobs in the wildlife development sector, and the Khunjerab National Park aims at creating such jobs.

Female Participation

Female participation is visible; women help in farming and in looking after the livestock. However, their direct participation in tourism activities is not visible.

Due to high rates of male migration, the major work in agriculture devolves upon women, who not only work in the fields but also take decisions regarding the type of crops to be grown, and so on.

The Economy

Production Base

The traditional crops of Hunza are wheat, maize, barley, potatoes, peas, beans, and other vegetables. From the months of March through May, the Hunza Valley is famous for its apricot, apple, pear, peach, and plum tree blossoms, with grapevines festooning the trees and terrace walls. The Hunza River, which is fed by glaciers and mountain streams, irrigates the orchards of these fruit trees. Until as late as the mid-70s, the people of Hunza - landlocked and isolated as they were - depended upon what could be done and produced

in the valley itself. Now that the area has been opened up, new activity has taken root and imports into the area have grown, in spite of the fact that people have started moving out of the area in search of employment. Hunza has no industrial base. However, its commercial role as one of the stopovers on the silk route may augment once trade on the route reaches its full potential with the extension of traffic to nearby Central Asian markets.

The Hunza area is supposed to be rich in gems and minerals. However, only rubies and a few other precious and semi-precious stones are commercially exploited at present.

Agriculture and Irrigation

Economically, the area is underdeveloped and agriculture is developing at a slow pace. This is essentially due to the poor communications' system and a narrow resource base. Hunza possesses a good irrigation system, with the water that feeds central Hunza coming from the Hyderabad (Bululo) River and from the Ulter Glacier in nine channels. The earliest channels were originally built many centuries ago. These channels also provide water for the households.

The distribution of water follows a pattern similar to that of other irrigated areas of the NWFP, namely, on the basis of a certain number of hours or days of water per area. There are supervisors who are responsible for ensuring the equal distribution of water and the maintenance of channels, while the villages elect representatives to control the distribution of water to individual farmers. There is no irrigation during the winter up to February, when it recommences with a ceremony featuring prayers for a good harvest.

The area is deficit in wheat and other cereals, and these are brought in from other areas of the country by private traders. Wheat and flour are subsidised by the government. The Department of Agriculture is making efforts to develop high-quality potato seeds in the area which can be supplied to other parts of the country.

Forests

The Northern Areas, where Hunza is located, are rich in forest resources, most of which are government-protected property, though there are privately-owned forests. There are nurseries and forest plantations, but they are insufficient. The AKRSP is involved in social forestry activities to develop additional forests

and improve pasture and rangelands. However, until some alternatives are found to the free grazing of sheep and cattle, forest development will remain a problem area.

Transport

Hunza is connected with Gilgit through public wagons and jeeps that ply daily. The Northern Area Transport Company (NATCO) buses ply up to Sust (on the border with China). Local Suzuki vans also ply on the Karakoram Highway.

Linkage with Other Programmes

Agha Khan Rural Support Programme (AKRSP)

Hunza, like the rest of Gilgit district, is covered by the Agha Khan Rural Support Programme (AKRSP), which helps to improve the quality of life of the villagers. Its focus is on income generation, on assisting in promoting social sector programmes, and on evolving sustainable, long-term strategies for the productive management of natural resources.

The programme also contributes towards raising income levels through enterprise development, whereby help is provided in processing and marketing local produce. The programme helps to generate credit through savings. Community participation in all activities, including decision-making, is the outstanding achievement of the programme. The project has made a major impact on the lives of the people, on the natural resources, and on the area as a whole. It has opened up the remote areas ,and there is an indirect linkage with tourism through otherwise inaccessible areas being made known and accessible to tourists and other visitors. The AKRSP has also contributed towards improving the social indicators for both men and women. The women's component of the programme has been as successful as the others in reaching out to and changing the lifestyle of the women living in this area. The AKRSP has also contributed to the development of infrastructure and institutions for the local people. These types of intervention can form the prerequisites for the success of tourist-related activities.

The Khunjerab National Park

The Khunjerab National Park is also located in Hunza and was established for the conservation of endangered species of animals and birds. The area was

used as grazing ground by the locals, and the two objectives came into conflict. Measures are now being taken, as part of the project, to provide jobs for the local people, particularly those who give up their grazing rights. Efforts will also need to be made to involve the community more closely in the management of the park for the sustainable use of resources and to balance human needs with biological and species' renewal.

Tourism Assets, History, and Main Features

Tourism

Since the opening of the area in the late 1970s, Hunza has grown in popularity as a tourist destination. The main tourist attractions of Hunza are as given below.

(a) Karimabad: This is the capital of Hunza. It offers an awe-inspiring view of the 7,788m Rakaposhi peak.

(b) Fort Baltit: Located at Baltit, the former capital of Hunza, Fort Baltit is about 1.5km from Karimabad. This castle was rebuilt a number of times during the thousand-year reign of the Mirs of Hunza. The present structure was constructed some 600 years ago, and the architecture reflects a marked Tibetan influence.

(c) Fort Altit: This is situated in the village of Altit. About three kilometres from Karimabad. It has been built on a sheer rock cliff that drops 300m down to the Hunza River and is much older than Fort Baltit.

(d) Buddhist rock carvings: The rock carvings and inscriptions around Ganesh village, near the Altit Fort, are proof of the Buddhist influence in the area. The inscriptions are in four different scripts; Kharoshti, Gupta, Sogdian, and Tibetan; and are accompanied by human and animal figures. The most famous of these is the Hunza Rock.

(e) Ruby mines: The ruby mines of Hunza are a popular tourist attraction. Precious and semi-precious stones may be bought at the sales' centre in Aliabad.

(f) Technical mountaineering (ice climbing): Mainly the Rakaposhi (7,788m; Grade D+) and the Rashpari peak climb (5,058m; Grade D).

(g) Trekking and hiking: including Batura Glacier trek (Grade A), Hopar and Hispar glaciers, and Patundas Meadows (Grade B).

(h) Pony trails and yak safaris: Ponies are widely available while yak riding is found mainly along the Batura trek.

(i) White-water rafting: for professionals, as the Hunza River rapids are Grade III-VI in some stretches.

(j) Mountain bicycle tours: are being promoted by the tourism industry.

While all kinds of tourists flock to Hunza, its choice as a case study area has been made on the merit of its attractions for trekkers. As our survey shows (see Table 8.1), the major tour operators have handled nearly 1,900 trekking parties to Hunza in 1994. With an average party estimated to number 7.5 persons, they have thus handled over 14,000 foreign trekkers this year alone. Add to this another 3,800 domestic trekkers, and there emerges the impressive figure of nearly 18,000 trekkers finding their way this year to treks in Hunza.

Tourism Infrastructure

Tourism infrastructure has witnessed considerable progress lately. In addition to the two Pakistan Tourism Development Corporation (PTDC) motels, one at Karimabad and the other at Sust, with a combined capacity of 47 rooms, there are a number of hotels/motels/inns in the private sector. Karimabad on the KKH has six hotels with a combined capacity of nearly 100 rooms, Gulmit on the KKH also has six lodging places with a combined capacity of 63 rooms, and Sust on the KKH has four hotels with a total of 52 rooms.

Recent Trends in Annual and Seasonal Tourism

Growth of Tourism

Figure 2 shows the annual trend in overall tourism flows to Hunza (and for comparative purposes to Kalam) over the period 1981-93, as estimated by the Ministry of Tourism, Research and Statistics Wing.

The salient features to note are as follow.

(a) A rising trend throughout the period, but especially between 1985 and 1989, as a result of which total flows increased from around 10,000 tourists in 1981 to nearly 167,000 in 1993.

(b) The rising trend was sharper during the middle 1980s, but slowed down during 1989-93 (especially compared to Kalam).

This objective-normative approach may be supplemented by the local knowledge of residents and the tourist service industry. Figures 8 and 9 illustrate the recall of local residents and the tourism industry, respectively, regarding the annual trends in tourist traffic, mapped by individual respondents on a ratio scale for the past decade, including 1994. The combined recall provides a picture of the modal perception of the respondents.

The salient features to note are as follow.

(a) The perception of both sets of respondents broadly matches the data provided by the Ministry of Tourism. Most respondents map a generally rising trend.
(b) However, for 1993, a significant number of respondents recall a decline in the number of tourists, with a return to the normal in 1994.

Seasonal Concentration

Figure 10 depicts the seasonal flow of tourists of all categories to Hunza, as estimated by the Ministry of Tourism. The following features may be particularly observed.

(a) A peak tourist season during June, July, August, and September, accounting for 50 per cent of the annual flow, with more than 17 per cent in the month of August alone.
(b) An unchanged pattern of seasonality during the period 1991-93.

Figures 11 and 12 illustrate the combined recall of local residents and the tourism service industry regarding the seasonality of tourism flows. The following are the main features of local knowledge.

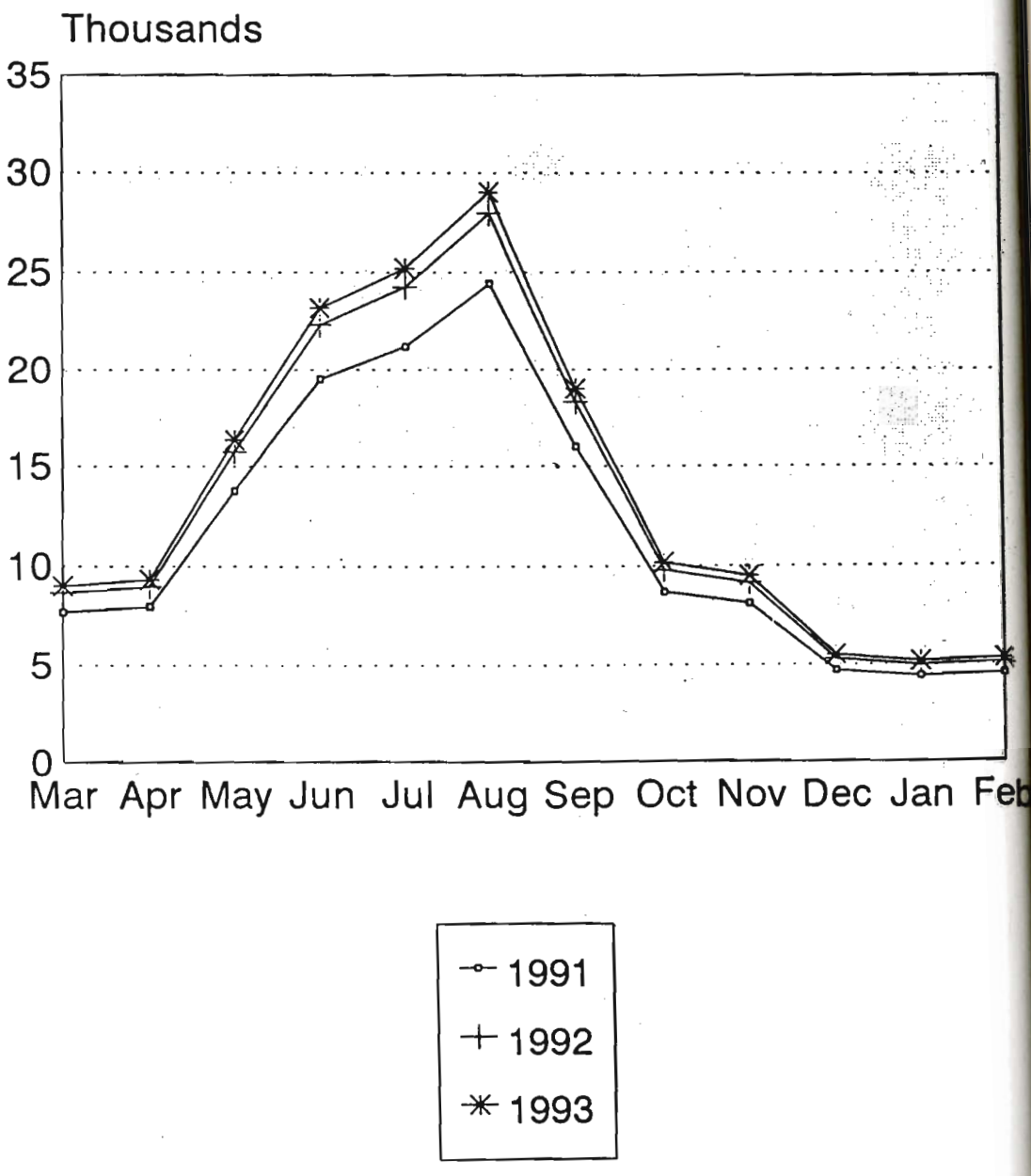
(a) A summer peak season in both sets of perceptions, which broadly coincides with the Ministry of Tourism data.
(b) In contrast to the MoT data, August is not exceptional, but one of the four peak months.
(c) A low (winter) season with very limited tourism, in fact considerably poorer than that estimated by MoT.

Specifically, regarding the trekking sub-sector, July to September are the three peak months, with a rising trend in June and a falling away in October.

Figure 8: Recall of Tourism Trends
Hunza (Local Community)

Figure 9: Recall of Tourism Trends
Hunza (Tourism Industry)

Figure 10: Seasonal Flow of Tourism to Hunza



source: Ministry of Tourism, Research & Statistics Wing

Figure 11: Recall of Tourism Seasonality
Hunza (Local Community)

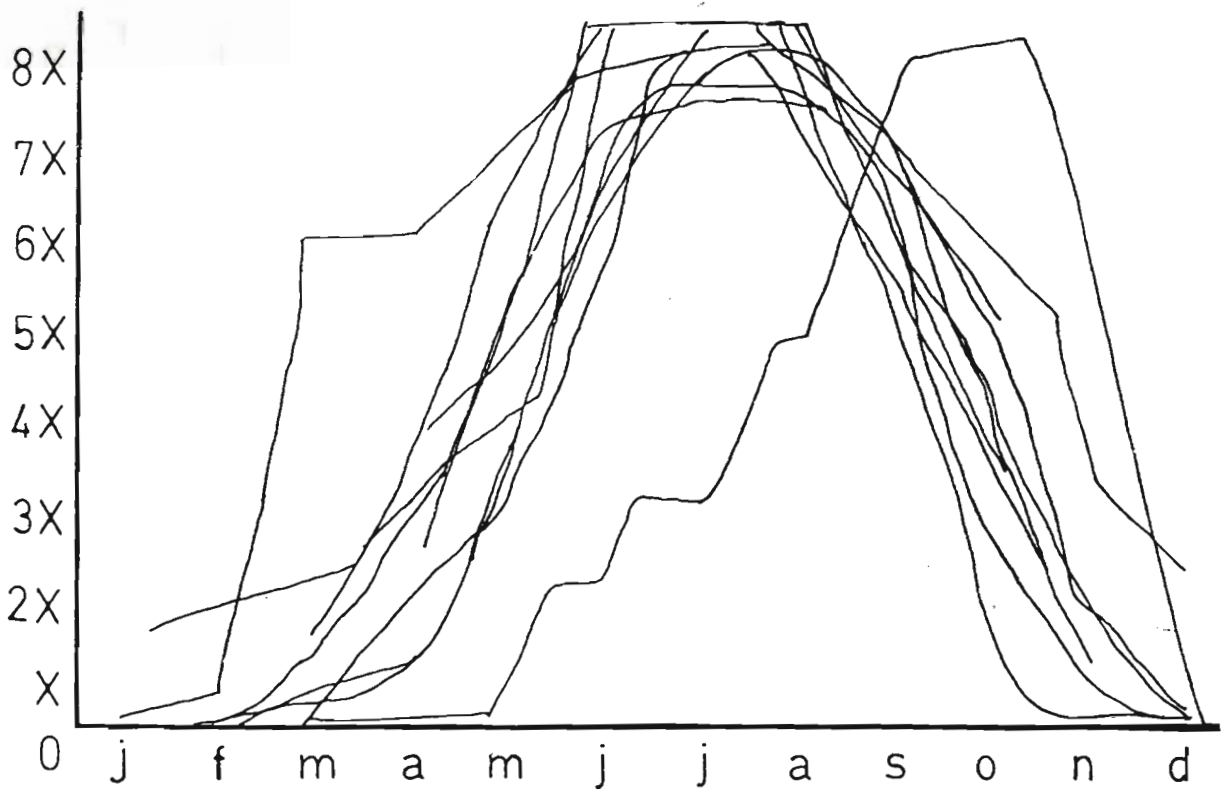
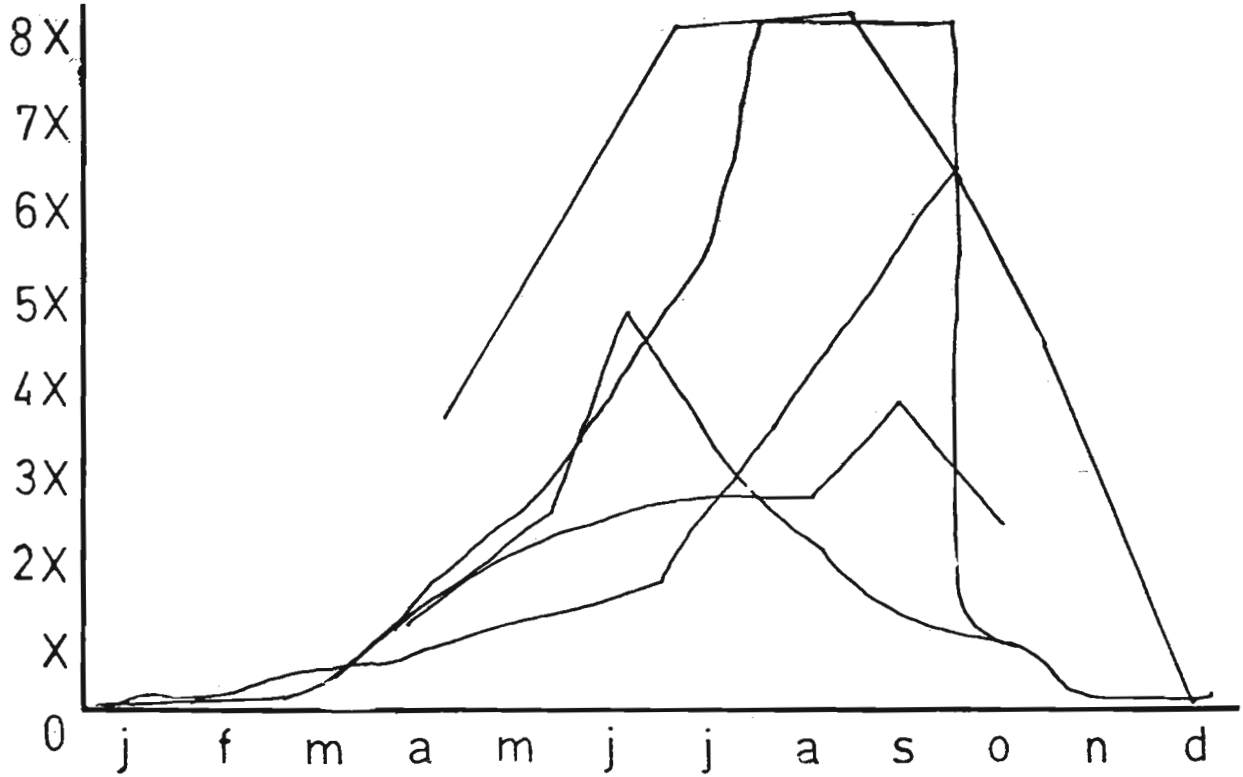


Figure 12: Recall of Tourism Seasonality

Hunza (Tourism Industry)

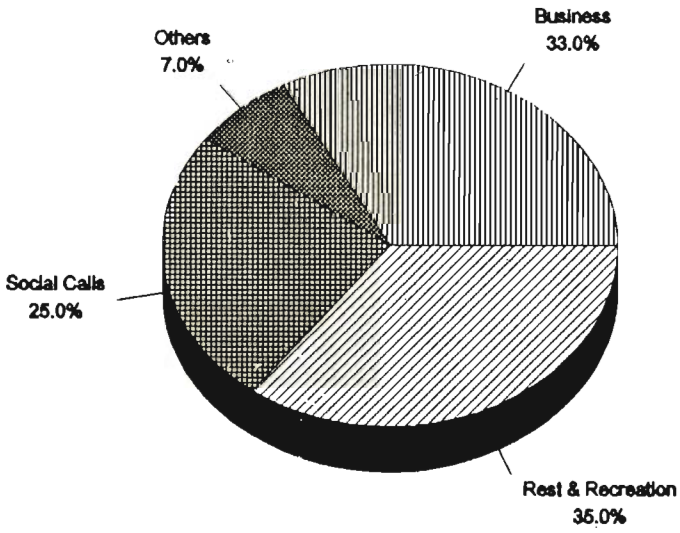


Composition

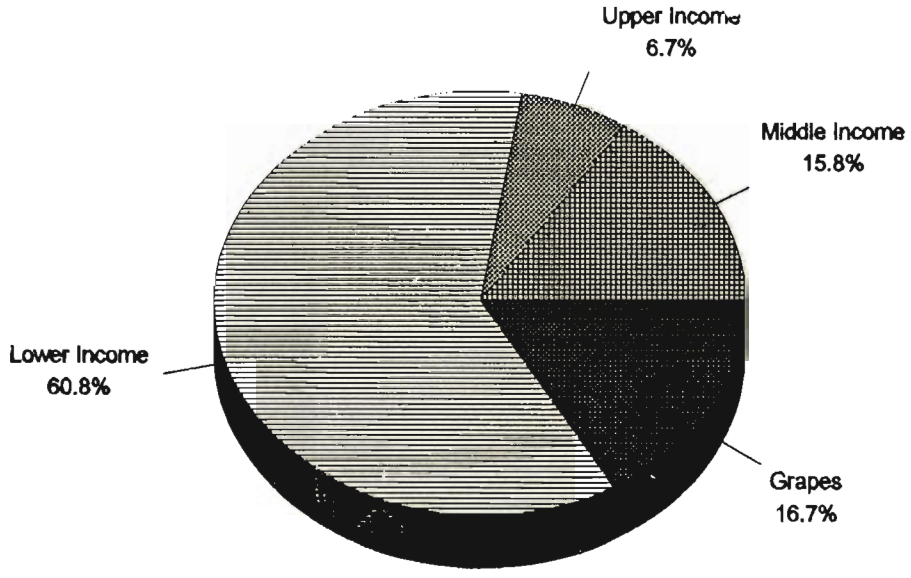
Figure 13 shows the composition of tourists by activity group and income class. Trekkers are among the 35 per cent who visit Hunza for rest and recreation. As regards the breakdown of tourists by income class, 27 per cent belong to the upper and middle classes, whereas 73 per cent are drawn from the lower income groups. This is an important indicator for tourism planning in the medium and long run. The issue in the medium term will be essentially to provide suitable facilities and infrastructure to the present categories. In the long run, however, if high-value tourism is to be encouraged in the area, in order to stimulate income generation in the local communities, for environmental preservation and reduction in use intensity of tourism resources, planning and management will have to focus on meeting the demands and expectations of this group of tourists.

Table 5 provides the data for trekkers and mountaineers and for rafters. According to the adventure tourism industry, after the downswing in 1991 owing to the Gulf War, foreign tourist tour group volumes have grown at around 15 per cent per annum. Northern Pakistan is the holiday destination for around 90 per cent of tour groups, and 20-25 per cent of tour groups undertake some trekking or other active recreation pursuit.

Figure 13: Components of Tourism to Hunza for years 1990-93



by activity



by socioeconomic class

Source: MoT, R&S Wing, Tourism on KKH: A Survey Report

5

An Assessment of the Impact and Implications of Mountain Tourism in Kalam

In order to assess the impact and implications of mountain tourism in Kalam, interviews were held and a survey conducted to obtain the perceptions of the various groups of people who are affected by tourist activities

Responses on Tourism Impact

The tabulated responses of 31 interviewees (10 full-time residents, 8 tourist service operators, and 13 tourists, of whom 10 were domestic and 3 foreign) to a structured interview requiring responses regarding the impact of tourism on physical plant, economic structure; social, moral, and cultural values; environment; image; and trade-induced government investment are given in Annex 1.

All the questions are related, directly and indirectly, to carrying capacity. The responses relating to impact on physical plant, economy, society, environment, image, and cultural values reveal a mixed picture.

(a) Most (nearly three-fourths) of the respondents reported that the quality of tourist facilities has improved in the last five years; and the impact on local infrastructure has been negligible to moderate.

(b) More than half reported a high to very high increase in incomes in the last five years; and two-thirds attributed more than half the income increase to tourism, but the share of income remaining in the area was estimated by most to be below 50 per cent, as few of the tourist facilities are owned or managed by locals. Hence job creation and growth in the consumption of local products had been moderate.

(c) There had been a negligible impact on society, particularly in the role of females, and on religion. Crime was not perceived as having increased because of tourism. Locals were little shocked by the lifestyle of tourists, and their general attitude towards tourists was positive to very positive.

(d) The respondents were not expert biologists, or even selected nature observers, yet some weight could be given to their observations that

there was a moderate impact of tourism on fisheries, compared to a negligible impact on terrestrial wildlife.

(e) The majority of the respondents reported observing a negligible to moderate increase in the pollution of lakes and streams in the present five years; but many attributed a moderate to high share of the otherwise modest increase in air pollution to tourist vehicles.

(f) Half the respondents observed a high to very rapid increase in wood-cutting and vegetation loss in the previous five years; and nearly one-third of the respondents thought that the fuelwood demand of tourists had played a significant role in the loss of vegetation.

(g) Most of the respondents reported an adverse or very adverse impact on the image of the area, particularly an increase in the physical and visual density of the population and in noise and disturbance.

(h) Yet, most acknowledged that locals had benefitted greatly/very greatly from tourism- induced investment, and thought that more tourism would be very good for the area (this included 80% of the local resident respondents).

What can be deduced from these responses? One may hypothesise, as below.

Hypothesis 1: The mixed response reflects the real trade-off between economic gain and loss of social, environmental, and image values.

Hypothesis 2: The mixed response reflect the saturation of certain reception areas (Kalam proper, etc) as resorts over limited periods of time, while most of the potential tourism areas remain grossly underutilised.

Common Inferences

The foregoing analyses lend themselves to the following common inferences.

Inference 1: In the general opinion of local residents, the tourism service industry and tourists, more tourism would be good for the Kalam area, i.e., carrying capacities are far from being exceeded. This is supported by calculations that, over the whole tourism area of Kalam, current carrying capacities (as per WTO standards for relatively underdeveloped areas) are up to one factor of magnitude larger than current peak day tourist flows.

Inference 2: Facts and observations, however, show that, with the current volumes, the image of Kalam proper and its neighbouring villages as calm,

serene, and uncluttered places has already been affected. The number of visitors per peak day to Kalam proper is already close to its objective carrying capacity of 2,500 - 7,500 persons per day, and the situation could rapidly get worse. There is, thus, already a case for better tourism demand management, including more temporal and spatial dispersal of tourist flows to and within the area.

Implications for the Economy

It is clear from the survey that, while tourism causes an increase in income, the income retained in the area is only a fraction of the total amount earned. There are strong leakages of income and benefits. The greater part of the income leaks out of the area. Direct leakages -- first-round leakages -- already account for more than 50 per cent of the income earned. This is followed by the second-round of leakages, i.e., that part of the tourist money earned by locals which, after making a round locally, passes on to suppliers of goods and services outside the local community.

On the other hand, linkages of the tourism sector with the local economy are weak. The structure of the tourism industry is such that the 'trickle down' is minimal and will remain so unless a suitable change occurs in this structure. The result is that there has been only a moderate degree of employment creation and a minimal growth in the consumption of local products. As has been mentioned earlier in the introduction to the case study area, locals are employed in the tourist industry either as watchmen/guards, porters/helpers, or as guides. Only a few are vehicle drivers or engaged in petty business during the season.

As has also been mentioned, whatever change has come about in the production base of the area has been by way of donor intervention. The socioeconomic survey has not detected any particular impact of tourists on the production base.

Are the Kalamites not responsive to tourists' signals? The answer is that the channels through which the tourists' signals pass do not lead to the local people. The linkages are thus faint and the leakages robust.

Implications for the Environment

The study has not noted a clearly discernible increase in the pollution of lakes and streams in the last five years. Responses from the interviews have,

however, attributed a high share of the increase in air pollution to tourist vehicles.

The field teams have also reported tourism's impact on fisheries, which is reportedly greater than the impact on wildlife. The growing number of humans and habitations has adversely affected the tourist image of the area, with an increase in noise and an erosion of the tranquillity that Kalam was famous for.

There is a rising phenomenon of deforestation and vegetation loss. However, tourism must bear only a small brunt of the blame for it. Some of the factors responsible for the phenomenon would have been active regardless of tourism.

Conclusions on Implications and Critical Issues

It is thus obvious that, on balance, tourism has both a negative and positive impact. Tourism has opened up an otherwise remote area, has turned it into a focus of a great deal of investment, income and employment generation, and other forms of economic activity. However, all this has benefitted the local community only marginally.

On the negative side, there has been environmental pollution; loss of pristine vegetation and tranquillity; the passing on of assets belonging to the local community to outsiders and thus the turning of owners into wage-dependent employees; the frustration of hopes linked with tourism regarding improvements in the lot of the common man; local participation; and the social and economic transformation of the area.

It is also obvious that, in its present form, tourism or more tourism can only mean the same or more of the same results. Unless there is a basic change in the structure of the tourism industry, and unless there is a change in the accompanying requirements of human resource development, a share in ownership and the management of assets, modification of the production base in response to tourist needs, and participation in decision-making - in short, in the very design and orientation of the tourism industry - the local community will be sidelined and deprived of benefits. More tourism in that case will only mean more of the negative effects of an exploitative enterprise that uses the habitat of the local people for its own gain and to the exclusion of any benefits for the local community.

And this, in fact, is inherent in the way tourism has developed, and it is set on course to progress further in this area. Tourism was never designed differently;

it is, therefore, vain to expect anything different from it in its present form. If, on the other hand, it is meant to benefit the local community and protect the major tourism assets of the area, it will have to be reconceived. This new conception can take two forms: either to evolve a framework of development for the area as a whole and set tourism within this framework as one of the activities with built-in linkages to and from, or to make tourism the centre-piece and let other activities develop around the tourist enterprise. The 'trickle down' can than be reinforced by forcing linkages with the local production base and stimulating the supporting activities with local participation. The job market can also be oriented towards the locals, with the gaps being filled by skill formation, training, and exposure.

Even so, the effort may still be self-defeating unless environmental care and pollution avoidance are built into it. The involvement of the local community in developing alternative sources of sustenance should be accompanied by their desisting from deforestation and using alternative sources of energy. Such an involvement will also ensure the safety of the social and cultural fabrics, and it may draw whole families - males and females - into the mainstream of activities without eroding the basic institutions of family and religion and such values as privacy, personal pride, and family honour.

6
An Assessment of the Impact and Implications of Mountain Tourism in Hunza

Responses on Tourism Impact

The tabulated responses of 21 interviewees (ten full-time residents, five tourism service operators, and six tourists [4 domestic; 2 foreigners]) to a structured interview requiring responses regarding the impact of tourism on physical plant; economic structure; social, moral, and cultural values; environment; image; and trade-induced government investment are in Annex 3.

All the questions relate directly or indirectly to carrying capacity. The responses relating to impact on physical plant, economy, society, environment, image, and cultural values reveal a generally positive picture.

1. Most of the respondents report rapid to very rapid improvements both in the number and quality of tourist facilities during the last five years; and a still larger number believes that the impact on local infrastructure has been beneficial.
2. Many of the respondents report a moderate to very high increase in incomes in the last five years; and nearly half attribute more than 70 per cent of the income increase to tourism. More than half believe that more than 95 per cent of the tourism income has remained in the area. Tourism has caused a moderate increase in the disparity between rich and poor. Most of the tourist facilities are owned and managed by locals, yet growth in jobs and consumption of local products have been moderate.
3. There has been a moderate to significant impact on local building materials and consumption patterns, clothing styles, and language, but a negligible to low impact on the traditional family and the role of the father. The main change for females is greater education. The majority of respondents had not heard of any case of prostitution. Crime is not perceived as having increased. Most locals are not at all shocked by the lifestyle of tourists, and their general attitude towards tourists is positive to very positive. Most respondents report a negligible impact of tourism on religious beliefs, morality, and drug abuse.
4. The respondents report negligible increases in water and air pollution. Opinions regarding solid waste vary, with 43 per cent reporting a negligible increase, and 38 per cent reporting a moderate to high increase.

5. According to the respondents, there has been a negligible increase in wood-cutting, which is in any case not attributable to tourism.
6. The respondents were not expert biologists, or even selected nature observers, and there were many non-responses to the related questions. Yet some weight may be given to observations that tourism's impact on plants and flowers has been negligible, and it has been low on land animals and fish.
7. Most of the respondents report a sharp to very sharp increase in physical and visual density due to tourism, but less than a quarter report an adverse/very adverse impact on the image of the area due to noise and disturbance.
8. Specifically regarding trekking trails, most respondents report negligible littering, or a negligible increase thereof, in the last five years. Most report that trail litter decomposes in a medium period of time. Trekkers bring along bottled gas and have had a negligible impact on fuelwood supplies and prices. However, for a small majority of respondents, the trails have become crowded to very crowded in the peak season.
9. Most acknowledge that locals have benefitted greatly/very greatly from tourism-induced investment; consequently they think that more tourism would be very good for the area.

What can be deduced from this set of responses ? Two complementary hypotheses are given below.

Hypothesis 1: The generally positive responses reflect real economic gains with a minimal loss of social, cultural, moral, and environmental values.

Hypothesis 2: The few negative responses reflect the loss of image (especially the wilderness image) values as certain reception areas (e.g., Karimabad) and a few trails reach saturation levels during limited peak periods, although most of the potential tourism areas remain grossly underutilised.

Common Inferences

The foregoing analyses lend themselves to the following common inferences.

Inference 1: In the general opinion of local residents, the tourism service industry, and tourists, more tourism would be very good for Hunza, i.e., carrying capacities are far from being exceeded. This is supported by

calculations that, over the whole tourism area of Hunza, current carrying capacities of trails (as per WTO standards for relatively undeveloped areas) are up to one factor of magnitude larger than current peak day tourist flows.

Inference 2: However, the current tourist and trekking volumes as well as the image of Karimabad and other villages in Hunza as calm, serene, and uncluttered places, and of a few trails as wilderness places, are being affected. The number of trekkers per peak day on the trail to Patundas pastures is already close to its objective carrying capacity of 1,120 persons per day. Better tourism demand management, including more temporal and spatial dispersal of tourist flows to/within the area, is already indicated.

Comparison of the Tourism Industry and Its Impact on Hunza and Kalam

The impact of tourism having been studied both in Kalam and Hunza separately, it may be of some interest to present here a comparison of the impact of and attitude towards tourism in the two case study areas.

In Hunza, almost all the tourism industry facilities are owned by locals. Hunzakuts neither sell land nor allow outsiders to build hotels and restaurants on rented land. By contrast, in Kalam, most hotels and restaurants are owned by outsiders. Kalamis also do not sell land to outsiders but enter into lease contracts of 10-15 years' duration. After this period, the developed land and the constructions are expected to revert to the landowners. Meanwhile, Kalamis only obtain menial jobs in the tourism industry. From this difference emerge two vastly different perceptions of tourism.

These differences are depicted in the following results of recent interviews with a selection of respondents in Hunza and Kalam, representing local residents, the tourism industry, and tourists.

1. In Kalam, one-sixth of the respondents interviewed believe the impact of tourism on local infrastructure (e.g., streets, water supply, sewage, and solid waste disposal) has been adverse; *in Hunza, none of the respondents share this perception.*
2. In both Kalam and Hunza, there has been a significant increase in incomes in the last five years; and more than two-thirds of the respondents in both the areas attribute more than half the increase to tourism inflows.
3. In Hunza, more than half the respondents believe that more than 95 per cent of the tourism income remains in the area, *while, in Kalam, the share*

of income remaining in the area is estimated by nearly half the respondents to be below 20 per cent.

4. If one could generalise from this selection of respondents, one would conclude that nearly three-fourths of the Hunzakuts are "not at all shocked" by the behaviour of tourists, one-seventh are "a little shocked", while none are "somewhat shocked" to "very shocked"; *by contrast, 29 per cent of Kalami respondents are "somewhat shocked", "shocked", or "very shocked" by the behaviour of tourists.*
5. Both in Hunza and Kalam, society and morality are in a robust state. In both areas, the majority of the respondents have not heard of any case of prostitution. Crime is not perceived as having increased. The general attitude of locals towards tourists is positive to very positive (Kalam - 74% of the respondents; Hunza - 81%). Most respondents report a negligible impact of tourism on religious beliefs, morality, and drug abuse. *But, in Hunza, education is also seen as the main agent of social change for females.*
6. In Hunza, eight out of 10 respondents perceive a negligible to low increase in water pollution over the last five years; by contrast, nearly half of the respondents in Kalam report a moderate to very high increase in water pollution over the same period.
7. In Hunza and Kalam, opinions vary regarding growth of solid waste, but their distributions are quite different:

Growth of Solid Wastes Place	Negligible	Low	Moderate	Rapid	Very Rapid
Hunza	43	10	19	19	0
Kalam	6	26	19	29	19

8. According to Hunza respondents, there has been a negligible increase in wood-cutting and the destruction of vegetation in the last five years, which is in any case not attributable to tourism. *By contrast, in Kalam half of the respondents perceive a huge to very huge increase in wood-cutting, and nearly one-third of them attribute it mainly to the tourist demand for fuelwood.*
9. Most of the Hunza respondents report a sharp to very sharp increase in physical and visual density owing to tourism, but less than a quarter report an adverse to very adverse impact on the image of the area due to noise and disturbance. *In Kalam, most of the respondents also report an increase in physical and visual density of population, and a similar number further report adverse to very adverse noise and disturbance.*

10. In both Hunza and Kalam, most of the respondents acknowledge that locals have benefitted greatly to very greatly from tourism-induced investment; thus 71 per cent of the respondents in both the areas think that more tourism would be very good for the area.

What sense can one make of the differences and commonalities? Both areas want more tourism for the income it provides, but, whereas Hunzakuts are confident and empowered by their capacity to cater to tourists, Kalamis are largely embittered and alienated. It is clear that local ownership and management of tourism assets result in vastly different capacities for coping with tourism. Further research leading to an in-depth study of the historical, economic, and social causes behind the varying situation in Kalam and Hunza is clearly indicated. Also indicated is priority promotion of more local planning, ownership, and management in both the case study areas.

7

Carrying Capacity Considerations - I

Carrying Capacity -- Focal to Sustainability

In view of the `form of consumption' of the tourism product, especially in areas of tourist concentration, the carrying capacity of tourism resources become a focal consideration in thinking about the sustainability of the activity.

Carrying capacity relates to the upper limit of the use intensity of a tourism resource-what can be supported without doing damage to that resource. It is also directly related to the sustainability of an activity, i.e., the ability to meet tourism demands from ecological, economic, cultural, and social systems obtaining in a tourism area or at the site of a tourism resource. It is, thus, at once an observation and an ascertainment mechanism, as well as a tool of planning and management. The fact that conclusions about it are essentially judgemental in nature, and depend greatly on the assumptions made, does not detract from its utility, even if caution is called for on how it is used and applied.

It is important to note that the carrying capacity of tourism resources is not a fixed or unalterable limit but a dynamic range capable of being extended through investment, through better management of given resources, and through greater awareness and harmony with the environment. Again, it is a multidimensional value. There is first the simple physical dimension (i.e., space). To this must be added the whole living and pulsating world of wildlife, air, and water (i.e., the biological and ecological dimensions), the critical impact which they can absorb (the acceptable limits' notion), and the strains which they show beyond a given point unless change can be brought about to soften the impact or restore balance. This is further compounded by the economic and infrastructural support systems. Any one support system can only absorb the impact of a given magnitude and given frequency of use. Beyond a certain point, the carrying capacity of this support system shows strains, which call for adjustments to be made. Similarly, there is the social and cultural fabric of the tourism area itself which may be vulnerable and open to adverse impact beyond a certain point. All these dimensions qualify and characterise the carrying capacity of tourism resources, especially in mountain areas and in the context of concerns with mountain community development.

Relevance of Carrying Capacity to Kalam

The notion of carrying capacity is directly relevant to the case study area, in that the tourism demands have already started to put pressure on the component support systems of the area, and the environment and local economy have come under strain. Again, while the signals being received from the *current* carrying capacities are already pointing to the *critical thresholds*, especially in the critical zones, the *potential* carrying capacities are an invitation to renewed tourism planning and a scheme for the spatial dispersal of activities that could take in many more tourists, while releasing pressures on the existing resources. And if accompanied by a comprehensive design for mountain development and the involvement of the local communities, it would be conducive to sustainable socioeconomic development of the people over an extended range of tourist activities.

Delimitation of Kalam Tourism Zone

Maps 1, 2, and 3 indicate the broad zone of tourism activity centred on Kalam. The catchment has been delimited on the basis of the most extensive treks out of Kalam, as follows.

1. To the south of Kalam, a short boundary where resorts outside Kalam *tehsil* competed with Kalam as destinations for tourists (Map 1).

2. To the north, up to Mahodhand, as the main trek up to the Ushu Valley, and up to Andarap Dhand, along the trek up the Anukar Gol (Map 2).

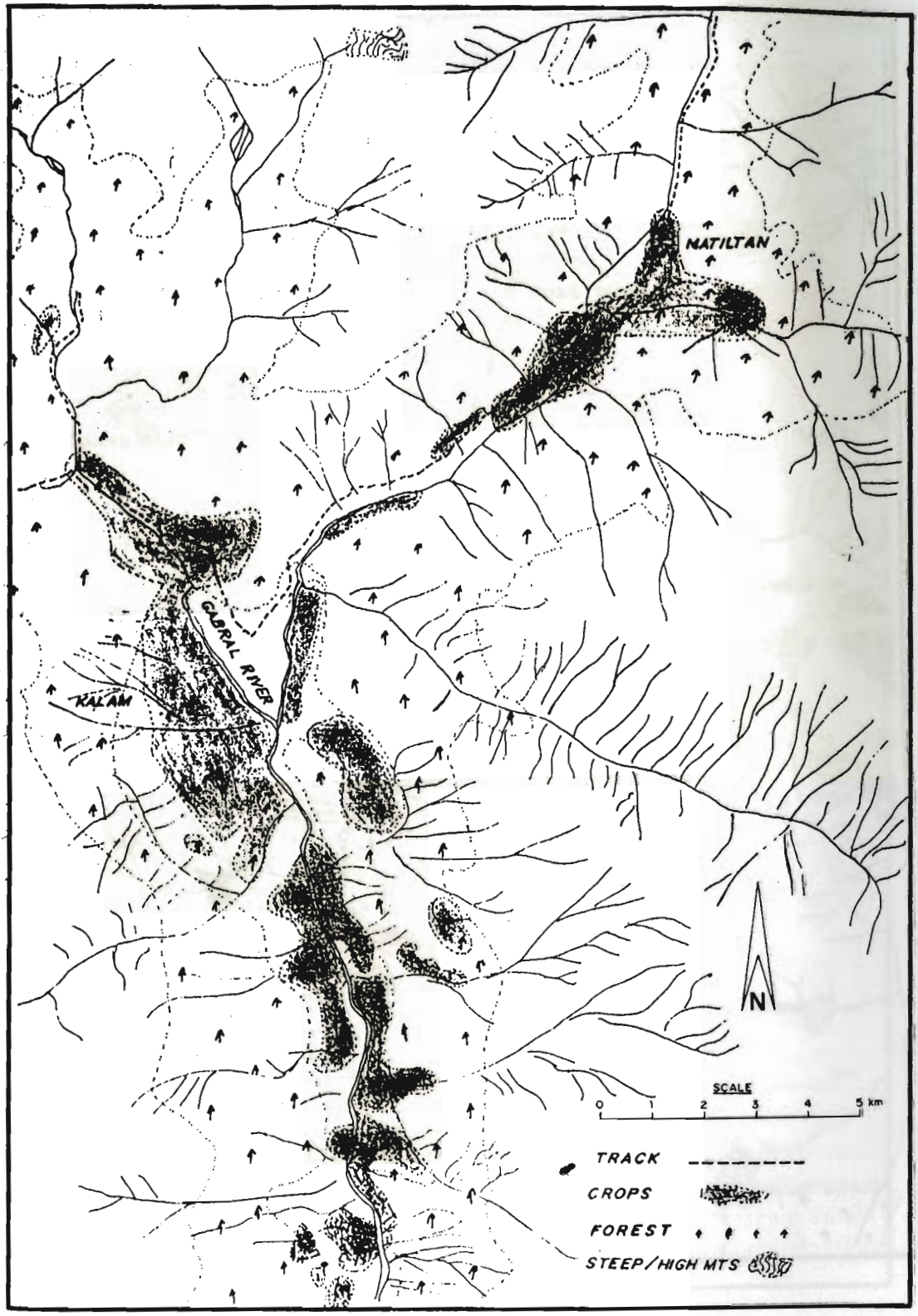
3. To the north-west, up the Gabral Valley (Map 3).

4. To the south-west, to Kundlao Dhand, up the Batal Khwar and Laddu Khwar (Map 3).

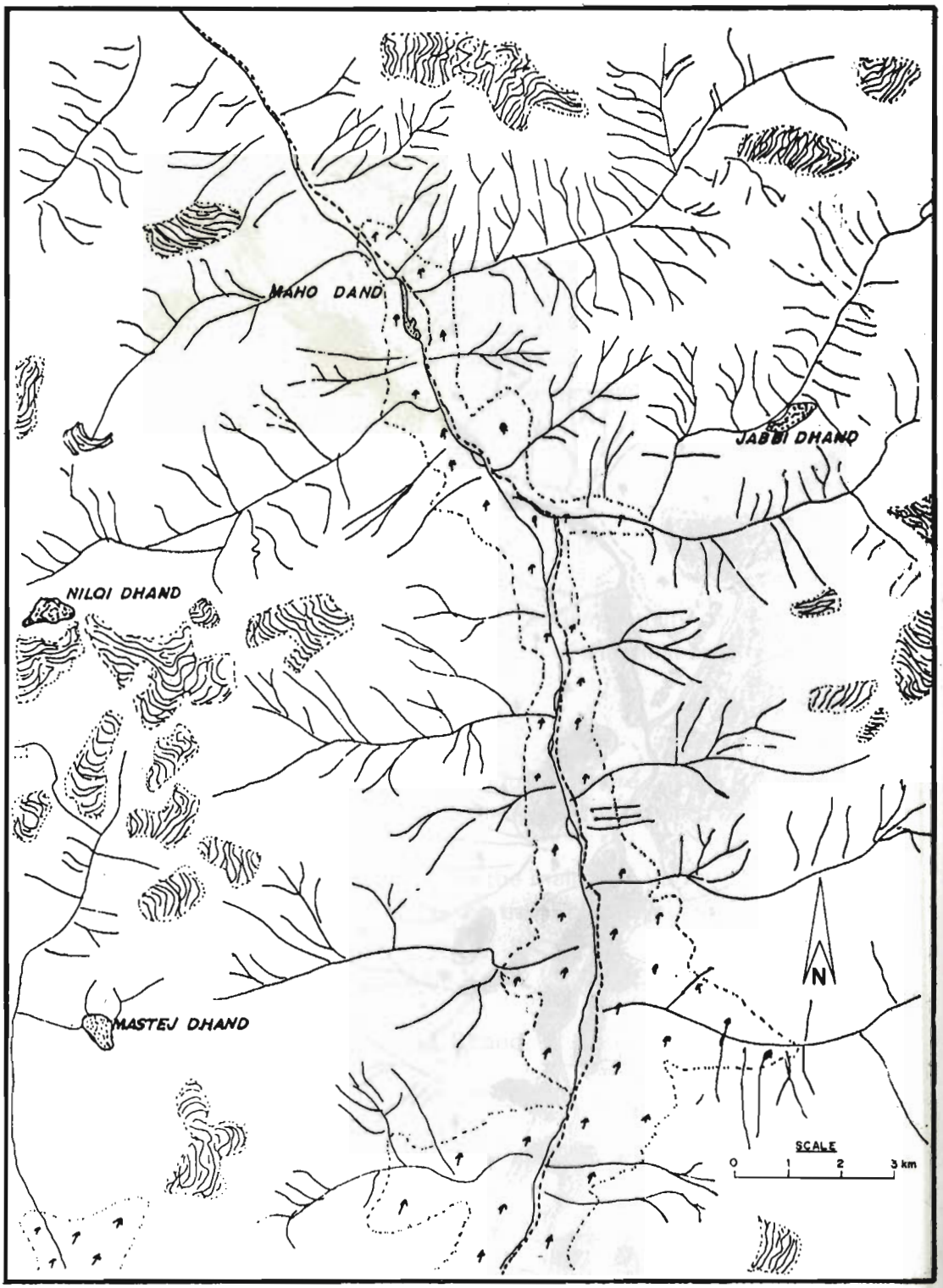
Extent to Physical Assets for Tourism

The areal extent of various categories of land use and lengths of treks in the above defined Kalam tourism catchment are given in Table 7.1.

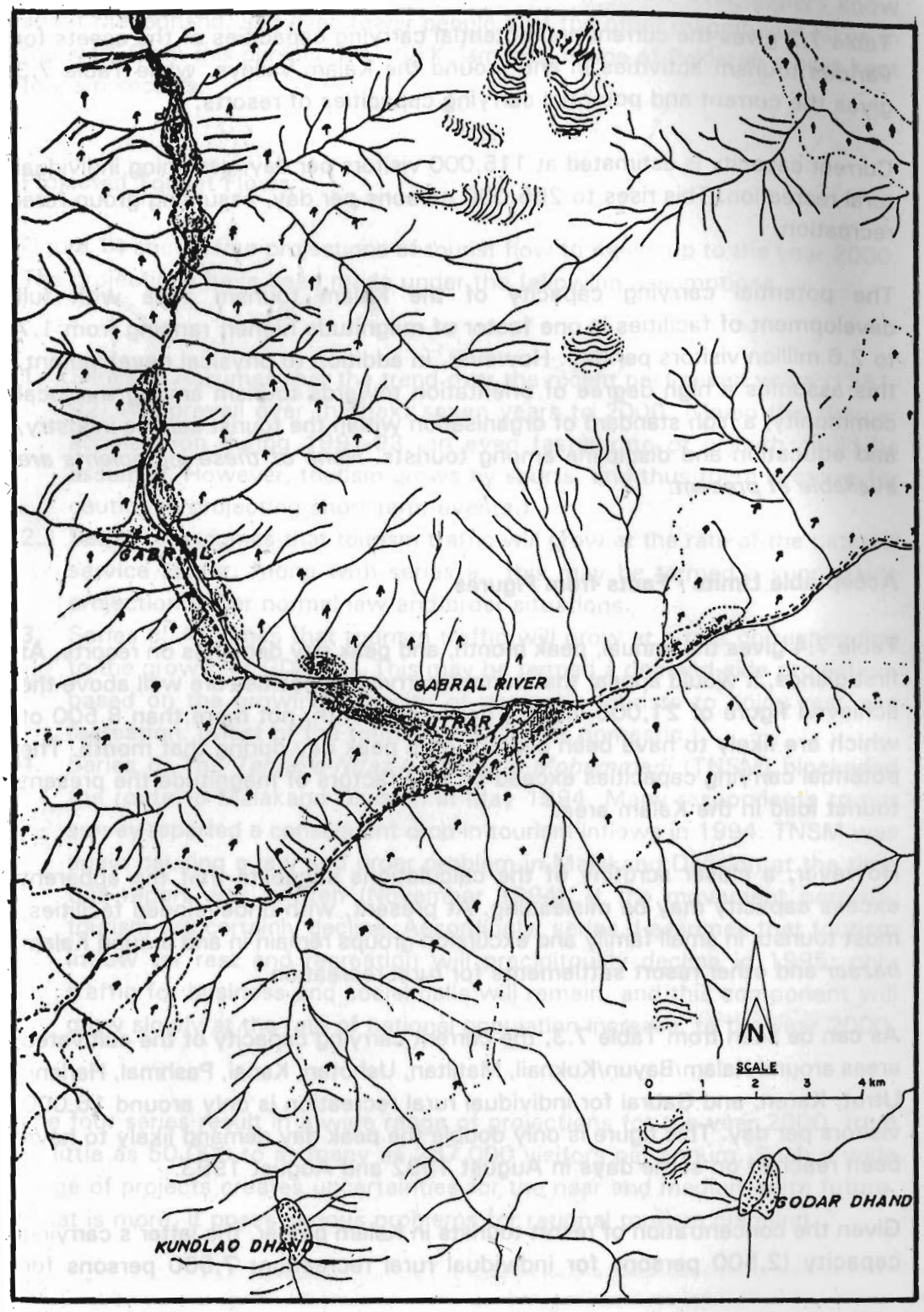
Map 1:


MATILTAN
GABRAL RIVER
KALAM
N
SCALE
0 1 2 3 4 5 km
TRACK
CROPS
FOREST
STEEP/HIGH MTS

Map 2:


MAHO DAND
JABBI DHAND
NILOI DHAND
MASTEJ DHAND
N
SCALE
0 1 2 3 km

Map 3:


GABRIAL
GABRAL RIVER
UTRAR
N
SCALE
0 1 2 3 4 km
GODAR DHAND
KUNDLAO DHAND

Quantitative Estimates of Carrying Capacity

Table 7.2 gives the current and potential carrying capacities of the assets for various tourism activities in and around the Kalam valleys, while Table 7.3 gives the current and potential carrying capacities of resorts.

Current capacity is estimated at 115,000 visitors per day, assuming individual rural recreation. This rises to 255,000 persons per day, assuming group rural recreation.

The potential carrying capacity of the Kalam tourism zone with full development of facilities is one factor of magnitude higher, ranging from 1.7 to 2.6 million visitors per day. However, in addition to physical development, this assumes a high degree of orientation towards tourism among the local community, a high standard of organisation within the tourist service industry, and education and discipline among tourists. *None of these ingredients are available at present.*

Acceptable Limits - Facts from Figures

Table 7.4 gives the annual, peak month, and peak day demands on resorts. At first glance, it would appear that current carrying capacities are well above the achieved figure of 21,000 visitors per peak month, not more than 8,500 of which are likely to have been present on a peak day during that month. The potential carrying capacities exceed by two factors of magnitude the present tourist load in the Kalam area.

However, a closer scrutiny of the calculations suggests that the apparent excess capacity may be misleading. At present, with undeveloped facilities, most tourists in small family and excursion groups remain in and around Kalam *bazaar* and other resort settlements for rural recreation.

As can be seen from Table 7.3, the current carrying capacity of the cultivated areas around Kalam/Bayun/Kuknail, Matiltan, Ushotan, Kanai, Pashmal, Hariani, Utrot, Karen, and Gabral for individual rural recreation is only around 16,000 visitors per day. This figure is only double the peak day demand likely to have been reached on some days in August 1992 and August 1993.

Given the concentration of resort tourists in Kalam proper, the latter's carrying capacity (2,500 persons for individual rural recreation; 7,500 persons for

scenic beauty) is already likely to have been exceeded on a number of days during the peak season. On the other hand, only a few avid anglers know about Mahodhand, and even fewer people visit the other magnificent lakes in the area. From this perspective, the Kalam area is one of Pakistan's best kept tourism secrets.

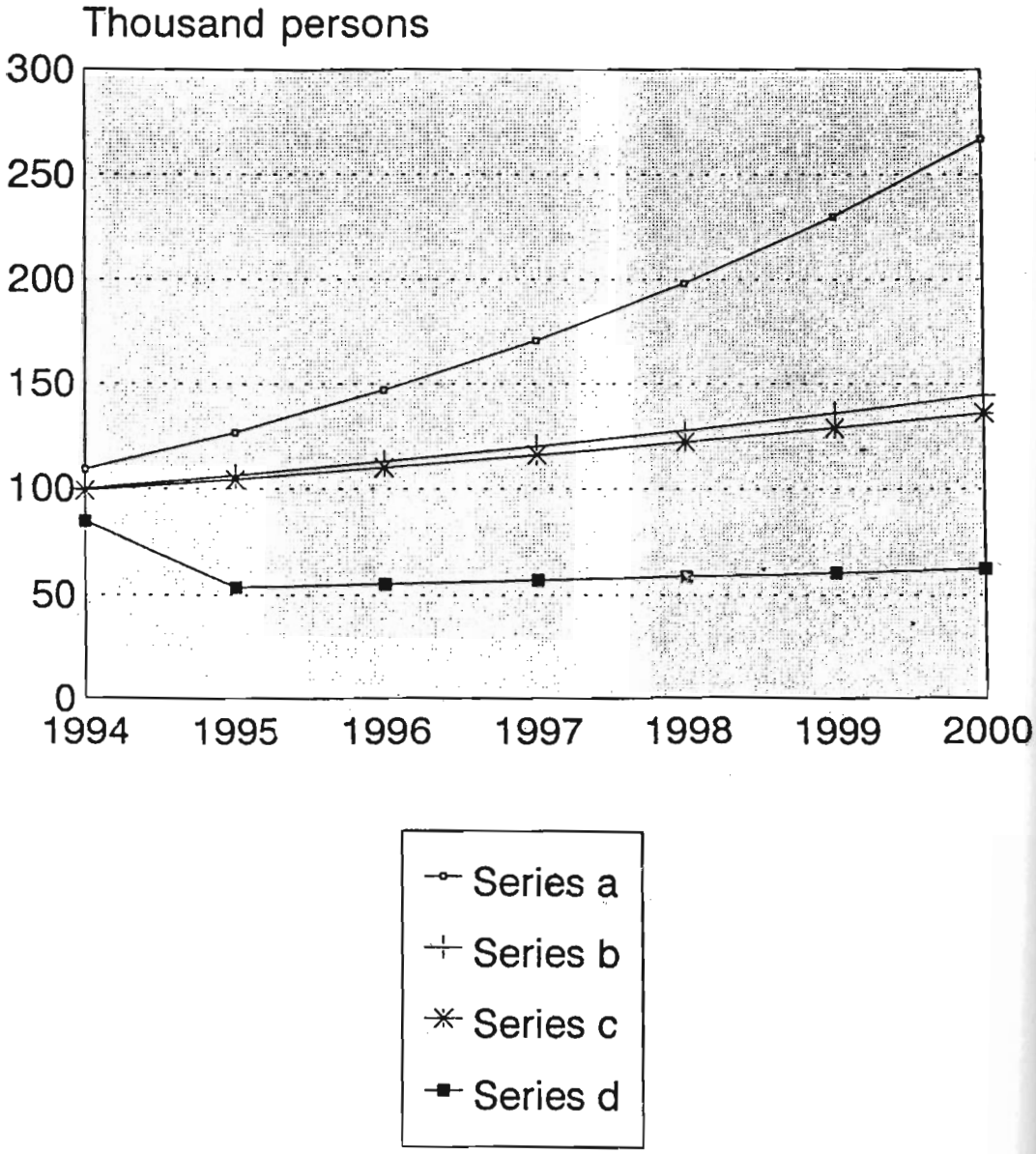
Projected Tourist Flows

Figure 14 shows four projections of tourist flow to Kalam up to the year 2000. The projections have been made under the following assumptions.

1. Series a: Assumes that the trend over the recent past seven years (1981-92) will prevail over the next seven years to 2000. (Given the sharper acceleration during 1991-93, an even faster rate of growth could be assumed. However, tourism grows by spurts, and thus there is cause for caution in projecting short-term events.)
2. Series b: Assumes that tourism traffic will grow at the rate of the national service sector. Along with series a., this may be termed a supply-side projection under normal law and order situations.
3. Series c: Assumes that tourism traffic will grow at a rate corresponding to the growth of GDP (fc). This may be termed a demand-side projection, based on the growing capacity of domestic tourists to enjoy rest and recreation. (Most of the tourism to Kalam is domestic.)
4. Series d: The *Tehrik-e-Nifaz-e-Shariat-e-Mohammadi* (TNSM) blockaded the route to Malakand Division in May 1994. Many respondents to our survey reported a consequent drop in tourism inflows in 1994. TNSM was again causing a law and order problem in Malakand Division at the time this report was written (November 1994). If the movement persists, tourism will certainly decline. Accordingly, series d assumes that tourism inflow for rest and recreation will precipitously decline in 1995; only traffic for business and social calls will remain, and this component will grow slowly at the rate of national population increase, to the year 2000.

The four series result in a wide range of projections for the year 2000, from as little as 50,000 to as many as 267,000 visitors per annum. Such a wide range of projects creates uncertainties for the near and medium-term future. What is more, it poses serious problems for rational tourism planning.

Figure 14: Projections of Tourist Flows to Kalam



Source: MoT, R&S Wing; GoP, Economic Survey, 1992-93
based on a: past trends (1985-92); b: growth of service sector (1980-93)
c: GDP (fc)(1990-93); d: shariat/law & order situation

Potential Carrying Capacities

With complete infrastructural development and a high degree of rational management, the potential capacity of the entire Kalam tourism catchment, as per WTO standards, is a staggering 1.7 million to 2.6 million visitors per peak day (Table 7.2). Yet the figure may well be attained by the middle of the next century, when the national population will perhaps exceed 300 million. Catering to this scale of inflow assumes:

- great improvements in the education and discipline levels of tourists;
- even greater improvements in infrastructure; and
- truly huge improvements in the management and coping skills of local communities and the tourism service industry.

For the short-term future, concern should focus on the risk of saturation or overload in Kalam proper and in other resort settlements.

The current and potential carrying capacities of the main resort settlements of the Kalam tourism area, for group rural recreation, for enjoyment of scenic beauty and for individual rural recreation, are given in Table 7.3. These capacities may be compared with peak day demand projections to the year 2000, under the Series a projection (Table 7.4).

Comparison of Projected Flow with Capacities in Resorts

A comparison between tourism capacities in the resorts and projected demands is covered below.

1. ***Potential capacities*** are more than adequate to cater for all kinds of projected demands; but these entail development and management of resort infrastructure, and *are not relevant* for the current decade.
2. ***Current capacities*** for group rural recreation are adequate to cater for projected demand to the year 2000; but organised large-group recreation is not the norm for tourists in Kalam, hence this category is *marginally relevant*.
3. ***Current capacities*** for enjoyment of scenic beauty are likely to be adequate until the year 2000 if proportionately distributed among the resorts. If concentrated around Kalam and Matiltan, they are *likely to be exceeded by 1999* and, if exclusively concentrated around Kalam, by 1995.

4. ***Kalam proper is already close to overload for individual rural recreation.*** ***Current capacities*** for individual rural recreation are *likely to be exceeded* around the resorts by 1997, and saturation will continue to worsen to the year 2000, even with perfect distribution of tourists around the resorts.

Table 7.1: Areal Extent of Prime Environmental Assets in Kalam

(hectares)

Toposheet	43 A/10	43 A/11 North Half	43 A/7 NE Quarter	43 A/6 SE Quarter	Total
Total catchment	62,765	27,650	16,000	15,400	121,815
Steep mts. (above 4000m)	5,600	7,000	700	1,860	15,160
Rangeland	43,620	18,000	10728	9,820	82,168
Forests	Ushu 7,238 Ushotan 5,354	Kalam 640 Bayun 980	4,027	3,000	21,239
Cultivated land	Matiltan 422 Ushotan 407 Kanai 38	Kalam 500 Kaknail 85 Bayun 138 Pashmal 190 Hariani 140	Utrot 475	Karen 270 Gabral 450	3,115
Lakes (height above sea level)	Andrap 36.25 (36.50m) Niloi 13.33 (4,000m) Mastej 18.75 (4,000m) Mahodhand 11.25 (2,750m) Jabba 6.66 (3,000m)	Godar Dhand 45 (3,800m)	Kundlao Dhand 40 (3,000m) Lacpand-ghali 30 (3,400m)		

Length of Prime Tourism Treks

kilometres

Treks from Kalam	Mahodh-and 65 Kanai 20 Andrap 38	Godar Dhand 19	Kundlao 20 Lacpand-ghali 30	Utrot 45	237

Table 7.2: Current and Potential Carrying Capacities

Activity	Areal Extent of Suitable Area (ha)	Standards (visitors per day/ha)	Current Capacity	Potential Capacity
1. Wilderness enjoyment on rangeland	82,168	0.25-5	20,542	410,840
2. Nature park enjoyment in forest land	21,239	1-15	21,239	318,585
3a Individual rural recreation on cultivated land	3,115	5-50	15,575	155,750
3b Group rural recreation on cultivated land	3,115	50-300	155,750	934,500
4. Water sports around/in lakes	201.24	50-3000	10,062	603,720
5. Technical mountaineering	15,160	0.01-0.2(a)	152	3,032
Total:			114,970-255,145	1,681,527-2,460,277

(a) Standards from mountaineering guides
(b) Assuming 200 metres average width

Table 7.3: Current and Potential Carrying Capacities of Resorts

'000 Visitors/Peak Day

Name	Area (ha)	For Group Rural Recreation		For Scenic Beauty		For Individual Rural Recreation	
		C	P	C	P	C	P
1. Kalam, Bayun, Kuknail	723	36	217	11	145	4	36
2. Utrot Kanai	513	26	154	8	103	3	26
3. Gebral	450	23	125	7	90	2	23
4. Matiltan	422	21	127	6	84	2	21
5. Ushotan	407	20	122	6	81	2	20
6. Karen	270	14	81	4	54	1	14
7. Pashmal	190	10	57	3	38	1	10
8. Hariani	140	7	42	2	28	1	7

Current = with present facilities
Potential = with full development of infrastructure and management

Table 7.4: Annual, Peak Month, and Peak Day Demands on Resorts

'000 Visitors

Year	Annual Tourist Flows	Peak Month Demand (1*0.223)	Peak Day Demand (2*0.4)
1993	94 (e)	21.1	8.5
1994	109 (p)	24.5	10.0
1995	127	28.6	11.4
1996	147	33.1	13.2
1997	171	38.5	15.4
1998	198	44.6	17.8
1999	230	52.0	20.0
2000	267	60.0	24.0

(e) = estimated; p = projected as per series a.

8
Carrying Capacity Considerations -- II

Delimitation of Hunza Tourism Zone

Maps 4,5, and 6 indicate the broad zone of tourism activity centred on Karimabad. The catchment has been delimited on the basis of the most extensive circular treks out of Karimabad, as follows.

1. To the South-west, up to Nilt (including the trek to Jaglot) and Rakaposhi peak. Chalt and Bar Valley, Naltar and Daintar Pass are excluded, as Gilgit competes with Karimabad as a base station for trekkers (Map 4).

2. To the north, up to Wain, as the main trek up the Lupghar River (Map 5).

3. To the south-east, to Hispar and Malubiting Peak (Map 6).

The main peaks, glaciers, and treks included in this catchment are given below.

Crests

- To the south, Rakaposhi and the Bagrot and Phuparash group of ranges
- To the north, the Atabad, Pasu, Batura, and Lupghar group of ranges

Glaciers

- To the south, Nilt, Thoil, Yal, Pisan, and Minapin glaciers
- To the south-east, Bualtar, Miar, and Barpu glaciers
- To the east, Gharesa and Yenguz glaciers
- To the north, Ultar, Hasanabad, Muchichul, Gulmit, Ghulkin, and Batura glaciers

Treks

- To the south-west, from Nilt to Jaglot via Shaltar Pass
- To the south, from Ghulmet up to Yal Glacier and from Minapin to Kacheli (Chhasuli)


Map 4
DAINTAR PASS
CHALT
NILT O
MINAPIN
RAKAPOSHI
N
ROAD
RIVER
MULE TRACK
MOUNTAIN
GLACIER
SCALE
2
4
6 km


Map 5
LUPGHAR
Scale
0
2
4
6 km

Map 6
HISPAR
HOPAR
KARIMABAD
ULTAR GL.
MINAPIN
RAKAPOSHI
NILT
N
SCALE

- To the south-east, from Sumaiyar to Holshal, to Shaltar, to Miar, to Girgindil, to Gutena, to Hispar, to Gharesa
- To the north, from Hasanabad to Gychalin, from Ganesh to Ultar base
- To the far north, from Gulmit to Ultar II base, Ghulkin to Borit Lake, Pasu to Borit Lake, Pasu to Gharhil (2 treks), Sust to Chalapan, and Sust to Wain via Lupghar Pass

Extent of Physical Assets for Trekking and Mountaineering

The lengths and areal extent of common treks in the above defined Hunza tourism catchment are given in Table 8.1, while Table 8.2 provides the areal extent of the main glaciers for ice-climbing.

Quantitative Estimates of Carrying Capacity

Table 8.3 gives the current and potential carrying capacities of the assets for trekking and mountaineering in the Hunza area. The current capacity of the identified main trails is estimated at 32,500 trekkers per peak day. This could rise to 130,000 trekkers per peak day, assuming a management system for ensuring an even distribution of trekkers over the trails.

Current capacity for ice-climbing is estimated at 3,000 mountaineers per peak day; which could rise to 6,000 climbers per peak day, with the development of a support system for ice-climbing.

Attainment of the potential carrying capacities assumes, in addition to physical development, a high degree of orientation towards tourism among the local community, a high standard of organisation within the tourist service industry, and education and discipline among tourists. None of these ingredients are available at present.

Relevance of Carrying Capacity to Hunza

The notion of carrying capacity is of direct interest and relevance to the case study area. As the treks in Hunza are in the open zone of trekking, trekkers go where they choose. There is, therefore, no way of staggering them or directing them to less frequented treks. Thus, there is a heavy load on one or two popular treks. This is already exerting pressure on the resource base, and, unless carrying capacity considerations are kept in mind,no management plan will ever evolve with the desired results for the area.

Again, trekkers are only one of the components of tourist traffic. The overall flow is much heavier and the support system needs monitoring. The notion of carrying capacity will, therefore, have to be built into the total tourism management and planning effort for the area. This does not imply the need to limit tourism. It is simply a reminder that the supply support system and tourism demands will have to balance each other out, and this suggests:

- timely intervention,
- the involvement of the local community, and
- efforts to secure the understanding and cooperation of tourists and tour operators.

Acceptable Limits - Facts from Figures

Since the focus of this report is on trekking, the discussion which follows will compare trekking volumes with capacities.

At first glance, it would appear that the current carrying capacity of 32,500 trekkers per peak day is well above the estimated achieved figure of 1,100 trekkers per peak day (Table 8.1).

The potential carrying capacities of trails (130,000 persons per peak day) exceed by two factors of magnitude the present tourist load in the Hunza area.

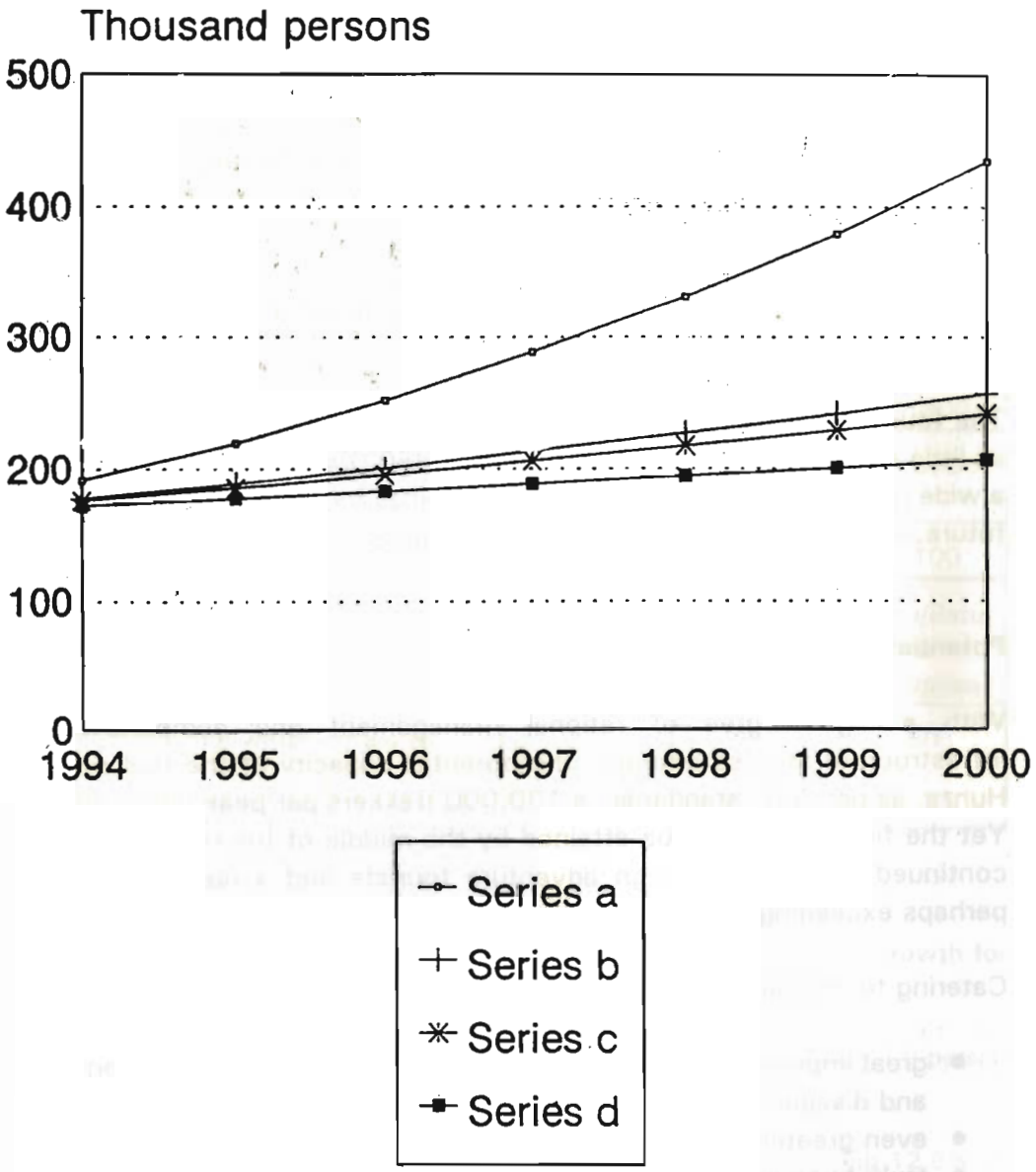
However, closer scrutiny suggests that the apparent excess capacity could be misleading. At present, with undeveloped facilities, many trekkers, especially in the unguided segment of the market, concentrate on the trail to the Patundas Pastures. There is also a secondary concentration of guided trekkers on two trails taking off from Pasu along the Pasu and Batura glaciers.

On the other hand, only a few avid travellers make it to Borit Lake, and even fewer people visit the other spots of magnificent scenic beauty in the area. From this perspective, Hunza is an underexploited destination.

Projected Tourist Flows

Figure 15 shows four projections of tourist flows to Hunza up to the year 2000. The projections have been made under the following assumptions.

Figure 15: Projections of Tourism to Hunza



Source: MoT, R&S Wing; GoP, Economic Survey, 1992-93
based on a: past trends (1986-93); b: growth of service sector (1980-93)
c: growth of GDP (fc)(1990-93); d: national population growth

1. Series a: Assumes that the trend over the past seven years (1986-93) will prevail during the next seven years to 2000.

2. Series b: Assumes that tourism traffic will grow at the rate of the national services sector. Along with Series a, this may be termed a supply-side projection under normal law and order situations.

3. Series c: Assumes that tourism traffic will grow at a rate corresponding to the growth of GDP (fc.). This may be termed a demand-side projection, based on the growing capacity of domestic tourists to enjoy rest and recreation.

4. Series d: Assumes that tourism will only grow at the rate of national population increase.

The four series result in a wide range of projections for the year 2000, from as little as 200,000 persons to as many as 450,000 visitors per annum. Such a wide range of projections creates uncertainties for the near-and medium-term future. What is more, it poses serious problems for a rational tourism policy.

Potential Carrying Capacities

With a high degree of rational management and complete support infrastructure at base stations, the potential capacity of the trail system in Hunza, as per WTO standards, is 130,000 trekkers per peak day (Table 8.4). Yet the figure may well be attained by the middle of the next century with continued growth of foreign adventure tourists and a national population perhaps exceeding 300 million.

Catering to this scale of inflow assumes:

- great improvements in the trekking knowledge, environmental education, and discipline levels of tourists;
- even greater improvements in the systems to control trail litter; and
- truly huge improvements in the management and coping skills of local communities and the tourism service industry.

For the short-term future, concern should focus on the risk of saturation or overload on trails to Patundas, Pasu, and Batura.

Table 8.1: Trekking and Rafting in the Hunza Area

Category/Year	1992	1993	1994
1. Number of foreign trekking tours to Hunza handled by the leading 20% of tour operators (a)	1,088	1,311	1,316
2. Estimated total foreign trekking tours to Hunza handled by all tour operators (b)	1,360	1,639	1,885
3. Estimated foreign trekkers (av. trekking group = 7.5 persons) (c)	10,200	12,300	14,100
4. Estimated domestic trekkers (d)	3,200	3,700	3,800
5. Total trekkers in Hunza	13,400	16,000	17,900
6. Estimate peak month (August) (R5*0.3)	4,020	4,800	5,370
7. Estimated peak day (R6*0.2)	800	1,000	1,100
8. Favourite trails	Pasu/Batura/ Patundas	Pasu/Batura/ Patundas	Pasu/Batura/ Patundas
9. Reported white-water rafters to Hunza		130	50

(a) Survey-November 1994

(b) Assuming Pareto (20/80) distribution for 1992 and 1993, and 15% growth for 1994

(c) Average of reported bi-modal distribution of trekking groups, (75% are 7-9 person groups, 25% are 4-6 person groups)

(d) 6.5% of the 35% of tourists coming for rest and recreation (assuming 12.5% of upper income 8%; 10% of middle income 19%, and 5% of lower income 73% go for treks).

Table 8.2: Lengths and Areal Extent of Treks

	Trek Name	Length (km)	Area (ha) (a)
1	Nilt to Jaglot via Shaltar Pass (including Dobar spur)		
2	Ghulmet up the Yal Glacier	25.2	82
3	Minapin to Kacheli	8.2	108
4	Sumaiyar to Hopar	11.2	112
5	Hopar to Shaltar	9.2	92
6	Shishkin to Miar	9.4	94
7	Shishkin to Girgindil	17.2	172
8	Hura to Gutena	5.6	56
9	Hopar to Hispar	25.6	256
10	Hopar to Gharesa	6.2	62
11	Hasanabad to Gychalin	17.2	172
12	Ganesh to Ultar base	2.8	28
13	Gulmit to Ultar II base	8.8	88
14	Ghulkin to Borit Lake	12.6	126
15	Pasu toward Kingly peak	12.0	120
16	Pasu to Put Mahal (II)	57.6	576
17	Chalapan-Sust-Wain via Lupghar Pass	27.4	274
		58.2	582
	Total:	325.2	3,252

(a) Assuming 10m average width for these mountain trails

Table 8.3: Areal Extent of Main Glaciers in Hunza Tourism Catchment

	Name of Glacier	Area (ha)
1	Yal + Rakaposhi 2nd Peak (N/W; N/E)	1,330
2	Pisan	710
3	Minapin	4,720
4	Bualtar	5,520
5	Miar and Barpu	7,530
6	Gharesa	2,440
7	Yenguz	840
8	Ultar	1,250
9	Hasanabad	4,120
10	Muchichul	5,490
11	Gulmit	910
12	Ghulkin	2,150
13	Pasu	3,400
14	Batura	20,940
	Total:	61,350

Table 8.4: Current and Potential Carrying Capacities for Trekking and Ice-Climbing in Hunza

Activity	Standards (Persons/d/ ha)	Extent (ha)	Current (p/peak day)	Potential (p/peak day)
1. Trekking	10-40	3,252	32,520	130,080
2. Ice-climbing	0.05-0.1	61,350	3,068	6,135

9
Summary, Conclusions, and Recommendations

Key Questions

Some of the key issues that have emerged from the foregoing analysis are given below.

- How can tourists be encouraged to venture deeper into Kalam and Hunza, to enjoy pristine natural assets, and to avoid saturating the resorts in Kalam and the reception areas in Hunza?
- Should the existing resort settlement in Kalam and the reception areas in Hunza remain tourist destinations in themselves, or become mainly staging areas for further excursions?
- How can more organised tourism be encouraged in Kalam in order to reduce coming overloads in resorts?
- How can more organised trekking be encouraged in Hunza in order to reduce the coming overload on the nearby trails?
- In Kalam, more local ownership and management of tourism facilities would enhance retained income and increase local jobs and markets for local products, further ensuring that tourists remain welcome. To what extent can local ownership and management be promoted, in consistence with other objectives for fairly rapid sustainable development? and how?
- In Hunza, most of the tourism service industry is owned by locals, who neither sell land nor allow outsiders to build hotels or restaurants. While continued local ownership and management are highly desirable, how can facilities and organisation be upgraded to meet the increased tourist loads?
- In Hunza, there are secondary schools for boys and girls, and English is taught at the primary level. Education is highly desirable, but the local language of Hunza is vanishing, as it does not have a written form. How can local culture be preserved in the face of rising tourism?

Main Recommendations

Developing Interior Assets

Kalam. Some prime tourism assets in the interior of Kalam, such as Mahodhand, Andrap, and Kundlao Dhand, are well-kept secrets, known only to a few anglers.

- Develop and launch a communication strategy to promote prime tourism assets in the interior of Kalam.
- Evolve and implement a development plan for interior tourism assets, based on government investment in trunk infrastructure, community management of common property, and private investment in profit-oriented activities.

Hunza. Some prime tourism assets in the interior of Hunza, such as Borli Lake, are well-kept secrets, known only to a few trekkers.

- Develop and launch a communication strategy to promote prime tourism assets in the interior of Hunza.
- Evolve and implement a development plan for interior tourism assets, based on government investment in trunk infrastructure, community management of common property, and private investment in profit-oriented activities.

Avoiding Risks of Saturation in Resorts

The resort settlements are located near scarce arable land. Losing precious cultivated land to infrastructure to meet the occasional peak demands of seasonal and fluctuating tourism is not a wise option.

- Develop village land-use plans for land-use control, in the existing resort settlements. through an exercise in which the whole village community participates.
- Develop and implement plans to build new resort settlements, or extensions of existing ones, away from Class I and II arable soils, catering to the full range of income groups among the tourists.

Encouraging Organised Group Tourism in Kalam

Carrying capacities for group rural recreation are considerably higher at every level of infrastructure provision than for individual rural recreation.

- Develop a system of economic incentives, uniformly operated by the tourism service industry, to promote group tourism.

Encouraging Litter Management Campaigns in Hunza

Carrying capacities for trekking are considerably nigher at every level of infrastructure provision if trekking debris can be managed.

- Develop a system of rules and penalties, uniformly operated by the tourism service industry, to prevent littering and promote waste collection and proper disposal by group and individual trekkers.

Promoting Local Ownership and Management in Kalam

Local ownership and management can result in better management of facilities and environmental assets, because of residents' long-term interest in maintaining assets, compared to non-resident tourism operators. In Hunza, a local tourism industry has developed, whereas in Kalam locals lease out land for facilities owned and managed by outsiders. The key differences probably relate to credit and management training in tourist facilities.

- Develop and implement a preferential credit access plan for Kalamis, especially for interior assets.
- Provide Kalamis with preferential access to courses at the Hotel Management Training Institute.

Upgrading Local Ownership and Management in Hunza

Local ownership and management can result in better management of facilities and environmental assets, because of residents' long-term interest in maintaining assets, compared to transient, non-local tourism operators. In Hunza, a local tourism industry has developed but can be further promoted.

- Develop and implement a preferential credit access plan for Hunzakuts in the tourism trade, especially for remote assets in the interior of Hunza.
- Provide Hunzakuts with preferential access to courses at the Hotel Management Training Institute.

Preserving Local Cultural Heritage in Hunza

Local language and its dialects are in danger of being swamped by English and Urdu.

- Develop and implement a plan with anthropologists, folk heritage experts, and others for regular cultural folk shows and exhibitions for tourists, linking economic rewards with cultural preservation.

A Sustainable Development Strategy

A sustainable development strategy for mountain tourism should have at least four aspects.

- Planning: knowledge acquisition, consensus generation, and decision-making
- Institutional and organisational development
- Controls: legislative, regulatory, and economic
- Promotion: information, communication, and education

Planning

"*Planning*", says John Yost in his Tourism Development Strategy Project for NWFP, "*is the single most important need for tourism development in the NWFP. An environmentally and culturally sensitive master plan is urgently needed for areas under pressure from tourism.*"

Tourism planning should be participated in by, and for, the local communities which have traditional rights to common property over much of northern Pakistan. Only such participatory planning has much chance of implementation.

Village communities can be taught the techniques of tourism planning. A topical Participatory Rural Appraisal (PRA) of tourism has recently been carried out by the KIDP with the people of Kalam *Bazaar*. Participatory Rural Appraisal is also a common technique of the Agha Khan Rural Support Programme, which encourages self-reliant planning and implementation. Such exercises should be replicated throughout northern Pakistan.

Institutional and Organisational Development

The topical PRA of tourism should promote new and strengthen existing village organisations for tourism management.

A main element of the strategy should be reorienting federal and provincial agencies to become more open to the priorities of local communities.

Intermediary NGOs may have a critical role to play in promoting such reorientation among government agencies responsible for tourism.

Controls to Avoid Risks of Saturation

Control methods fall into two conceptual categories: regulation of volumes by rules and by prices.

Regulation by rules has the following broad elements:

- permits,
- queuing,
- space allocation to activities, and
- time rationing.

In the USA, for example, trekkers have to obtain permits from the Bureau of Land Management in advance; last-minute trekkers have to wait in a queue for permits; the controlling authority gives licenses for fishing and allocates areas for various types of activities (speed boats versus canoes and kayaks); and it may alternatively allocate days of the week for certain types of activities on a trek or stretch of river.

Regulation by prices has the following broad elements:

- pricing,
- differential pricing,
- taxes, especially to cover externalities, and
- penalties.

Access to a surprising number of public goods is not priced, which is why they are over-used and abused. In a society with large differentials in income, it is justifiable to charge more to higher income groups for access to public environmental goods. Income groups are frequently easy to identify on the basis of the transport used by them. Taxes are needed that externalise impact by users. However, to be fully effective in promoting repair and maintenance of tourism assets, more taxes need to be collected and returned to the communities bearing the costs in a direct and transparent manner. Penalties

can control littering and are frequently more acceptable than jail sentences fo. minor damage to environmental assets commonly used by tourists and local communities.

Promotion

Tourism in the north is still Pakistan's best-kept secret, despite looming saturation in selected localities. In fact, risks of saturation in a few well-known resorts can be avoided by promoting more distant localities currently ignored or underutilised.

Among the prime instruments are:

- widespread Information dissemination,
- specific communication campaigns,
- incorporation in education co-curricula,
- direct subsidies to promote investment, and
- indirect subsidies (import duty concessions, etc).

10
A Monitoring Framework for the Carrying Capacity of Mountain Areas in Northern Pakistan

Introduction

A monitoring and evaluation system is an essential part of the development process, particularly in the case of the tourism sector where community development is a major concern. However, this is also the weakest point of the system. The only type of evaluation that exists is the end of project evaluation for development projects. A monitoring system that can act as a mechanism to guide the development process and identify constraints and critical issues, such as degradation of resources of disbenefit to the community, by following a particular method or course of development does not exist.

Even for public sector projects, the only form of monitoring pursued is that of quarterly or annual reports on the status of project activities. It does not possess a mechanism to solve on-the-spot problems or reverse a critical situation.

If the community is to benefit from the development of the tourism sector, certain preconditions will have to be met. As a first step, the key issues will need to be identified in the context of the state of the existing resources. This will be followed by

- a list of strategic thrusts,
- the establishment of measurable parameters for monitoring environmental and socioeconomic development, and
- operational processes.

Key Issues

Regarding the existing status of tourism resources (already discussed), the key issues that need to be addressed are the following.

- How can tourists be encouraged to venture deeper into the areas to enjoy the pristine natural assets and avoid saturating the resorts in Kalam and the reception areas in Hunza?

- How can the resort settlement in Kalam and the reception areas in Hunza be converted from tourist destination areas pure and simple into staging areas for further excursions?
- How can organised tourism be encouraged to reduce overloads in the Kalam resort area?
- In Kalam, there is a need to promote local ownership and management of tourism facilities in order to prevent leakages of income and increase local jobs and markets for local goods. What should be the degree of local ownership and control to ensure sustainable development?
- In Hunza, most of the tourism service industry is owned by locals who neither sell land nor allow outsiders to build hotels or restaurants. While local ownership and control of resources are desirable, the question arises as to the best way to upgrade facilities and organisations to meet the increased tourist load?
- How can the cultural heritage (both language and culture) of the mountain communities be preserved?
- To what extent do tourist activities bear upon the level of inflation in the area in terms of an increase in the cost of living?
- In what manner and to what extent do tourist activities affect changes in the ecosystem?
- What percentage of the income from tourism goes to locals, and how much of it leaks out?
- How has tourism affected the socioeconomic status of the local people over time?

These are some of the key issues that have to be addressed through monitoring indicators.

Strategic Thrusts for the Monitoring Framework

The strategic thrusts will have to be made through the critical factors listed earlier, namely:

- critical resources,
- critical institutions,
- critical infrastructure, and
- factors critical for social development.

It will involve the following.

- Making an inventory of the existing resources.
- Specifying standards for resources in order to identify the critical resources. This will involve the carrying capacity also.
- Specifying the achievable level or resource use and the present level of use.
- Identifying institutions that are critical for the success of tourism. These will include the supply-side factors and the involvement of the community in the supply of goods and services. These institutions balance the demand and supply factors and serve other critical functions.
- Identifying the infrastructure that is critical for success and comparing it with what already exists.
- Identifying alternative opportunities and management actions and selecting the best among them.
- Identifying the existing state of development of socioeconomic indicators and determining the change in attitudes that will be needed to bring about changes in these indicators.
- Selecting indicators of:
    - change in the status of resources,
    - status of socioeconomic conditions of population,
    - employment/income from tourism,
    - status of institutions that are critical for development of tourism, and
    - community participation and involvement in the tourism activities and benefits therefrom.
- Setting up a system with a specified institution to monitor the specific indicators evolved.

Monitoring Indicators

The indicators used for monitoring need to be of two types, namely, qualitative and quantitative, which in conjunction will reflect the status of resources, the impact on local communities, and the linkages between the two.

Subsequent to the formulation of the indicators, a methodology for implementation will have to be laid out and operationalised. This may include household surveys, interview of hotel/restaurant and transport owners, travel agents, and so on to monitor the changes and measure these against the standards evolved from the baseline data.

Some of the indicators being recommended may be used to monitor the resources, the communities, and the linkages between the two.

Resources and Tourism

Although Pakistan has a large variety of tourism assets, they are concentrated on only a few sites. This may be due to the non-existence of critical infrastructure or the perceptions of tourists. The information on infrastructure should include not only the number of hotel rooms available but also the occupancy rate (over a year) of these, as well as any other accommodation used by tourists. The latter would include local houses that take in paying guests and the use of camps, tents, and so on. The monitoring indicators should thus reflect such aspects.

The indicators may be the following:

- number of visitors by season and destination,
- total number of rooms available by type and season (comprehensive),
- occupancy rate by season and destination,
- percentage of days spent by season and destination, and
- percentage of days spent by type of accommodation.

Inflationary Pressure

Inflationary pressure is a common complaint of the area and is reflected in high prices and shortages of essential commodities (luxuries are not even considered here, as they are not available in the local area). National reported data already show the cost of hotels to have increased faster in the Northern Areas compared to the rest of the country. The high prices can be termed 'scarcity rent'. Often the price of a room is lower off season, while at times hotels may be closed altogether, as the cost of keeping them open is too high. The carrying capacity can also be deduced from these indicators. The following indicators can be used to monitor inflationary conditions:

- average price of a room by season,
- number of days the rooms are closed, and the number of rooms that are closed,
- average price of meals,
- wages of servants in the hotels/restaurants,

- cost of porters and guides,
- cost of transport,
- trekking fee,
- camping and other costs (specify), and
- percentage of lodge owners, hotels, and restaurants reporting profits from tourism and the amount of such profit.

Quality of Service and Resources Provided

Another aspect that needs to be monitored is the quality of service and resources that are provided. This is also related to the price charged and the carrying capacity of the area. It is necessary to gauge the perceptions of tourists so that plans can be drawn up accordingly and efforts made to provide linkages with the community through the involvement of the community in improving the quality. Some efforts towards conservation can also be undertaken here. The indicators suggested are the following and may be graded as good, fair, or poor.

- Quality of rooms
- Quality of facilities
- Quality of service provided
- Quality of roads
- Quality of trails
- Quality of treks
- Quality of camping grounds
- Quality of water

Besides these, information on the facilities that the hotels possess and provide may also be evaluated. The indicators for these are:

- availability of electricity,
- availability of telephones,
- availability of radios and television,
- the frequency with which the bed linens etc are changed, and
- the training and behaviour of service personal.

Environmental Impact

Tourism is said to have a direct impact on the state of the resources and the environment. This impact is felt on the critical resources as well as on the

state of the environment (land, water, and air). However, the overall impact may be the result not only of tourist activities but also of the behaviour of the local communities and all the actors in the tourism sector, such as tour operators, hoteliers/catering industry and service sector, who together have a considerable impact on resources. In Kalam, grazing of cattle by nomads who come down from the mountains adversely affects the state of the forest cover. Similarly, the forest cover in Hunza is being depleted by the free grazing of animals even in the Khunjerab National Park. More recently, there has been an emphasis on the need for conservation of forest cover and on reforestation, particularly social forestry. The use of alternative sources of energy also reflects a concern for conservation and a change in habits. The following indicators are suggested to capture the environmental impact.

- Percentage of hotels/lodges using firewood, kerosene, gas, and electricity for lighting, heating, and cooking, by season
- Average consumption of fuelwood and other sources of energy per hotel/lodge per season
- Percentage of hotels/lodges reporting a decrease in the use of firewood
- Percentage of tour operators using kerosene or alternative sources of energy
- Per capita use of firewood per annum
- Percentage of households using alternative sources of energy
- Average rate of depletion of forest resources
- Average rate of reforestation undertaken by forest department
- Percentage of local population involved in social forestry programmes
- Percentage of households using fuel-efficient stoves
- Percentage of households reporting better watershed management
- Percentage of population reporting less open grazing of cattle
- Percentage of population staff-feeding cattle
- Number of cattle of nomads grazing in Kalam by season
- Number of cattle grazing in Khunjerab National Park by season

The mountain areas under study were once rich in wildlife which is fast becoming extinct. Human activity in the form of hunting and commercial activities has led to depletion of the wildlife in the area. It also needs to be monitored. The indicators recommended are as follow.

- Number of wildlife species (specify the type) presently found
- Number of hunters of wild game by seasons
- Is there any increase in the existing stock of endangered wildlife through the presence of game reserves and the national park? Specify the number.

The Swat River, which flows through Kalam, is already threatened due to the dumping of waste and other household refuse. To determine the environmental impact due to human activity, the following indicators are suggested.

- Quality of water in rivers and creeks
- Quality of glaciers
- Littering affecting campsites, treks, trails, scenic spots, hotel/lodge areas, dining areas, and villages
- Where is the solid waste deposited?
- Are there any sanitation facilities available for tourists?
- Percentage of households with sanitation facilities
- Are there any public sanitation facilities? If not, what do people use?
- Percentage of tourists reporting too many tourists by destination and trek. (This is to determine overcrowding and the existing carrying capacity.)
- Percentage of lodge owners reporting that tourists follow the code of conduct
- Percentage of tourists reporting hotel/lodge owners follow the code of conduct
- Percentage of households reporting a clean village

Community Development Indicators

If tourism is to be viewed as a vehicle for community development, then it will be necessary to first assess the existing status of socioeconomic and behavioural indicators and then look at the impact of tourism on the community and determine what has been the benefit to the local community, given the acknowledged facts that local communities bear the direct burden of tourist activities and that resources are limited. The use of forest resources - a major factor in this community-has already been discussed under the heading of environment. Development is expected to bring about changes, not only in the state of resources, institutions, and infrastructure but, more importantly, in people's lifestyles. This is reflected in time-saving opportunities provided by new technology and the expansion of infrastructure (roads, markets, etc) Some of the indicators that may be used are the following.

- Percentage of households reporting better protection of cultural sites
- Percentage of people reporting better protection of religious sites
- Percentage of households reporting more crime and theft in the community

- Percentage of households reporting changes in cultural practices
- Decreases in the rate of population growth
- Improvement in the rate of literacy by sex
- Improvement in health indicators such as female and infant mortality rates
- Percentage of households with clean drinking water
- Percentage of households reporting less time needed for:
  - water collection,
  - travelling to schools and health centres, and
  - cooking (due to improvement stoves).
- Decrease in the number of households in the poorest category

Gender Concerns

Development activity should be conducted so that women also benefit. Though women may not directly be involved in the tourism sector, they should not be excluded from the overall development of the area. The indicators of this aspect of development are:

- is there any decrease in women's work load?
- do women have more time for themselves?
- are there any training facilities available to prepare women for work similar to that performed by men?
- percentage of households where women are involved in non-traditional work,
- percentage of households where women are involved in marketing or entrepreneurship activities,
- percentage of women targeted in development work as suppliers of services,
- percentage of women who earn income for work provided in non-traditional areas,
- percentage of households where women take decisions in household affairs and other matters, and
- percentage of households where women spend their own income.

These answers will help determine any change in the status of women within the household and the community.

Economic Impact

Economic benefits are an important part of development impact. The mountain areas suffer from high unemployment and out-migration of labour due to lack of income-earning facilities. Tourism is seen to benefit the national economy through its generation of foreign exchange and contribution to GNP and GDP. However, it is important to determine the economic benefits that accrue to local communities and the income and employment generated therein. The indicators to assess these aspects are as follow.

- List of major sources of income and means of livelihood of the population
- Per capita income and distribution of income
- Share of income from crops, livestock, services (government and private), tourism, and other activities (specify)
- Percentage of households with members employed in the tourism industry
- Wages of porters, guides, and others in the tourism industry
- Percentage of households reporting sale of home goods to the tourist and non-tourist market
- Average days worked for tourism by season
- Ratio of income from tourism to total income
- Ratio of local labour to non-local labour employed in the tourism industry
- Percentage of local owners to non-local owners of hotels/lodges, restaurants, and transport used by tourists
- Percentage of the local population involved in the retail trade sector catering to tourists
- Percentage of households reporting tourism is good for the community
- Percentage of households reporting tourism has led to increases in income
- Percentage of households reporting food deficits due to tourists by season
- Percentage of households reporting labour shortages due to migration
- Percentage of households reporting reinvestment of income within the community

Linkages between Tourism and Community

Sustainability of any activity depends on the support and linkages that exist with the community. Tourism is seen to possess linkages with the hotel, transport, industry, and service sectors at the macro-level. However, the linkages with the local community needs to be determined so that plans can be evolved to strengthen these linkages where possible. In this area, linkages

can be established with the hotel, transport, service trade, and cottage industry sectors. But benefits to the community cannot be guaranteed, due to the lack of ownership of assets in some cases and the lack of trained personnel in other cases. However, in the service sector, porters and guides are in most cases locals, as are transport drivers in the inaccessible parts. In Hunza, ownership of lodges and accommodation is, in most cases, in local hands. Land is not sold to non-locals for these purposes. Linkages can be made with the trade the in retail sector where the items for consumption may be supplied by the locals. These include those items that can be grown or developed in the area. Besides these forms, linkages may also be seen in the level of participation of the community in environmental regeneration activities and in raising awareness of environmental impact. This is where partnerships can be forged between the communities and the government departments or projects in order to conserve and utilise resources, particularly forest resources, and save the mountain, glacier, and river wealth of the area. Some of these have been covered by the indicators of economic activity, and others are suggested below.

- Percentage of households supplying products to tourists by season and type of product
- Value of the products supplied to tourists
- Percentage of food and other goods bought by hotels/lodges from local communities
- Ratio of local supplies to total needs of hotels/lodges and restaurants,
- Percentage of the population of locals involved in hotels/lodges, restaurants, and transport sector as labour
- Share of local food and other items used by tourists bought by tour operators from local communities by type of product and season
- Percentage of households involved in a cottage or other type of industry catering to the needs of tourists
- Percentage of households reporting occupational linkages with tourism
- Percentage of the population involved in reforestation to meet needs of hotels/lodges for firewood
- Percentage of the population made aware of environmental impact through tourism and activities of the Alpine Club or others involved in clean-up operation
- Percentage of porters/guides and local people aware of environmental codes in mountain areas

Operationalising the Process

In order to operationalise the process, institutions, personnel, and infrastructure will be required. The personnel will have to be trained to evolve and implement the indicators identified and then monitor them regularly. This will have to be an on-going process; to ensure the sustainability of such an activity, the community will have to be involved as active participants.

Annexure 1: Tabulated Response to Questionnaire

a. Local residents
b. Tourism Service Industry
c. Tourists

Responses of Quota Sample of Interviewees (Per Cent)

Factors	Negli-gible	Low	Mode-rate	High	Very high
11	12	13	14	15	16
01. Physical Plant 011. In the last five years, has the growth of hotels, restaurants, and other tourist facilities been...?	3	0	0	26	68
012. Improvement in the quality of tourism facilities has been ...? In case of deterioration, write D here	3	6	16	45	13
013. Has the impact of tourism on local infrastructure (local road, streets, water supply, solid waste disposal) been generally good or bad?	Good 74		Bad 16		
014. What has been the magnitude of the impact of tourism on local infrastructure (local roads, streets, water supply, sewerage and solid waste disposal)?	6	23	39	13	10
02. Economic 021. To what extent has the income of the area increased in the last five year?	3	3	23	42	10
022. What proportion of income increase is due to tourism?	<5% 3	<20% 13	c. 50% 26	>70% 19	>95% 23
023. What proportion of tourism income has remained in the area?	<5% 10	<20% 35	c. 50% 29	>70% 10	>95% 3
024. To what extent has tourism increased the income of the local poor? If tourism has widened the gap between the local rich and poor, write D here	16	35	29	3	0
025. How would you describe the extent of jobs created by tourism?	10	23	35	19	3

Factors	Negli-gible	Low	Mode-rate	High	Very high
026. What is the extent of the shift from other economic sectors (farming, forestry, etc) to tourism-related professions in the area?	19	21	16	16	0
027. To what extent are tourism facilities owned by local residents?	19	42	16	10	0
028. To what extent are tourism facilities managed by local residents?	16	48	16	6	0
029. To what extent are local goods consumed in tourism?	3	23	42	16	0
03. Social 031. What is the extent of tourism impact (specially tourism-related jobs) on local building materials, artefacts, consumption patterns, etc	13	10	16	35	10
032. Has there been any impact on traditional family values? If so, to what extent?	13	39	19	13	0
033. Has there been any change in the role of fathers in the family owing to tourism?	23	35	19	3	0
034. Has there been any alteration in the role of females?	58	13	10	3	0
04. Morals 041. Have you heard of any case of prostitution? Y/N If so, to what extent is it linked to tourism?	not linked		some-what linked 13	3	compl-etely linked 3
042. Has there been an increase in crime in the area?	48	26	3	3	0
043. To what extent are local people shocked by the behaviour of tourists (in clothing, living styles)?	not at all shock-ed 16	little shock-ed 45	some-what shock-ed 13	shock-ed 13	very shock-ed 3
044. What is the general attitude of local people towards tourists?	very negati ve 0	negati ve 3	neutral 13	posi-tive 32	very posi-tive 42

Factors	Negli-gible	Low	Mode-rate	High	Very high
045. Has there been any impact on the religious beliefs of local people owing to tourism? To what extent?	81	3	0	0	0
046. Has there been any change in the morality of the local people owing to tourism? If so, to what extent?	29	16	23	6	10
047. Has there been any increase in drug abuse? If so, to what extent?	29	29	13	10	0
05. Cultural 051. Has there been any impact on the local language? If so, to what extent?	35	29	16	6	0
052. Has there been any impact on clothing styles and fashions, specially among the local youth?	16	13	35	23	3
053. What is the extent of tourism impact on local traditions such as feasts, folklore, performing arts, and crafts? Signify here whether you think it good [G] or bad [B]	29	16	19	10	3
054. Do you think that more tourism would be ..... for the area?	very bad 0	bad 6	OK 10	good 6	very good 71
06. Physical Environment 061. Have you observed any increased pollution of water, e.g., lakes, streams, and rivers, in the last five years?	26	26	26	16	6
062. How much is attributable to tourism-generated waste, compared to all other reasons?	10	13	16	32	6
063. Have you observed any pollutions of air in the last five years?	10	35	29	23	0
064. How much is attributable to tourist vehicles?	6	16	29	42	0
065. Have you observed any increase in solid waste in the last five years, e.g., bottles, food packing, polythene?	6	26	19	26	19
066. Have you observed any increase in wood-cutting and destruction of vegetation in the last years?	3	19	16	29	19

Factors	Negli-gible	Low	Mode-rate	High	Very high
067. How much is attributable to the fuelwood demands of tourists?	13	13	26	16	16
068. Have any animals, fish, plants and flowers become more rare or have they disappeared from the area in the last five years?	less frequent	rare	vulnerable	endan-gered	extinct
068a. land animals	26	29	16	10	3
068b. fish	13	26	39	10	0
068c. plants and flowers	65	10	3	3	0
069. How much is attributable to hunting/fishing by tourists?	10	13	19	29	10
07. Image					
071. Have landslides increased in the last five years?	26	29	29	0	0
072. How much is attributable to construction and widening of roads and tourist trails, compared to deforestation and overgrazing?	35	29	13	6	3
073. Have you experienced any increase in physical or visual density of population during the tourist seasons?	0	0	3	32	52
074. Have you experienced increase in noise and disturbance during the tourist seasons?	0	0	6	29	52
08. Government Investment in tourism-related trade					
081. Have any improvements in infrastructure and facilities occurred in the last five years? in electricity	39	13	16	19	3
in telephone	19	19	16	23	3
in roads	3	19	26	32	13
in public transport	0	10	16	32	29
082. How much have locals benefitted from these?	0	3	10	55	29

List of Tour Operators

01. Nazir Sabir Expedition
P.O. Box No. 1442
Islamabad, Pakistan
Tel: 853672

02. Sitara Travel Consultant
Sitara Lodge
163 A, Bank Road
P.O. Box NO. 63
Rawalpindi, Pakistan
Tel: 564750, 564751

03. Karakoram Tours N.A. (Pvt) Ltd.
1 Baltoro, Street No. 19
Shalimar 7/2
Islamabad, Pakistan
Tel: 829120

04. Travel Walji's (Pvt) Ltd.
10 Khayaban-e-Suharwardy
P.O. Box No. 1088
Islamabad, Pakistan

05. Adventure Tours Pakistan
P.O. Box No. 1780
Islamabad, Pakistan
Tel: 862505, 252759

06. Adventure Travel
15 Wali Centre
86 South Blue Area
Islamabad, Pakistan
Tel: 819727, 212490

07. Himalaya Trek & Tour
112 Rahim Plaza
Mari Road, Rawalpindi
Pakistan
Tel: 563014

08. Orient Extreme
62/10 Bank Road
Rawalpindi, Pakistan

09. Hunza Tour & Trek
343/D, Satellite Town
P. O. Box No. 38
Rawalpindi, Pakistan
Tel: 420530

10. Mountain Movers
Airport Road
Near Park Hotel
Gilgit, Pakistan

11. Hindukush Trails
139 Street No. 43
F-10/4, Islamabad
Tel: 857593

12. Travel Wide Services
16 Saeed Plaza
Blue Area, Islamabad
Tel: 811301, 811302

13. Trans-Pakistan Adventure Services
P.O. Box No. 2103
Muzaffar Chamber, Blue Area
Islamabad, Pakistan
Tel: 214796

14. Pameer Tours
Near PIA Booking Office
P.O. Box 545
Airport Road, Gilgit
Tel: 3939

15. Baltistan Tours
Link Road Skardu
Tel: 626

16. Sehrai Travel & Tour
6 Saddar Road

17. Hunza Travel Services
45 Al-Abbas Market
Adamjee Road, Rawalpindi
Tel: 564782

18. Mountain Travel Pakistan
P.O. Box No. 621
Satellite Town
Rawalpindi, Pakistan

19. Orient Travels
Safee House
Dr. Zia Ul Din Ahmed Road
Karachi
Tel: 214416, 214147

20. Shangrila Tours & Travels
H-143, Maree Road
Rawalpindi, Pakistan

21. Khyber Tourism
5 Hazrat Shah Plaza
Near Galaxy Hotel
Khaber Bazar, Peshawar
Tel: 217782

22. Indus Guides
7/E, Egerton Road
Lahore, Pakistan
Tel: 304190, 304196

23. Adventure Photo Safaris
Tour Consultants
P.O. Box No. 1919
Flat No. 15 Abbas Centre
87 West Blue Area, Islamabad
Tel: 213929

24. Javaid Travels
Room No. 10 Mezzanine Floor
B-A, 80-A, Pothohar Plaza
Near PIA Building, Islamabad

25. Exclusive Tours
Shahabad Centre
65 temple Road, Lahore
Tel: 52558

26. Himalaya Nature Tours
Gojal House, Riaz Road
Gilgit, Pakistan
Tel: 2617

27. Rakaposhi Tours
12-C, 31st Commercial Street
Phase 5, Defence Housing
Authority, Karachi
Tel: 577635

28. Zeb Travels
Uni-Plaza, Ground Floor
Hasrat Mohani Road
I.I. Chundrigarh Road
Karachi
Tel: 2411204, 2417054

29. Bukhari Travel & Tourism
Services' Shopping Arcade
Sheraton Hotel, Karachi
Tel: 527745, 511433

30. Khamisani Services Ltd.
Hotel Metropole, Club Road
Karachi, Pakistan
Tel: 520589, 522621

31. Bonds' Travel Bureau
Palace Hotel, C-2
Dr. Zia Ul Din Ahmed Road
Karachi, Pakistan
Tel: 512321, 522325

32. Columbus Travel Services
Altaf Hussain Road, New Chali
Karachi, Pakistan
Tel: 212218, 218087

33. TDCP
c/o Flashmans' Hotel, The Mall
Rawalpindi

34. PTL
c/o Flashmans 'Hotel, The Mall
Rawalpindi

35. Adventure Centre (Pvt) Ltd.
(Ikram Baig)
Shahrah-e-Quaid-e-Azam
P.O. Box No. 516
Gilgit 15100, Pakistan

Hunza

Responses of Quota Sample of Interviewees (Per Cent)

Factors	Negli-gible	Low	Mode-rate	High	Very high
11	12	13	14	15	16
01. Physical Plant					
011. In the last five years, has the growth of hotels, restaurants, and other tourist facilities been...?	5	5	10	38	24
012. Has the improvement in the quality of tourism facilities been ...? In case of deterioration, write D here	0	5	14	38	24
013. Has the impact of tourism on local infrastructure (local roads, streets, water supply, sewerage, solid waste disposal) been generally good or bad?	Good 86		Bad 0		
014. What has been the magnitude of the impact of tourism on local infrastructure (local roads, streets, water supply, sewerage, and solid waste disposal)?	5	29	19	29	5
02. Economic					
021. To what extent has the income of the area increased in the last five years?	0	10	38	19	14
022. What proportion of income increase is due to tourism?	<5% 5	<20% 10	c. 50% 19	>70% 43	>95% 5
023. What proportion of tourism income has remained in the area?	<5% 0	<20% 0	c. 50% 10	>70% 10	>95% 53
024. To what extent has tourism increased the income of the local poor? If tourism has widened the gap between the local rich and poor, write D here	10	29	33	10	0
025. How would you describe the extent of jobs created by tourism?	14	10	38	19	0

Factors	Negli-gible	Low	Mode-rate	High	Very high
026. What is the extent of the shift from other economic sectors (farming, forestry, etc.) to tourism-related professions in the area?	29	19	19	10	0
027. To what extent are tourism facilities owned by local residents?	0	0	10	0	71
028. To what extent are tourism facilities managed by local residents?	0	0	10	5	71
029. To what extent are local goods consumed in tourism?	0	5	52	10	19
03. Social 031. What is the extent of tourism impact (specially tourism-related jobs) on local building materials, artefacts, consumption patterns, etc.	0	19	29	33	10
032. Has there been any impact on traditional family values? If so, to what extent?	33	24	14	10	0
033. Has there been any change in the role of fathers in the family owing to tourism?	43	24	10	5	0
034. Has there been any alteration in the role of females?	29	14	24	19	0
04. Morals 041. Have you heard of any case of prostitution? Y/N If so, to what extent is it linked to tourism?	not linked 10	0	some-what linked 0	0	com-pletely linked 0
042. Has there been an increase in crime in the area?	71	5	0	0	0
043. To what extent are local people shocked by the behaviour of tourists (in clothing, living styles)?	not at all shock-ed 71	little shock-ed 45	somew hat shock-ed 0	shock-ed 0	very shock-ed 0
044. What is the general attitude of local people towards tourists?	very negati-ve 0	negati-ve 0	neutral 14	positi-ve 29	very positi-ve 52

Factors	Negli-gible	Low	Mode-rate	High	Very high
045. Has there been any impact on the religious beliefs of local people owing to tourism? To what extent?	86	0	0	0	0
046. Has there been any change in the morality of the local people owing to tourism? If so, to what extent?	67	5	0	5	5
047. Has there been any increase in drug abuse? If so, to what extent?	67	10	10	0	0
05. Cultural 051. Has there been any impact on the local language? If so, to what extent?	19	24	19	5	19
052. Has there been any impact on clothing styles and fashions, specially among the local youth?	5	19	29	24	10
053. What is the extent of tourism impact on local traditions, such as feasts, folklore, performing arts, and crafts? Signify here whether you think it good [G] or bad [B]	24	29	19	10	5
054. Do you think that more tourism would be ..... for the area?	very bad 0	bad 5	OK 10	good 10	very good 71
06. Physical Environment 061. Have you observed any increased pollution of water, e.g., lakes, streams, and rivers, in the last five years?	62	19	0	10	0
062. How much is attributable to tourism-generated wastes, compared to all other reasons?	62	0	10	0	0
063. Have you observed any pollution of air in the last five years?	43	29	19	0	0
064. How much is attributable to tourist vehicles?	48	14	5	10	10
065. Have you observed any increase in solid waste in the last five years, e.g., bottles, food packing, polythene?	43	10	19	19	0

Factors	Negli-gible	Low	Mode-rate	High	Very high
066. Have you observed any increase in wood-cutting and destruction of vegetation in the last five years?	71	10	0	0	5
067. How much is attributable to fuelwood demand of tourists?	57	10	0	0	0
068. Have any animals, fish, plants, and flowers become more rare or disappeared from the area in the last five years?	less frequent	rare	vulne-rable	endan gered	extinct
068a. land animals	14	52	10	5	0
068b. fish	10	24	10	5	0
068c. plants and flowers	71	0	0	5	0
069. How much is attributable to hunting/fishing by tourists?	57	0	0	0	0
07. Image					
071. Have landslides increased in the last five years?	38	29	10	0	0
072. How much is attributable to construction and widening of roads and tourist trails, compared to deforestation and overgrazing?	62	14	0	0	0
073. Have you experienced any increase in physical or visual density of population during the tourist seasons?	0	0	10	29	43
074. Have you experienced increase in noise and disturbance during the tourist seasons?	0	33	24	19	5
08. Government Investment in Tourism-related trade					
081. Have any improvements in infrastructure and facilities occurred in the last five years? in electricity	71	14	0	0	0
in telephone	48	29	10	0	0
in roads	5	10	38	14	19
in public transport	5	5	10	43	24
082. How much have locals benefitted from these?	0	0	10	57	14

Note: may not add up to 100, because non-responses are excluded

ICIMOD

ICIMOD is the first international centre in the field of mountain development. Founded out of widespread recognition of environmental degradation of mountain habitats and the increasing poverty of mountain communities, ICIMOD is concerned with the search for more effective development responses to promote the sustained well being of mountain people.

The Centre was established in 1983 and commenced professional activities in 1984. Though international in its concerns, ICIMOD focusses on the specific, complex, and practical problems of the Hindu Kush-Himalayan Region which covers all or part of eight Sovereign States.

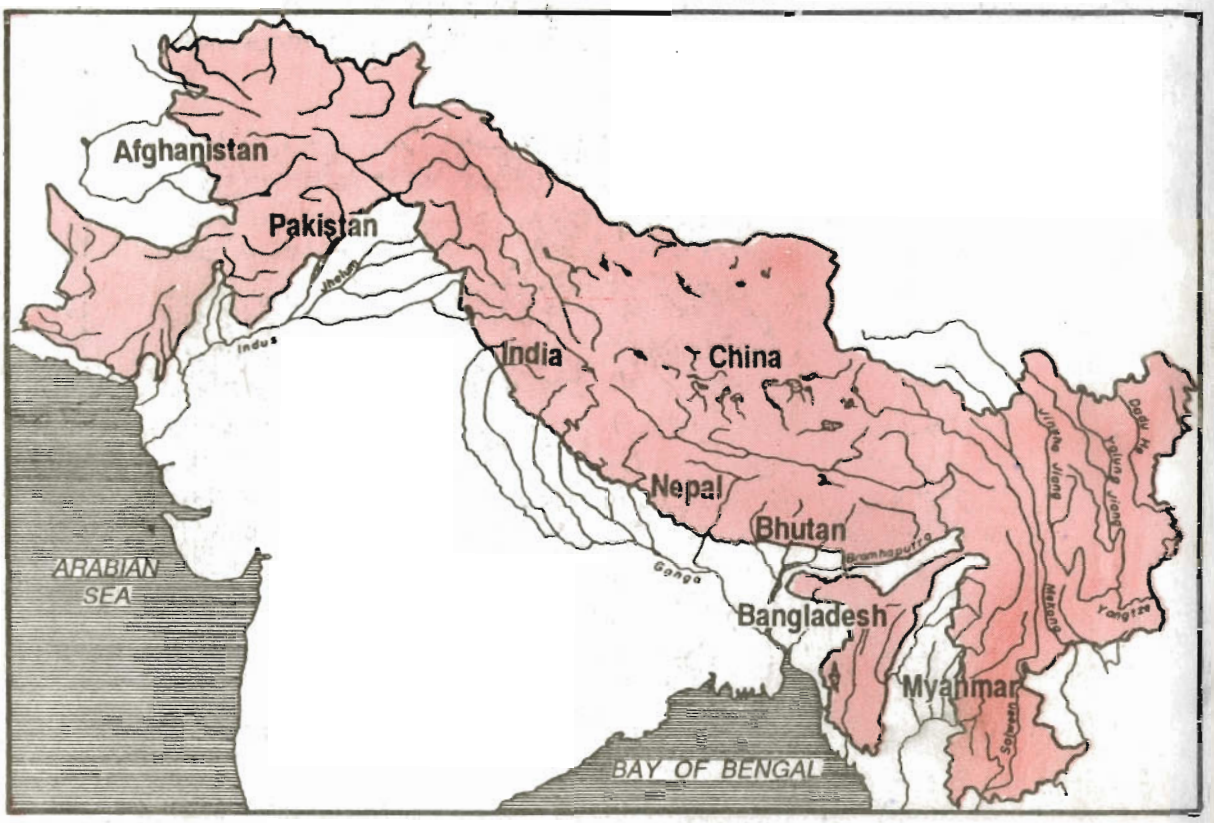
ICIMOD serves as a multidisciplinary documentation centre on integrated mountain development; a focal point for the mobilisation, conduct, and coordination of applied and problem-solving research activities; a focal point for training on integrated mountain development, with special emphasis on the assessment of training needs and the development of relevant training materials based directly on field case studies; and a consultative centre providing expert services on mountain development and resource management.

MOUNTAIN ENTERPRISES AND INFRASTRUCTURE DIVISION

Mountain Enterprises and Infrastructure consistitutes one of the thematic research and development programmes at ICIMOD. The main goals of the programme incude i) gainful enterprise development and income generation; ii) harnessing mountain specific advantages; iii) infrastructural development (social and physical); iv) sustainable energy resources for mountain development; and v) capacity building in integrated mountain development planning.

PARTICIPATING COUNTRIES OF THE HINDU KUSH-HIMALAYAN REGION

- Afghanistan
- Bhutan
- India
- Nepal
- Bangladesh
- China
- Myanmar
- Pakistan



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