DEVELOPMENT OF UTTARAKHAND

ISSUES AND PERSPECTIVES

G S MEHTA

Development of Uttarakhand : Issues and Perspectives

G.S. Mehta

1999
APH PUBLISHING CORPORATION
New Delhi

Published by:
S.B. Nangia
for **APH Publishing Corporation**
5, Ansari Road
Daryaganj, New Delhi 110 002
Phone: 3274050; 3285807

ISBN 81-7648-099-1

1999

Printed by
Efficient Offset Printers
New Delhi

Preface

In spite of the availability of increasingly larger amount of funds and decentralisation efforts carried out during the past development plans and having significantly larger stock of natural resources and various area specific comparative advantages and opportunities for developing varied categories of economic activities at large scale, the Uttarakhand has remained underdeveloped and the growth of economy has been relatively much lower than the national average. The basic problem with development plans for Uttarakhand is not lack of general awareness about the problems of hill areas, nor the lack of sincerity on the part of the central and state planners, but rather than absence of an integrated and region-specific approach to thinking about, planning for and implementing these development programmes.

Moreover, the planning strategies emphasized for economic development of Uttarakhand in the past were without considering the local conditions and requirements of people. The sectoral plan development approaches were introduced without examining the development potentials of different economic sectors. Adequate recognition was not given to the fact that linkages necessary to the development process do not materialise on their own, nor, even easily, in hill areas, or they do and can be expected to in the plains.

Considering the past experiences of unsatisfactory impact of development programmes it has been felt necessary that a comprehensive planning strategy based on the area specific comparative advantages and opportunities for different potential economic activities which have greater forward and backward development linkages, has to be initiated for Uttarakhand. This approach of development planning would require a detailed base-

line analysis on the aspects related to the pattern of growth and development of economy in general and the development potentials of different economic sectors in the perspectives of local conditions and requirements in particular.

In this context the present study have attempted to analyse the trend of growth and development performance, problems and prospects of different economic sectors on one hand and the impact of different development programmes and developing various social and economic infrastructural facilities on the overall growth and development of Uttarakhand on the other. And finally, a tentative approach of planning for development of different economic sectors has been highlighted.

I am deeply indebted to Prof. T.S. Papola, my Guruji, for encouraging me to undertake this analytical study. I am also extremely thankful to Prof. G.P. Mishra, Director, Giri Institute of Development Studies, Lucknow for suggesting me to utilize the main findings of the research studies completed by the Institute and providing infrastructural facilities. Finally, I would like to thank my colleagues Dr. A. Joshi and Dr. P.N. Pande who were always willing to discuss my problems and offer their suggestions in various stages of completion of the study. Last but not least, I wish to thank Shri Manoharan K. and Shri Devanand S. for handling the word processing work neatly and efficiently.

G.S. Mehta

Contents

List of Tables

1

Introduction : The Economy, Development Approaches and the Level of Backwardness

The problem of backward area development has been a major concern of planning process and so variety of programmes and policies for accelerating the development of these areas has been introduced in the past plan periods. However, during first three Five Year Plans no positive, explicit strategy specifically for the development of backward areas and for removing the imbalances in the growth between different regions was proposed; the implicit hope would be that with the acceleration of economic growth in the country the problem of development of backward areas and regions would be solved automatically or at least sufficiently reduced. However, during Fourth Five Year Plan, the development of backward areas/region was considered as a separate problem and the need of certain policy intervention for developing these areas was increasingly proposed. In this regard a National Committee on Development of Backward Areas was set up by the Planning Commission to review the working of existing plans and to develop tribal sub-plans, plan for hill areas etc. for dealing with the general development problems of these backward areas and for reviewing existing schemes for stimulating economic development in backward areas, tribal and hill areas.

During Fifth Five Year Plan period a separate chapter or Backward and Special Areas including Hill and Tribal areas was included. The plan document focused that the realisation of growth

potentials of the backward areas should be taken up on a priority basis in order to give practical shape to the ideas of egalitarianism and social justice.[1] In regards to achieve the accelerated economic growth with social justice in backward areas the Fourth Five Year Plan had focused a multi-directional Area Development Approach and the backward areas were grouped into two broad categories for evolving proper policy frame and operationalisation of different development programmes: (a) Areas with unfavourable physio-geographic conditions, terrain, climate and regions inhabited by people with typical cultural characteristics. In such category, the hill areas, drought-prone areas and tribal areas were listed. (b) Economically backward areas marked by adverse land-man ratios, lack of infrastructure or inadequate development of resources potentials were grouped in second category of backward areas. Thus, the significant attentions have been provided during different plan periods in the past towards attaining a sustainable development of backward areas by introducing several area specific development programmes and providing a larger amount of central assistance. The implicit goal is also to achieve reduction in the inter-regional disparities in the level of development, standard of living and quality of life of the people.

In view of the development of backward areas, particularly for hill areas, arrangements for providing Central assistance were streamlined by treating hilly states as special category states during Fifth Plan. This pattern provided for 50 per cent grant component in the Central assistance accruing on account of expenditure incurred in these areas. However, in some mountainous and hilly boarder areas the pattern involved 90 per cent grant and 10 per cent loans. Besides this, the Central Government provides additional allocation of funds to supplement the various area development programmes and Centrally-sponsored schemes. However, the main initiative and responsibility for development of hilly areas lays with the state governments.

The Central Government also plays an important role in directly planning development of certain sectors of national and

inter-state significance, besides providing financial resources to support state plans and Centrally-sponsored programmes and in regulation of environmentally sensitive resources and projects and activities that directly affect these resources, e.g., mining and road construction in mountainous and hilly areas.

Thus, the increasing attention has been provided towards the development of hill areas in different plans during the past but the progress that has achieved in the process of economic development and in mitigating the problems of unemployment and poverty is indicated to be very unsatisfactory. Even after the availability of various rich natural resources and certain area specific comparative advantages in terms of developing various economic activities the hilly and mountainous areas are still lagging far behind than the states which are dominated by plain areas in the country. Part of the problem of the slow pace of development in hill areas lies in the fact that the policies pursued by the country so far has tended to favour the already dynamic and well-endowed regions of the country. Development programmes for hill areas have generally failed to take into account the peculiar problems and constraints which they have to face and which sets than apart from the other backward regions in the country. The most important of these are geographical, ecological, agro-climatic and socio-cultural factors specific to these areas. Unless development plans for the hill areas are based on the understanding of these factors - mountain and hill specificities; there is every possibility of them not achieving the desired result.

Another, important problem in developing the backward areas in the unwillingness of the administrative system or the technical expertise to move to these areas, study problems at first hand and find the remedies. A culture is developing today in the country that those who have got into administration and the technological fields are entitled to the best that the country can give. In several backward areas where the administrators and the technologists are present but they are frustrated because of lack of co-ordination and cohesion in programmes and programming.[2] As the

consequences the development programmes are not only badly implemented but its benefits has not been reaching to the actual beneficiaries.

The Study

The objectives of present study are to examine the pattern of socio-economic development and issues related to the problems of development. It also critically examines the approaches of development planning, outcome of various development programmes, the causes of unsatisfactory progress in the development process and finally it provides a detailed framework for introducing an area specific comprehensive planing approaches for different potential economic activities of Uttarakhand. More or less, the present study incorporates the main findings of the research projects and studies undertaken by the institute during past over twenty years. Some additional information has also been collected from the studies which are undertaken outside the institute.

Uttarakhand, comprising twelve districts, situated in the Central Himalayan Zone, is among the most backward area of India. The total geographical area of Uttarakhand is 51.124 thousand square km and it extends between 77°34′ and 81° 02′E longitude and between 28° 43' to 31° 27′ N. latitude. The topography of Uttarakhand is characterised by deep valleys, high peaks and a wide variety of vegetation. Elevations extends from approximately 300 to 7000 masl. The temperature ranges from 16°C to 40°C, but it drops below freezing points in many parts of high mountain areas of the region during winter.

The population of Uttarakhand is 5.93 millions, relatively higher than its neighbouring hilly state Himachal Pradesh (5.17 millions). Significantly a larger proportion of population in the region (78 per cent) live in rural areas. The sex ratio accounts for 955 females per one thousand males. Literacy is recorded to be for 59.58 per cent (75.51 per cent among males and 42.87 per cent among females) is comparatively at lower extent that

the case of Himachal Pradesh for 63.86 per cent, consisting 75.36 per cent for men and 52.12 per cent among women respectively. There are considerably larger differences in the literacy rates between rural and urban areas in the region; the literate population in urban areas is 74.78 per cent as against 52.22 per cent in rural areas. Between 1981 to 1991, the urban population has increased at much faster rate (45.35 per cent) as compared to rural population (17.45 per cent). However, the trend in the increase of female population has been observed considerably at lower rate as compared to their male counterpart in rural areas but the situation is reversal in case of urban areas.

The proportion of women work-force engaged in agriculture as cultivators were (89 per cent) significantly much higher than their male counterpart (42 per cent). However, in totality terms, the concentration of work-force in agricultural sector has declined from 69.31 per cent in 1981 to 64.59 per cent in 1981. The shift of work-force from agricultural activities has been observed mainly to tertiary sector of economy; in fact the proportion of work-force engaged in secondary sector has also been decreased from 1.49 per cent in 1981 to 0.86 per cent in 1991. The proportion of workers in tertiary sector has gone up from 29.20 per cent to 34.61 per cent during the last decade. Corresponding increase has been from 41 per cent to 49 per cent for men as against from 4.29 per cent to 6.59 per cent for women work-force between 1981 to 1991. It is further pointed out that the growth of work-force in tertiary sector has been increased significantly at larger extent (45.96 per cent) as compared to agriculture sector (14.62 per cent) while it has at 28.74 per cent in manufacturing sector. However, it is significant to note that in manufacturing sector the growth of women work-force has increased at 28.57 points levels as against a declining growth of 39.72 points for men work-force. Also, the growth of women workers has been observed comparatively at much higher level than the men workers both in agriculture as well as tertiary sector of economies during 1981 and 1991.

The region is sparely populated having a density of 116 persons per sq. km as against 93 per cent in Himachal Pradesh.

The annual growth rate of population has been estimated to be 2.26 per cent for Uttarakhand as against 2.08 per cent for Himachal Pradesh between 1981 and 1991. The work-force consist of around 36 per cent of the total population; 46.69 per cent for males and 25.62 per cent for females. In totality terms, the work-force participation rate has marginally increased from 36.19 per cent in 1981 to 36.36 per cent in 1991, but it has increased from 24.21 per cent to 25.62 per cent for women as against the decline in the participation rate of men work-force from 47.69 per cent to 46.60 per cent. The overall growth rate of worker participation has been only 0.47 points level. The lower rate of this growth is experienced particularly due to substantial decline in the growth of worker participation rate of male work-force (2.29 per cent).

The main occupation of a majority of workers (65 per cent) is agriculture and about 92 per cent of the population is dependant on it for its livelihood. Thus, it suggests that the participation of women in the different economic activities in Uttarakhand is considerably increasing while that of men is declining over the years which could be particularly due to increasing trend of migration of rural labour-force outside the region.

According to the Employment Market Information data, about four per cent of the total labour-force of the region was employed in the organised sector as on 31st March 1995. Public sector is alone employing 85.60 per cent of the organised labour-force. In this sector, 13.60 per cent were employed under the Central Government, 44.76 per cent state Government, 35.13 per cent Semi-Government organisations and institutions and remaining 6.51 per cent in the local bodies. However the backlog of development has led to the serious problems of non-availability of employment and income opportunity for the people in the region. Fast increase of population and still faster growth of labour-force for last couple of decades has led to a high and increasing extent of unemployment. According to Planning Commission documents about 70,000 job seekers get themselves registered in the employment exchange every year but the average generation of employment is only about 3000 per year. According

to Live Register data of Employment Exchanges, unemployment increased from 1.94 lacks to 2.58 lakhs during the period of 1984-90, it indicates that the annual growth of unemployment rate is (6.60 per cent) is significantly much higher than the growth of population (2.26 per cent).

The Economy

The *economy of Uttarakhand* is predominantly based on agriculture and other activities related to agriculture sector. It economy has experienced a growth rate of only 2.4 per cent per annum as against 4.1 per cent (H.P.) and 4.3 per cent (U.P.) as a whole during the Seventh Plan period i.e., 1985-90. Per capita domestic output of Uttarakhand declined from Rs. 1305 in 1984-85 to Rs. 1014 in 1991-92. Accounting only for the commodity producing sectors, agriculture including animal husbandry and fishing contributes about 67 per cent, manufacturing activities 20.08 per cent, forestry and logging 8.78 per cent and mining and quarrying 4.2 per cent in the net domestic output of Uttarakhand.

During 1987-88 to 1991-92 the per capita net output has grown at the rate of only 0.98 per cent. Annual growth rate of Net Domestic Output was significantly higher for mining and quarrying (25.94 per cent) as compared to remaining economic sectors; it was 3.50 per cent for agriculture including animal husbandry, 10.39 per cent for manufacturing sector. A negative growth rate of 6.04 per cent per annum was estimated for forestry and logging.

Across the districts, again the agriculture sector is found as a dominating economic activity among various economic activities, contributing relatively largest amount of income for all the districts, but its share is significantly highest in district Tehri (85 per cent) followed by Pithoragarh (83 per cent) and lowest in Dehradun (55 per cent) followed by Nainital (57 per cent). Forestry and logging is contributing high amount of income for Uttarakashi (24 per cent) and at lowest level for Almora (8 per cent). The percentage share of mining and quarrying in the

total Net Domestic Output is highest in Dehradun (12.79 per cent) and lowest in Pithoragarh (0.68 per cent). The contributing of manufacturing sector is significantly at highest level in district Nainital and Dehradun, obviously due to the fact that over 91 per cent of the total large scale industrial units located in the region are only concentrated in these two districts.

In spite of the availability of various natural resources, several developmental efforts undertaken in the past and having various area specific opportunities and advantages for developing different economic activities the region has remained underdeveloped in most economic and social aspects. Difficult geographical terrain, inadequate development of basic infrastructural facilities, deficient public services and institutional support are some basic factors in slow pace of development. Constraints such as long gestation period of development projects, relatively higher per unit of cost as compared to plain areas involved in developing basic infrastructure and low level of returns from investment, have also contributed to this problem of development. But no less important has been the lack of adequate understanding of the region specific potential and problems and their incorporation in the development strategies and programmes.[3]

Development Approaches and Strategies[4]

The Uttarakhand has been recognised as one of the backward regions of India since the very beginning of the planning era. Therefore, a need for initiating special planning efforts, in addition to those aimed at the developing of U.P. state as a whole, have been recognised for quite long time. But initial planning efforts did not reflect this recognition and infact, no need seem to have been felt for a separate development approach to this region. Instead, both plain and hill areas were treated as part of a single framework of development. Some efforts towards providing special considerations for the development of Uttarakhand were made during the Third Plan period with the provision of a separate allocation of Rs. 500 millions for specific activities.

Administratively, during early seventies a decision was made by the Government to treat Uttarakhand as a special region from the view point of development planning. A Department for Hill Area Development was created and this department was assigned the task of identifying potential areas of development, to prepare separate development plans, introduce and initiate various development packages and evaluate and monitor the different development programmes. Since Fifth Five Year Plan (1974-79) separate development plans have been prepared for Uttarakhand and the Central Government is providing substancial amount of assistance to the state budget for the development programmes of Uttarakhand. In principle, it has been agreed that Central assistance to the development plans of Uttarakhand would be on a par with assistance to Himachal Pradesh. However, in provision for the region in the state's budget is low.

The plan outlay allotted for Uttarakhand has been consistently increasing during the past plan periods. The provision of separate budget for Uttarakhand has introduced from the Fifth Five Year Plan period with the plan expenditure of Rs. 20.40 billions. It increased to Rs. 65.80 billions during Sixth Five Year Plan period (1980-85) to Rs. 121.31 billions during Seventh Five Year Plan period and to Rs. 2105 billions during the Eighth Plan. For Ninth Plan the proposed outlay is Rs. 4430 billions. Similarly, the Central assistance for Uttarakhand has increased from Rs. 10.40 billions in Fifth Five Year Plan to Rs. 100.50 billions in Eighth Five Year Plan and Rs. 1275 billions for Ninth Plan. However, in real sense, the central assistance to the total plan expenditure of Uttarakhand declined from 50.98 per cent during the Fifth Plan period to 47.74 per cent during the Eighth Plan period and it declined to 28.78 per cent for the Ninth Five Year Plan Period.

Past Development Approaches

In the past development planning high priority has been given for the development of horticulture, agriculture, tourism, animal husbandry, minor irrigation, forestry, soil conservation,

development of local resources based industries, augmentation of the availability of various infrastructural facilities like roads, power, marketing and credit facilities and fulfilment of basic needs such as drinking water, medical and health facilities and basic education. The plan documents also emphasized the need for the protection of resources of the region such as soil, water and other natural resources; regeneration of resources and realisation of agricultural potentials by intensive means, effective use of forest resources and human resource development.

Table 1.1 : Plan outlay allotted for Uttarakhand during past plan perids

Plan	Expenditure (Rs. Million)		
	Central Assistance	State Plan	Total
1. Fifth Plan (1974-79)	1040.00 (50.98)	1000.20 (49.03)	2040.20 (100.00)
2. Sixth Plan (1980-85)	3500.00 (53.12)	3088.70 (46.88)	6588.70 (100.00)
3. Seventh Plan (1985-90)	6791.90 (55.99)	5339.10 (45.01)	12131.00 (100.00)
4. Eight Plant (1992-97)	10050.00 (47.74)	11000.00 (52.26)	21050.00 (100.00)
5. Ninth Plan (Outlay) (1997-2002)	12750.00 (28.78)	31550.00 (71.22)	44300.00 (100.00)

Source : Statistical Diary, Uttarakhand Division, 1995, State Planning Institute, Lucknow, UP, and Ninth Five Year Plan, Uttaranchal, Sub-Plan (1997-2000), U.P.

The Eighth Plan (1992-97), in addition to continuing these priorities, gave a somewhat more focused consideration to the issues of environmentally sustainable development. It emphasised afforestation, scientific management and protection of forests; integrated soil and water conservation; and watershed development. Beside this, the plan also focuses on creating additional employment and income opportunities through diversification of agricultural activities in horticulture, encouragement of pollution free and locally available raw materials based small-scale and cottage industries, and

development of tourism sector. It also lays stress on development of infrastructural facilities, on the one hand, and to take initiatives for linking infrastructural facilities with the economic development programmes, on the other, Human Resource Development, particularly focusing on scheduled castes/scheduled tribes and women, is also considered as an important plan objective.

The Ninth Plan (1997-2002) focused on providing high priority to the generation of increasing level of employment opportunities and reduction of poverty through developing agriculture sector and accelerating the growth rate of economy with stable prices. It also emphasized for continuing various on going development programmes with priority basis, ensuring participation of people through social mobilisation for environmental sustainability, promoting people's participatory institutions and strengthening empowerment of various socio-economically disadvantaged groups of population, such as scheduled castes, scheduled tribes and women.

Further, a review of the pattern of allocation of outlay for the development of different economic and social sectors revealed the fact that relatively higher priority has been provided for the development of agriculture and related activities of rural components upto Eighth Five Year Plan periods. It is reflected by the increasing share of outlay allotted for agriculture and rural development during Seventh Plan (33.53 per cent) and Eighth Plan periods (36.79 per cent). However, the share of outlay allotted during Ninth Plan has declined at 28.15 per cent for this sector. Development of social infrastructural facilities such as education, art, culture, medical and health facility, housing, water supply, etc. has been another second most priority area of development in the past Plans. But in Ninth Plan period, significantly highest priority has been provided for developing social sector, as indicated by the largest share of 30.25 per cent has been allotted for this sector.

However, it is surprising to note that the proportion of outlay approved for developing most productive economic sector, such

as agriculture, industry and energy, for which development have been well recognised as the potential sectors for creating employment and income opportunities at larger extent; has declined at significant level during Ninth Plan. In fact the actual amount of outlay approved for developing industrial sector has declined from Rs. 65.50 crore in Eighth Plan to Rs. 59.70 crore for Ninth Plan, mainly because the Government has withdrawn certain facilities such as margin money loan schemes which were introduced for the development of small enterprises in the region during the past plan periods.

Table 1.2 : Sector-wise Distribution of Outlay During VII, VIII, And IX Plan Periods

(Rs. in Crore)

Sectors	Seventh Plan	Eighth Plan	Ninth Plan	Percentage of Outlay of		
				Seventh Plan	Eighth Plan	Ninth Plan
Agriculture and Rural Development	360.49	774.40	1247.16	33.53	36.53	28.15
Industry & Mining	43.00	65.50	59.70	4.00	3.11	1.35
Energy	137.00	265.00	411.00	12.74	12.59	9.28
Transport and Communication	176.00	297.50	1052.00	16.37	14.13	23.75
Economic Services, Science, Technology and Environment	22.77	94.08	88.12	2.12	4.46	1.99
Social Services	297.00	488.00	1340.21	27.63	23.18	30.25
Welfare of Labour, Disadvantaged population and Social Security	38.24	119.52	110.30	3.56	5.68	2.49
Special Problems	—	—	121.51	—	—	2.74
Total	1075.00	2105.00	4430.00	100.00	100.00	100.00

Source : Ninth Five Year Plan (1997-2002), Uttaranchal Sub-plan, Uttar Pradesh, Lucknow.

Achievements of Development Goals

In spite of the fact that most aspects find place in the plans, particularly from 1985 onwards, the stated goals of development

have remained unfulfilled, and a sustainable pattern of development has not emerged. The problem of unemployment and poverty in the region have persisted; at the same time, inequality in income distribution is seen to be on the increase. The number of job-seekers on the live registers of employment exchanges rose from about 89,000 in 1981 to 2,43,171 in 1991. In the seven years from 1984 to 1991, employment in the organised public and private sector establishments went up only 2,07,373 to 2,35,923 covering only about 4 per cent of the population. The environmental situation has been worsening, as is evident in increasing deforestation, floods, landslides and other disasters.

The major and easily visible lacunae in the planning approaches have been that no consistency was maintained in development programmes; most often the programmes were of a short-term or *ad-hoc* nature and programmes were also poorly managed in the implementation stage. The most undesirable phenomenon that has come to the surface is that the state assistance and subsidy meant for the development of poors to develop economic activity of their own choice has been often treated as a kind of poverty relief and therefore, instead of developing self-reliant and self-generating process of development, a dependency culture has emerged. Lack of systematic planning, was further accentuated by inadequate and improper coordination between different government departments involved in different stages of development programmes, scantly attention to the requirements of various infrastructural facilities for sectoral schemes, inefficiency of administration in the implementation of programmes, multiplicity of programmes to meet the same goals and faulty criteria for the identification of beneficiaries in the programmes which were linked with employment orientation, contributed to the ineffectiveness of plans and programmes to meet their objectives.[5] Also there has been lack of a serious attempts to comprehend the intricate nature of relationship between different component of the hill environment and the issues connected with the development in the region.

So, in the absence of a particular concern and lack of an adequate understanding of the problems, the Uttarakhand is more extensions of the plains for all practical purposes. Plans and programmes launched in the other part of plain areas were extended for the region without questioning their relevance and adopting them to the conditions and specific requirements of the region's environment.

Problems in Planning for Development

The basic problem with development plans for Uttarakhand is not the lack of general awareness of the problems of hill areas, nor the lack of sincerity on the part of the central and state planners, but rather the absence of an integrated and region-specific approach to thinking about, planning for, and implementing these development programmes. For instance, environmental protection issues were approached without due regard being given to the needs of the people; infrastructure was developed without much attention being paid to its effective use for local development; and sectoral economic activities were 'promoted' through incentives and subsidies without simultaneously promoting the development of activity-specific infrastructure and services and inter-sectoral linkages. Adequate recognition was not given to the fact that linkages necessary to the development process do not materialise on their own, nor even easily in hill and mountain regions, as they do and can be expected in the plains. Diversity in mountain areas requires a highly decentralised area-based approach[6] which has to be distinct not only from approaches for the plains, but should also differ significantly from area to area within the hill region of Uttarakhand.

Alternative Options for Development

Considering the past experiences of unsatisfactory impact of development programmes, it is necessary to modify the planning

strategies and approaches on the basis of geographical, economic and socio-cultural characteristics of the region. Formulation of such area specific planning model for Uttarakhand region has not been practical from either the physical or administrative angles because the region is a small part of Uttar Pradesh in terms of its population and geographical area. This absence of an area-specific approach to development planning for Uttarakhand seems to be the main issue for discontent in the region, and it has given rise to a movement for the formation of a hill state. Leaving aside political interpretations of the movement, campaigners for the separate state argue that a region-specific approach to development will be possible for Uttarakhand, given its special geographical characteristics, only when the region has a reasonable degree of autonomy to plan for its own development, mere decentralisation is not adequate.

Specific identity of the region and its recognisation as separate state was well reflected from the very beginning of formulation of states in India. The concerned issue was also raised before the State Reorganisation Committee in the fifties. In fact, having its different identity, the civil laws applicable here were different during pre-Independence days. The revenue law was also different. There was no *Zamindari* system as prevailed in the plains. Therefore, when Zamindari Abolition Act of 1950 was passed by the U.P. legislature, it did not extend to Uttarakhand. In fact, a separate and very different law was passed for this area in 1960 which came into force in 1966. The police system was and still is different. Here the village revenue officials (*Patwari*) have police powers for registering criminal and land related cases and investigating them. At the Government level separate Hill Development Department with a separate Minister Incharge and Principal Secretary/Additional Chief Secretary Incharge has been established and functioning since 1974. Various departments have also been established separately for Uttarakhand at Secretariat level.

In fact, the process of creating a separate state has been underway for some time. On two occasions, once in 1991 and

again in 1993, the State Government moved and had adopted in the State Legislature an unanimous resolution recommending separate statehood for Uttarakhand to the Government of India. The Central Government too has also recognised the need for a separate Uttarakhand state, as indicated in the address made by the then Prime Minister on August 15, 1996, which was to the effect that necessary steps would be taken to provide separate statehood to Uttarakhand after consulting the State Government. The State Government, in turn, once again adopted another resolution in April 1997 urging the Centre to create the state.[7]

In the above context of the general realisation of the need for a region specific approach to development planning, and its adoption and implementation in a relatively autonomous framework, that a certain number of propositions could be advanced for an appropriate development strategy for Uttarakhand.

Need for an Integrated Approach

What is therefore, required is an integrated approach to development planning. Such an approach would require integration broadly of two kinds: first, between environment and second, among various sectors and development activities (including infrastructure). Environment is a basic dimension of mountains and therefore, it is an important element in economic development of mountain areas. Mountain regions are ecologically among the most fragile of terrestrial system. Land, water resources and forests constitute the basic elements of environment, and they are closely linked and interdependent. Development strategies for mountain areas must recognise these facts and plan for the use and preservation of these resources. An integrated approach to development in mountain areas should focus on development without degrading or adversely effecting environmental resources and the ecology of mountain areas. In practice, development should be based on the selection of a pattern of activities which would maximise economic benefits with minimum adverse effect on the environment.

The next step in integrated planning is development of selected activities along with their linkages with other activities, which could be both a prerequisite or a result of their development. Infrastructure development, in general, is important, but that too needs to be integrated with development planning for economic activities. Integrated planning, it must be classified, is not antagonistic or even dependent of sectoral development. In practice, most planning will translate into programmes for sectoral development. What integrated planning implies is that sectoral development is not pursued in a compartmentalised manner. It is not enough to consider co-ordination after sectoral plans and programmes are finalised. What is important is to clearly perceive and plan for inter-sectoral linkages; and these include linkages with an impact on the environment, while preparing sectoral plans.

The second important consideration is the limited resource based and, therefore, selection of sectors and activities with comparative advantages in those areas. For mountain areas of Uttarakhand, with the constraints imposed by inaccessibility and fragility, do not offer scope for highly diversified development. Therefore, the lead scector(s) approach, based primarily on activities and sectors especially suitable to the resource endowments and comparative advantages, along can work in the Uttarakhand mountains.

The Extent of Backwardness

The proceeding analysis, based on secondary data collected from the various documents of Government and the primary data collected among a sample of 68 households in the district of Almora, examines the situation of economic conditions of Uttarakhand.[8] It revealed that in terms of per capita income the Uttarakhand region is in fact the most developed regions as compared to other regions i.e., Central, Bundelkhand and Eastern region of U.P. However, considering the sectoral composition of the total income it is found that the economy of the Uttarakhand

is dominated by agriculture which accounts for about 61 per cent of the total income compared to about 55 per cent for the state average. In fact the per capita NDP generated from manufacturing sector is relatively much less in Uttarakhand than the state average. The share of manufacturing sector in the total income of the Uttarakhand accounts for 4.5 per cent as against 10.5 per cent for U.P.

Relatively high per capita income of Uttarakhand as compared to state average is mainly on account of larger amount of income generated from forestry and logging sector which tends to distort the economic profile of the region relative to the other regions of the state. The main reason for this is that forestry in Uttarakhand is in the nature of an extractive activity which brings little returns to the local people. The manner of exploitation of the forests is that the trees are felled and transported out of the hills for processing. Thus, while income from forestry is shown as accruing to the hill areas, a very small part of it; i.e., the wage component of forestry and logging operations, actually accrues to the local people. If such part of income is excluded in computing the per capita income of Uttarakhand we find that though P.C.I. of the region drops to much less than the state average.

Another most important reason for the destoration in the aggregate economic profile of the Uttarakhand regions is the high degree of intra-regional (inter-district) disparities that is existing. The two districts, Dehradun and Nainital which have substantial plains are rank among the most developed districts in the state. These two districts together accounted for almost 36 per cent of the region's population, 20 per cent of its area and over 50 per cent of its total income.

Apart from the distortions of the aggregate economic profile of the region caused by the inclusion of Dehradun and Nainital and of income from forestry, another crucial point which emerges is the extremely low share of manufacturing in the total income of the predominantly hill districts. The share of income earned from manufacturing sector is one per cent points for all hill districts. The share in the total income of the service sector in

the hill region is about 27 per cent which is quite close to the state average of about 29 per cent. However, in this case too, the Uttarakhand hides considerable inter-district variation; in Dehradun 50 per cent of the income is generated from this sector while in Tehri and Uttarakhand only about 10 per cent is earned form services. In remaining districts its contribution varies from 20 per cent to 26 per cent which is much below the state average.

Further the analysis based on the primary data collected among the sample of 68 households in different villages revealed the fact that at the village and household levels, economic backwardness is manifested in the almost total dependence on agriculture as the primary resource of sustenance and livelihood, with very few opportunities of income and employment available outside agriculture. This feature encourages migration of adult males outside Uttarakhand in search of employment putting a heavy burden on the women folk who have to take on the responsibility of all agricultural work in addition to their normal household chores.

Moreover, because of the predominance of very small size of land-holdings and the nature of the land, the bulk of which is unirrigated, agriculture is essentially of the subsistence type. Except in the valley areas, where irrigation is available, agriculture is restricted to the production of foodgrains, especially coarse grains. The only cash crops of any significance are potatoes and temperate fruits. These two are not grown in all areas. Thus very low level of commercialisation of agriculture, which absorbs over 80 per cent of the work-force in the hills, provides at best the basic subsistence requirements of the population that too in valley areas. In the upland areas, especially where horticulture has not been able go make any headway, the economic conditions of the rural households are rather precarious. The people, therefore, have to fall back on other sources for meeting their immediate consumption needs. The chief among these are wage-labour in non-agricultural work in construction and forestry, petty government jobs, running small shops and remittances received from members of the households who have migrated outside Uttarakhand.

It is true that in Uttarakhand, one does not find rural poverty in a ugly and naked form as in other parts of the state, yet most of the rural people lead a life very close to the subsistence level. What is, perhaps, rather disturbing about this situation is that there do not seem to be any immediate prospects of bringing about fundamental changes in the rural economy. The primary reason for this pessimism is the basic conditions of agriculture. Land holdings are very small and scattered in small terraced fields; irrigation is scarce, the quality of the soil is poor, and most of the burden of agricultural operations is borne by the women folk who also have to do their normal household duties. To expect any major breakthrough in agriculture under these conditions is rather fanciful.

However, in the absence of any change in the agricultural economy as it exist today, there is always the danger that with increasing pressure of population on land the people may be forced to clear forest lands in order to bring them under cultivation. The long-term environmental consequences of such increasing deforestation can only be disastrous.

Thus the problem of economic backwardness and underdevelopment in Uttarakhand thus, are in an important sense specific to this region and to that extent different from other backward area/regions in the state and the country. While the heavy dependence on agriculture is a common feature of all backward areas in the hill areas the major constraint in agricultural development and growth in the nature of the terrain and quality of the soil which effect the productivity of the land on the one hand and the cropping pattern on the other. Since opportunities of employment and income generation outside agricultural activities are limited, the people have got struck in a system of subsistence cultivation. The only redeeming feature in an otherwise gloomy picture is the relatively lower density of population in the region which may perhaps explain the absence of object poverty as in other parts of the state. However, this advantage too may not last much longer in a emerging situation of unprecedently increasing trends of population growth in Uttarakhand.

References

1. *Government of India;* Planning Commission, Draft Fifth Five Year Plan, 1974-79, Vol. II, p. 282.
2. Srinivasan, B., Development of Hill areas; Problems and Prospects. Papola T.S. etc. (ed) *Development of Hill Areas; Issues and Approaches*; Himalaya Publishing House, New Delhi, 1983.
3. Mehta G.S., *"Uttarakhand" : Prospects of Development*, Indus Publishing Co., New Delhi, 1996.
4. Mehta G.S., Alternative Planning Approach for Development of Uttarakhand, Working Paper No. 139, Giri Institute of Development Studies, 1998.
5. Mehta G.S., Industry, Service and Business Programme in District Almora of U.P., Pande P.C. (ed.), *Rural Development in India: Issues and Policies*, Anmol Publications, New Delhi, 1990.
6. Papola T.S., *Integrated Environment and Economic Development Planning for Mountain Area*; ICIMOD, Kathmandu, 1996.
7. Mehta G.S., *op. cit.*, 1997.
8. Joshi B.K., *Underdevelopment of Hill Areas of U.P.*, Giri Institute of Development Studies, Lucknow, 1982.

2

Agriculture and Rural Development

Introduction

As indicated in the preceding analysis that agriculture and related activities are the economic base of Uttarakhand. The Population of this region is mainly depending on it both for livelihood and employment. In fact the pressure of population is consistently increasing on agricultural activities due to lack of employment opportunities available in other economic sectors. During the past, several initiatives have been undertaken for increasing crop productivity such that additional employment opportunities could be created for increasing labour-force. In view of attaining diversification and greater development of agricultural economy in the region, over three fourth of the total plan outlay have been proposed to be spent only for this sector since the past Fifth Five Year Plan. However, due to certain geographical and topographical problems, and lack of irrigation facility in most mountain areas the application of modern pesticides, chemical, fertilizers and improved variety seeds have not been successful. As the consequences the growth in the yield rates of major foodgrains have been almost stagnant for the past several years.

In Uttarakhand, a major land areas is reported under forest while only 12.5 per cent of the total areas is brought out under the cultivation of agricultural crops. In fact, a major proportion of net area sown for cultivation is not used for growing agricultural crops regularly for every year as farmers are practising to leave

it uncultivated for one crop season for alternate year just to re-obtain the fertility. The land reported as fallow on account of its low productivity, because of lower level of fertility contains available on it, has also been consistently increasing over the years. This category of land was 53.1 thousand hectares in 1982-83, which increased to 56.6 thousand hectares in 1987-88 and 72.7 thousand hectares in 1992-93. And thus, out of the 662.6 thousand land area reported as cultivated land, only 436.9 thousand land area is actually used for both *rabi* and *kharif* cropping seasons regularly. We, thus find that very small size of land area is used for the cultivation of agricultural crops in Uttarakhand; in fact only 8 per cent of the total reported land area could possibly be available for the cultivation of both *Rabi* and *Kharif* crops. In other words, 66 per cent land area cannot be used for the cultivation simultaneously for two seasons because this is marginal category of land with very low level of fertility on its soil.[1]

Carrying out agricultural activities in Uttarakhand has been recognised very uneconomic but due to non-availability of employment and income opportunities in other economic activities the people are bound to engaged on it. Though, the pressure of population on agricultural activities has been consistently declining partly due increasing rate of out-migration of labour-force and partly by movement of labour-force from agriculture to other economic sectors. Even the interest of farming community in carrying out agricultural operations has been declining over the years. As it is evident from the fact that actual land area brought out in cultivation and gross cropped area have been consistently decreasing atleast for last one decade. The net cultivated land area in 1982-83 was 702.7 thousand hectares which declined to 671.3 thousand hectares in 1987-88 and remained only 662.6 thousand hectares in 1992-93. Accordingly the gross cropped land area has declined from 1145.2 thousand hectares in 1982-83 to 1099.5 thousand hectares in 1992-93.

The potential of water resources in the region are inadequately exploited. On account of undulating topography and hard rocky strata it has been not possible to provide irrigation facilities to

a larger proportion of cultivated land area. As a result only about one-third of the cultivated land area is reported to have the facility of irrigation in Uttarakhand. Marginal decline, in the net irrigated land area has also been revealed between the period 1987-88 to 1992-93, though, total irrigated area has been considerably increasing from 28.4 per cent in 1982-83 to 34.0 per cent in 1992-93. In fact, in most of the districts, excluding Dehradun and Nainital, the share of irrigated land area is much below the average irrigated area for Uttarakhand. The irrigated land area of purely hilly the districts together constitutes only 10.28 per cent, even in the districts of Pithoragarh and Chamoli the proportion of irrigation land available for cultivation accounts for only 6 per cent and 7 per cent respectively. In Nainital and Dehradun districts the net irrigated land area constitutes about 73 per cent and 42 per cent respectively.

Cropping Pattern

The main agricultural crops grown in Uttarakhand are paddy, *sawan*, (*madua*) and pulses in *kharif* crop season and wheat, barley, *masoor* in *rabi* crop season. Foodgrains such as paddy, wheat and pulses are mostly grown in valley areas and areas having irrigation facility. Remaining crops are generally grown in high reaches where irrigation facilities are not available.

However the land used for the production of various main crops has been declining over the years. This is basically due to the fact that the farmers have increasingly been awared about the economic use of available land with them. In view to maximise the economic gain from their farms, the farmers have generally practicised to use available land in the production of high value crops such as fruits, potato and off season vegetables. As a result, the land area under the production of these high value crops, including pulses has been considerably increasing while it has been declining under the traditionally grown low value crops. The decline in the area under traditional agriculture crops has been relatively higher during *kharif* crop season, as compared to *rabi* crop season. During *kharif* crop season the farmers are

putting a sizeable land area under the production of off season vegetables and pulses such as Soyabeen while vegetables such as onion, peas and potato are being grown during *rabi* crop season. As a result it is noticed that land under the production of traditional crop of *kharif* season has declined at 10 per cent as against 8 per cent for *Rabi* crops but it has increased to 15 per cent for pulses which are grown in both the crop season. Land used for the production of barley in *rabi* crop season and of *Madua* in the *kharif* crop season has declined at highest proportion of 21.05 per cent and 13.75 per cent respectively (Table 2.2).

Table 2.1 : Land Use Pattern

(Area in Hectares)

Sl. No.	Land Use	1982-83 Area (000 ha)	1982-83 Percentage to total reported area	1987-88 Area (000 ha)	1987-88 Percentage to total reported area	1992-93 Area (000 ha)	1992-93 Percentage to total reported area
1.	Total reported area	5322.1	100.0	5376.2	5358.8	5358.8	100.0
2.	Forest area	4369.7	64.6	3424.2	63.7	3426.5	63.9
3.	Barren and cultivable waste land	289.6	5.4	298.7	5.6	296.7	5.5
4.	Land put to non-agricultural uses	118.9	2.2	125.2	2.3	137.0	2.6
5.	Culturable waste	315.9	5.9	319.3	5.9	315.9	5.9
6.	Permanent pastures and other grazing land	217.3	4.1	277.3	5.1	227.5	4.2
7.	Land under miscellaneous trees groves etc.	185.0	3.5	208.6	3.9	219.9	4.1
8.	Current fallow	20.3	0.4	11.5	0.2	8.4	0.2
9.	Other fallow	32.8	0.6	45.1	0.8	64.3	1.2
10.	Net area sown	702.7	13.2	671.3	12.5	662.6	12.4
11.	Area sown more than once	442.5	—	431.5	—	436.9	—
12.	Gross cropped area	1145.2	—	1102.8	—	1099.5	
13.	Net irrigated area	207.7 (29.6)*	—	247.9 (36.9)*	—	224.5	—
14.	Total irrigated area	324.9 (28.4)*	—	359.0 (32.6)*	—	374.3 (34.0)	—

* Figures in parentheses indicate the percentage of irrigated area to net sown area.

Source : Directorate of Agriculture, U.P., Lucknow.

Table 2.2 : Cropping Pattern

Crop	Area (000 Ha)		Percentage Change
	1982-83	1991-92	
Paddy	273	252	+ 7.70
Madus	160	138	+ 13.75
Sawan	85	74	+ 12.94
Maize	38	34	+ 10.53
Total Pulses	27	31	+ 14.81
Wheat	377	353	- 6.37
Barley	38	30	- 21.05

The area under the production of pulses has increased from 27 thousand hectares in 1982 to 31 thousand hectares in 1991-92 as a result of shift of land use, particularly from the cultivation of madua, sawan and barley, which are mainly grown in unirrigated lands in middle and high mountain areas, to the cultivation of Soyabeen and some other local varieties of pulses. Thus, despite having small size of land-holdings, a good number of farming households have opted for a shift from production of low value foodgrains to the cultivation of high value commercial crops, particularly vegetables and pulses.

Average yield rates of major foodgrains in Uttarakhand are comparatively at lower extent of around 1.61 tonnes/hectares but is still much lower in purely hilly districts, mostly ranging between 0.10 and 1.3 tonnes/hectare. However, the yield rates of paddy in Uttarakhand are significantly higher (1.98 tonnes/hectare) than the state average of U.P. (1.78 tonnes/hectare). It is primary reflecting due to relatively much higher yield of paddy in Nainital than the state average where it is high as 2.96 tonnes/hectare. Otherwise in remaining districts of Uttarakhand, the yield rates of paddy, as of other major crops, are at much lower level; 1.18 tonnes in Pauri and 1.25 tonne in Almora. The yield rates of other major crop wheat are only 1.70 tonnes/hectare as against 2.27 tonnes/hectare for state average. It is again highest for about 2.45 tonnes/hectare for Nainital district; while in purely hilly districts it ranges from 0.99 tonnes/hectares for Almora to 1.8

tonnes/hectare for Dehradun. The yield rates of madua are still marginally higher for Uttarakhand (1.27 tonne/hectare) as compared to state average at 1.26 tonne/hectare, but the yield rate of barley constitute relatively at lower extent (1.26 tonne/ hectare) for Uttarakhand as against 1.82 tonnes/hectares for the state. Comparing the emerging situation of the productivity of major crops between the neighbouring hilly state Himachal Pradesh and the Uttarakhand it revealed that in H.P. the yield rates per hectares for paddy 1.24 tonne, 0.9 tonne for wheat and 1.74 tonnes for maize are accounting much less than the yield rates of corresponding crops in Uttarakhand.

Using various indicators of development such as cropping intensity, gross value of agricultural produce per hectare of net and gross area sown and productivity levels of various crops it is further revealed that the level of agricultural development in Uttarakhand is quite unreal and misleading. Included in the eight district of the region are, Nainital and Dehradun which have substantial plain and fertile area and rank among the most developed districts of the state. When the agricultural development of these two districts is excluded from the other six districts of Uttarakhand, the scenario altogether changes. The hill region emerges as one of the agriculturally backward regions of the state. The cropping intensity in the purely hilly districts continue to remain highest as compared to all other regions of the state while the level of agricultural development emerges to be the least there. Thus, in real sense, the crop cultivation is extremely intensive but return from it are extremely low.[2]

Stagnation in the productivity of foodgrains has been well recognised in almost the district of Uttarakhand, except in the case of Dehradun and Nainital which larger land area is very fertile and over 70 per cent of its net cultivated land have the facility of irrigation. The low level of irrigation facility, lack of improvements in farming technology as suited to terraced farming and unsuitability of land for the use of modern inputs such as fertilized, pesticides and improved variety of seeds, have been the major factor behind the slow increase in crop productivity.

Table 2.3 : Production and yield rates of major foodgrains (1992-93)

(Production tonnes, yield rates, Qtls/hectare)

District/ State	Paddy			Madua			Wheat			Barley			All food grains		
	Production	Area	Yield Rates	Production	Area	Yield Rates	Production	Area	Yield Rates	Production	Area	Yield Rates	Production	Area	Yield Rates
Almora	43710	35421	12.34	48434	42094	11.51	59498	60183	9.89	6364	6092	10.45	181672	168773	10.76
Nainital	310745	104982	29.60	5703	3629	15.72	290541	122125	24.45	1307	1183	11.72	628706	244497	25.72
Pithoragarh	43333	34857	12.43	25581	9395	13.19	61534	40422	15.22	8247	5873	14.04	152022	114042	13.33
Uttarakashi	16539	10669	15.50	9111	6078	14.99	16478	12422	13.27	622	495	12.57	47369	34363	13.70
Chamoli	25378	18905	13.42	20141	15616	12.90	25490	21835	11.67	2169	1515	14.32	77636	61865	12.55
Tehri Garhwal	23812	16952	14.05	26475	20173	13.13	54843	36165	15.16	4936	3748	13.17	139681	105875	13.19
Dehradun	22881	14662	15.61	5858	3808	15.38	47325	26936	17.57	3110	1671	18.61	104023	64839	16.04
Puri Garhwal	27042	2292	11.76	35107	28522	12.31	43947	38290	11.48	8052	7109	11.33	142889	124361	11.49
Uttarakhand	513448	259440	19.79	176414	139315	12.66	607656	358378	16.96	34887	27686	12.60	1474078	918615	16.05
U.P.	7909242		17.73	176689	140232	12.60	19834283	8908406	22.26	7370541	404167	18.24	36249341	203970201	17.77

Source : Statistical Diary, Uttarakhand Development State Planning Institute, Uttar Pradesh, Lucknow 1995.

The per hectare consumption of fertilizers is noted to be only 74.58 kg for Uttarakhand in 1993-94, consisting 58.18 kg nitrogen, 12.92 kg phosphet and 3.48 kg potash. However, the real fact is that in purely hilly districts the per hectare use of fertilizers is 8 kg which is comparatively much less than most of the hilly and mountainous states of India such as Himachal Pradesh (29.17 kg) Jammu and Kashmir (39.15 kg) and Manipur (47.42 kg).[3]

Among the reasons for low productivity of major foodgrains, a poor development and management of water resources is most important. On account of undulating topography and hard rocky strata, it has not been possible to provide irrigation facilities to a larger proportion of cultivated area. It is reported that only around 34 per cent of cultivated land area have the irrigation facility, though much higher than H.P. (17.9 per cent). In fact, the irrigated area of six purely hilly districts of Almora, Pithoragarh, Chamoli, Uttarakashi, Tehri Garhwal and Pauri together constitutes only 10.28 per cent of the cultivated land area. Lack of irrigation also prevents the use of improved agricultural practices such as fertilizers, pesticides and improved variety seeds, which are directly associated with increasing agricultural productivity.[4]

Augmenting water resources and bringing additional land area under the facility of irrigation is much difficult in the presently emerging situation of increasing deforestration. A study by Valdia (1996)[5] indicates that in a little less than 50 per cent villages, the spring have either used to yield water or sprout water only during rainy season—when already sufficient rain or surface water is available. Decrease in spring discharge ranging from 25 per cent to 75 per cent and resulting in the spring fed rivers have gone down considerably, 30 to 40 per cent, in the past one decade or two. Indeed most of the lesser Himalayan rivers and streams are affiliated with too little too much water syndrome. Development of spring sanctuaries and harvesting of rain water and storage of spring water and seepages could be the only solution of bringing additional land area under the facility of irrigation.

Horticulture

In Uttarakhand the potentials of horticulture development are quite favourable, in the sense that the region have varied climatic conditions which offer much suitable conditions for growing various kinds of temperate, sub-tropical fruits and off-season vegetables. It is also well depicted the fact that available land in the region is economically more suitable for the cultivation of horticultural plants and vegetables as compared to agricultural crops. Besides this, the growing of horticulture plants has special important consideration since it provides significantly much higher number of mandays employment than the agricultural crops beginning from the stages of production to its harvesting and marketing. Thus, a shift of land from the cultivation of low-value field crops to high-value crops such as vegetables and fruits appears to be the most obvious option for increasing the level of income and employment opportunities for the people in Uttarakhand.[6] In the region, temperate fruits, such as apple, pears, peaches, plums, apricots, cherries and walnuts are grown at elevations from 1000 to 3000 masl. And elevation ranging from 300 to 1400 metres, crops such as citrus, mangoes, lichis, bananas, guavas, papaya, strawberry and different vegetable crops are grown successfully.[7] Considering the importance of horticulture development in the perspective of regional development the state government has given greater emphasis to the horticulture development in Uttarakhand and various schemes and programmes have been introduced at policy level.

As a result of the consistent efforts of Government, the area under fruit cultivation has increased from 2400 hectares in 1951-52 to 17900 hectares by the end of 1993-94. Similarly the area under off-vegetables has increased from 15 thousand hectares in 1989-90 to 65 thousand in 1993-94 showing over 60 per cent growth during the last five years. The area under potato, which is grown during Rabi crop season, has increased from 4 thousand hectares to 19 thousand hectares between 1989 to 1993-94.

Table 2.4 : Area and Production of Fruits and Vegetables

Sl. No.	Item	Unit (000)	Year 1989-90	Year 1993-94	Per cent Growth	Productivity (tonnes/ha)
1.	Fruits					
	Area	ha	33	179	442.42	—
	Production	tonnes	397	470	18.39	2.62
2.	Vegetables					
	Area	ha	15	65	333.33	—
	Production	tonnes	2.38	326	36.97	5.02
3.	Potato					
	Area	ha	4	19	375.00	—
	Production	tonnes	303	392	29.37	202.40

Source : Statistical Diary, Uttarakhand; State Planning Institute, Lucknow, Uttar Pradesh.

Total production of fruits and vegetables in Uttarakhand is estimated to be 470 thousand tonnes and 326 thousand tonnes respectively. Apple is the most important fruit crop among various fruits grown in the region. It is grown in 54 thousand hectares of land. The production of apple is estimated to be 201 thousand tonnes in 1993-94. Per hectare yield rates of fruits and vegetables were 2.62 tonnes and 5.01 tonnes respectively. Comparing the situation emerging in terms of horticulture development between Uttarakhand and Himachal Pradesh, it indicates that latter state has achieved significantly better progress than the former one in this regard. Compared to the production of 308 thousand tonnes of fruits in 1987-88 from 149 thousand hectares of plantation in Himachal Pradesh, Uttarakhand's 166 thousand hectares of horticultural farm and produced 398 thousand tonnes of fruits. The yield rates of a major fruit crop apple is quite low (3.5 tonnes/ha) in Himachal Pradesh, and 12 tonnes/hectare in Jammu and Kashmir, but per hectare yield rates of temperate fruits, other than apple and sub-tropical fruits, it is substantially higher in Uttarakhand than in H.P. and Jammu and Kashmir.

In view of the very low level of yield rates of agricultural crops it will be more desirable to shift the available land from the cultivation of food crops to the plantation of different fruits

based on the feasibility and suitability of land, topography and agro-climatic conditions of various areas in Uttarakhand. The fact of higher economic return from horticultural crops, particularly apples, than from the cultivation of food crops is well established. Cultivation of apple is found to provide 77 per cent more employment and 58 per cent higher income as compared to the cultivation of agricultural crops. Also the productivity per hectare is about 115 per cent higher in the case of former crops than the latter one.[8]

Table 2.5 : Area, Production and Yield Rates of Fruits in H.P. and Uttarakhand in 1992

Sl. No.	Fruits	Uttarakhand	Himachal Pradesh
A.	Area (ha)		
	1. Temperate fruits	32000	24000
	2. Sub-tropical fruits	54000	36000
B.	Production (qtls.)		
	1. Temperate fruits (Other than apple)	51000	21000
	2. Sub-tropical fruits	126000	10000
C.	Yield Rates		
	1. Temperate fruits	15.9	8.8
	2. Sub-tropical fruits	23.3	2.8

Source : The Himalayan States of India; Development Profile, SHERPA, Lucknow 1992, p. 408.

Moreover, advantage of the development of horticulture in Uttarakhand is not only confined to the creation of employment and income opportunities but it is equally important from the view point of environmental conservation. It contributes to the increase in permanent green cover to the soil beside acting as soil binder thereby preventing soil erosion and landslides to a considerable extent. Plantation of fruit trees also helps in bringing back the nutrients which are actually lost and cannot be used by the field crops, due to its reach to the deeper zones of the soil.

The farmers, particularly in main fruit growing belts, have been well aware of the economic benefits that could be derived

from the utilisation of available land for the plantation of different suitable horticultural plants instead of growing low value traditional agricultural crops. This is well evident by the fact that area under different food crops has been declining while the land under the plantation of different fruits and the production of vegetables is consistently increasing over the years. Also a study revealed that nearly 63 per cent of the fruit growers have expressed their desire to expand their orchard size by additional plantation of fruits.[9]

However, a large number of farmers, those are owing small and marginal land-holdings, are discouraged from growing horticultural crops because of the initial heavy investment required and long gestation periods of fruit trees. Looking the financial situation of the farmers and the amount of investment required for producing different fruits it indicates that, without institutional credit assistance, the small and marginal farmers will not be able to establish and maintain cultivation. Nevertheless, land-holdings in the mountains are small and farmers find it difficult to find alternative sources of income during the long crop gestation period.[10]

Inadequate marketing arrangements is the another major bottleneck in further development of horticulture in the region. The 'advance' or 'pre-arranged' sale of orchards is the most prevalent marketing arrangement in the region which is found to favour fruit contractors rather than fruit growers. Since the contracted prices are commonly significantly lower than the market prices, at the same time, fruits which are grown in remote and less accessible areas do not find a convenient market. Collection of fruits from these areas even by the contractors is a difficult task. Most of it, therefore, is either utilised for domestic consumption or goes waste.[11]

The development of an efficient marketing network for the sale of fruits is a necessary condition for developing horticulture in the region. Organising fruit growers to form into co-operative societies and the development of fruit *mandies* and marketing centres in main fruit growing areas would be of immense help.

This would also prevent the perpetuation of inequitable linkages prevailing between the fruit growers and contractors. Promotion of fruit cultivation could also be accompanied by the development of entrepreneurship abilities among the local people in order to establish small fruit processing enterprises. This would interlise the benefits of horticultural development. Processing fruits into juice, pulp and other intermediary products is possible in very small scale units which can supply its products for final processing to larger plants within or outside the region. It is necessary to plan for the different elements of horticulture development, namely, diversion of currently low-yielding land to fruit cultivation, food security, marketing arrangements, and processing and linkages with larger producers of fruits products for wider markets in an integrated manner; taking the whole programme as a package. Extensive cultivation of fruits in different areas will also contribute to an increase in tree cover and, therefore, improve the environmental situation.[12]

Animal Husbandry

Uttarakhand have varied opportunities and comparative advantages over the plain areas in terms of developing activities associated with animal husbandry. The region is possessing large grazing and paster lands and a variety of forests inter-mixed with big and small stretches of grass. The high altitude bugiyals (paster lands) constitute a climatic climax. However, during recent past increasing rate of deforestation has caused the shortages of fodder. The plants and fodder available in middle and high attitude areas of the mountains contains high quantity of protein which in tern the healthy growth of animals, have also been decreasing over the years. Shortage of balanced nutrition has rendered the animals, poor producers and afflicted from emanciation, poor growth, late maturity, infertility, hemoglobinurea, lantana, poisoning and parasitic infestations.

Availability of fodder for livestock in Uttarakhand is 50 per cent from the forest and grasslands, 32 per cent from tree leaves

and mere 18 per cent from agricultural resources. It is noted that available fodder resources are providing only about 33 per cent crude protein and 69 per cent dry matter of the total requirement to the livestock. Genetic improvement and disease control measures in these animals, suffering from feed scarcity and wide spread malnutrition may therefore, be a futile exercise.[13]

Table 2.6 : Population of Livestock

Livestock Category	1978		1998		1993		Percentage Growth (Annual)
	Animal Numbers	Percentage of Live-Stock	Animal Numbers	Percentage of Live-Stock	Animal Numbers	Percentage of Live-Stock	
Cattle	2027547	51.15	1922567	45.39	1978331	48.40	-0.17
Buffaloes	698658	17.62	804301	18.99	846577	20.71	1.51
Sheep	389990	9.84	354570	8.37	241397	5.90	-2.72
Goats	848115	21.39	908264	21.44	799877	19.57	-0.40
Others	NA	NA	245966	5.81	221363	5.41	-2.00
Total	3964310	100.00	4235668	100.00	4087545	100.00	5.21

Source : Livestock Census, Revenue Department, Lucknow, U.P.

Traditionally, significant importance is attached to animal husbandry in the region both for social and economic considerations. It has been the tradition that every household keeps either a cow or a buffalo irrespective of its economic viability. Also keeping atleast some animals are important from the view-point of that animal dung is the prime source of supplying fertilizers needed for agricultural purposes. However, during the recent past shortage in the availability of fodder both from forests as well as from agricultural fields, due to increasing deforestration in former case and frequently division of land-holdings into smaller in size, have resulted the decreasing trend of livestock population. As per 1993 livestock census, the population of livestock was 4087 thousand and 7613 thousand respectively. It is, however, seen that the population of almost the livestock, expecting the case of buffaloes, has been considerably declining over the years. During past fifteen years,

the population of buffaloes has increased from 698 thousand in 1978 to 847 thousand in 1993 showing the annual growth rate of 1.51 per cent. The population of sheep has decreased at a significantly rate of 2.72 per cent while a remarkable growth rate of above 5 per cent has been estimated in the population of different categories of poultry.

In Uttarakhand the production of milk was 6.04 metric tonnes during 1996-97 and the annual growth rate in its production was estimated to be over 5 per cent. Poultry farming has received a significant importance in the economy of Uttarakhand since the annual growth of eggs has been around 10 per cent during the period of Eighth Plan. Under self-employment generating programmes the private breeders are being encouraged for poultry farming. For healthy growth of the poultry, various health care extension and training centres have been established in different locations of Uttarakhand.

Bearing of sheep and goats has been a traditional and important activity, particularly in high altitude areas of Uttarakhand, for the past several generations. Though the total population of both goats and sheep is declining considerably but the population of better quality sheep is increasing over the years. The wool obtained from sheep and goats is used locally for spinning and for weaving blankets, shawls, sweaters, carpets and various woollen products. Bhotia community people, particularly living in boardering areas of Uttarakhand, has been traditionally engaged in the production and processing of woollen articles, along with the rearing of goats and sheep for the past several centuries.

Assessing the significance of developing animal husbandry in Uttarakhand, various efforts have been undertaken under the planned development strategies in the past. Regarding the development of improved variety sheep, the first initiative was initiated in 1939 and latter in 1951 with the establishment of the wool development and research centre by Animal Husbandry Department at Rishikesh. At present 13 sheep farms have been established in various areas of Uttarakhand. Under the cross-bred development programme, the rams and ewes of border

Leicester, corriedals and polwarth were supplied by F.A.O. Now Russian Marino Sheep are being imported since 1973-74 so as to develop marino wool in Uttarakhand.

During 1976, an Intensive Sheep Development Programme was introduced for the purpose of giving greater thrust for the development of sheep and wool. At present various farms of Animal Husbandry Department are maintaining pure rembulate, pure Russian Marino and cross-bred sheep. From these farms nearly 800 numbers of rams are distributed every year to the breeders for their cross-breeding programme of the above non-descript sheep. It is estimated that there is a need of 2000 rams per year for the above-mentioned sheep breeding programme.

It was stated by the Animal Husbandry Department (AHD) that they are consistently involved in initiating measures for improving the quality of sheep and, at present, they have achieved the level of 70 per cent in breed improvement with fine and medium fine quality of apparel wool. The ultimate aim of AHD is to cover all the local sheep into Rembulate and Russian Marino Sheep according to their adaptability. Efforts are also being made to initiate pasture development programme at selected sheep breeding farms in a big way, so that various farms may be self-sufficient to meet the demands of their feed and fodder. During 1992-93, the State Government sanctioned 675 acres of land for its development in different farms.[14] Pasture grass development programme is also being encouraged with the establishment of fodder and pasture development agency. Animal health care and disease control programmes have been initiated through existing very Hospitals and Dispensaries including mobile dispensaries and diagnostic labs. To ensure adequate health cover for every 15-18 thousand livestock population one veterinary hospital and for every 3000 livestock, one dispensary has been provided. During the Ninth Plan Period an outlay of Rs. 2000 lakhs is proposed for the dairy development, out of which Rs. 500 lakh has been earmarked for the year 1997-98.[15]

The Animal Husbandry Department with the assistance of UNICEF have started a diary development programme in

Uttarakhand. This programme was started during 1994-95, engaging women and forming milk co-operative societies. The milk collection centres along the road side and main milk producing areas have been established. The collected milk from these centres is transported to the Dairy Plants established in the region. It was noted that the diary development programme has been quite successful in terms of providing employment to different segment of people, particularly women, and generation of income. A programme for improving the breeds of buffalo and cow has also been introduced, but it has not been extended in the larger part of the region. Since animal husbandry offers a good potential in the region it is necessary that more and more emphasis should be given for developing different types of fodder on the available pasture land on community basis, establishment of extension centres of veterinary services and bringing improvements in the quality of animals by introducing better breed animals and their distribution among households in larger part of Uttarakhand.[16]

Rural Development

Since inception of planned development programmes in India, creation of employment and income opportunities and alleviation of poverty, so as to bring a drastic change in the pattern of income distribution among different socio-economic groups of population, have been the important thrust area and main objective of rural development programme. In this regard variety of employment oriented programmes and schemes have specially launched since Fourth Plan period. These programmes are mostly sponsored by the Central Government and the State Government is providing fifty per cent of the cost involved in each scheme. These Centrally-sponsored rural development projects include IRDP, DPAP and IREP.

According to official documents of planning department, during Seventh Plan period a total number of 2.32 lakhs families were benefited under the various rural development programmes

in Uttarakhand. However, during Eighth Plan period the number of families benefited under IRDP have gone down to 0.21 lakhs. However, the budgetary provision for the rural development has been remarkably increasing during past plans; during Eighth Plan the expenditure was Rs. 4222 lakhs and the amount of outlay proposed for Ninth Plan has increased to Rs. 7264 lakhs, including Rs. 950 lakhs for the annual plan of 1997-98.[17]

However, the rural development programmes implemented during various stages of planned developments in the past have not achieved its allotted goals upto a desired levels, particularly in the aspects of increasing employment opportunities, upliftment of socio-economic status of the rural poor and in mitigating the problem of poverty among the rural masses due to one or another reasons.[18] The major lacuna in the planning process have been that no consistency was maintained in the strategy of rural development. Most of the programmes were on short-term basis or were *ad hoc* in nature, mostly related to current problems and therefore, ill-conceived and badly managed at the implementation level. In fact most of the rural development programmes which were introduced for Uttarakhand had been the similar kind and nature of programmes and schemes those were introduced for plain area of the state. So lack of the identification and introduction of area specific schemes, the success of various rural development programmes has been almost failure in the past.[19]

The most undesirable malady that has come to the surface was the state assistance and subsidy to poor families to develop the economic viability of their occupations has been often treated as a kind of poverty relief and, therefore, instead of developing a self-reliant and self-generating process of development, a dependency culture emerged. Several related factors such as lack of systematic planning, inadequate and improper co-ordination between agency programmes and sectoral activities, less attention on the infrastructural needs of the schemes implemented under special programmes, inefficiency of administration over implementation of programmes, multiplicity of programmes,

faulty criteria in the identification of beneficiaries have also influenced the implementation of various rural development programmes adversely.

Profile and Impact of Rural Development Programmes

(i) Industry, Service and Business (ISB) Scheme[20]

The IRD programme was launched in Uttarakhand during 1978-79 and several programmes initiated during past planning periods were brought out into a single platform under this new strategy of rural development in the Sixth Five Year Plan. The ISB is one of the major components of IRDP, aims at providing the opportunities of gainful self-employment to the people living below the poverty line in rural area. Besides, the main objectives of the ISB programme are also providing technological know-how and skill, choose the economically and potentially viable activity based on the availability of local resources, offer financial assistance as loan and subsidy for the purchase of raw materials and fixed capital to the selected beneficiaries.

The present study, based on a sample of 125 beneficiary households selected under ISB scheme in eleven villages of Hawalbag block in district Almora, attempted to evaluate the impact of ISB scheme in providing employment and income opportunities, the pattern of changes in the socio-economic conditions and extent of poverty reduced among the identified beneficiaries of the ISB programme.

The overall assessment related to the implementation of ISB programme in the sample area revealed that there has been atleast some increase in the income levels of a majority of the beneficiary families and a significant proportion of them have moved above the poverty line. But the ISB scheme could not achieved its allotted goal so far as the identification of eligible target group families is concerned. It revealed that of the total beneficiary families covered under ISB, only 62.4 per cent were actually eligible to be in the target group. It was noted that due to the

inertia, inefficiency, lack of integrity and positive approaches and lack of cooperation among concerned departments at operational levels the problem of the identification of ineligible households had risen.

A significant proportion of beneficiaries (78 per cent) have also complained that the amount of loan sanctioned to them was inadequate from the view point of the establishment of the proposed activity for which the amount of loan was sanctioned. Monitoring and evaluation have not been very efficiently used in applying timely and corrective measures for removing bottleneck which existed in running the ISB units successfully. Therefore, most of the ISB units were not running efficiently but some of them have even closed down. In fact, among the existing units a majority of them were in operation for less than half a year. The timely supply of raw material and proper marketing arrangement for goods produced in ISB units were noted to be important factors for carrying out the activities viably.

Moreover, on theoretical plane, one would imagine that of the three components of ISB programme the industrial component aught to be most profitable from the view point of increasing employment and income opportunities. However, such is not the case, the industries taken up are the simple traditional types which have little scope for development and so not good from the view point of solving the increasing problems of unemployment and the generation of income. As indicated by the fact that average persons employed per industrial unit are 1.2. Keeping in mind that ISB scheme provides entrepreneurship training, it would have been much more beneficial if the industries selected were those which could have been based on locally available resources and area specific comparative advantages for developing certain manufacturing enterprises and economically more viable units. This would have resulted in higher incomes to the people and to improve the overall economic situation of the villages itself by way of offering scope for additional employment opportunities.

Thus, it may be finally suggested that improvements in the identification of beneficiaries, implementation process of ISB

programme and delivering mechanism have to be strengthened by attacking against the inefficiency, inertia and red-tapism on the one hand and minimising the leakages through ruthless measures on the other. The rural poor have to be organised so as to enable them to get what is meant for them and the involvement of beneficiaries in the ISB programme at different stages has to be ensured. The industrial activities to be identified for developing under ISB should have the capacity to provide long term employment and income opportunity on sustainable basis and have the potentials for their expansion and development in the future.

(ii) Benefits to Weaker Section under IRDP

A study on the aspects related to the disbursement of credit among the IRDP beneficiaries in block Salt of Almora revealed[21] that the programme implementing authority in the sample villages were primarily concerned with the fulfilment of the targets under the scheme rather than percolation of benefits to the weaker sections. Most of the beneficiaries taken up under agriculture development component, received credit but could not benefit much as these measures were not conducive to occurring benefits on permanent basis because these measures increase production only in the case of favourable situation of agricultural development. Since some of the cultivators have been able to purchase she-buffaloes and bullocks, so, to this extent, this programme has helped the beneficiaries; but the benefits provided were not capable of generating regular flow of income as lack of marketing facilities for milk and milk products forced the milkmen to sell their products locally and that too extremely at low prices. Also a significant number of beneficiaries who got loan sanctioned for purchase of buffaloes and bullocks were already having these animals.

The beneficiaries received loan under developing industrial activities had also not got additional employment and income for neither they were professional not willing to take it as a

profession due to social inhibitions. However, the scheduled caste families who received loan for tailoring, blacksmithy, basket-making were doing very well. On the whole the credit disbursement system in the block was suffering from various shortcomings such as, emphasis on creditworthiness of borrowers instead of creditworthiness of purchases for which loans were required.

The *ad hoc* or scattered lending to individuals without a project or area specific was witnessed in the block. Most of the beneficiaries covered under various economic activities were given specific amount of loan for each activity without considering the specific areas and specific target groups. For instance, loans for buffaloes were given almost at uniform rate to all the beneficiaries irrespective of productive assets like ownership of cultivable and pasture land and forest area.

(iii) Impact of IRDP in Developing Weaving and Spinning Activity

There are certain potential economic activities operating at household level, which are generally using indigenous mode of production technology, locally available resources as raw material and own family labour-force for the past several generations, have certainly favourable prospects of development in various areas of Uttarakhand. Among such potentially viable economic activities, the spinning and weaving is a leading economic enterprise which is providing gainful employment opportunities to a larger segment of labour-force in almost every part of Uttarakhand.

Primarily, weaving and spinning activity had been a traditional occupation of Bhotia community people, particularly in high mountain areas of Uttarakhand. Later the spinning and weaving activity became popular among other communities as well in middle mountain areas. Keeping in view the increasing participation of local population in this activity and its importance in the economy of Uttarakhand a comprehensive plan approach

for developing woollen activities was introduced by Industry Department during British Government in India in 1938. Thereafter, various approaches and strategies towards the promotion of spinning and weaving of woollen yarn were came into light during past plans.[22]

Later, the spinning and weaving activity has received special emphasis under Integrated Rural Development Programme. A study[23] based on a sample of 236 households selected from Jarti and Farsali villages in Almora district revealed that before the initiation of IRDP, this activity had faced several problems due to inadequacy in the availability of raw materials and unsystematic marketing system prevailing for the sale of final products. This has resulted the majority of work-force unemployed. Later on the IRDP programme has played a significant role in the re-establishment of spinning and weaving activities, through providing technological advancement in the spinning activity, introduction of training programme, distribution of machines and implements at subsidised costs to the spinners and weavers, providing assured marketing facilities and the supply of raw materials in adequate quantity. The employment in spinning and weaving activity has increased about 62 per cent, but it has increased significantly at higher level in spinning as compared to weaving activity between 1975-76 to 1988-89. Accordingly, the spinning and weaving activities were generating significant amount of incomes. However, the households which are engaged in weaving activity are acquiring higher amount of income as compared to the households engaged in spinning activity.

The number of households and extent of employment in spinning and weaving have also increased considerably in both the villages. However, the employment has increased as much higher level in spinning activity than in the weaving activity. In fact, per household average income and the productivity per water in spinning activity has also increased at a higher rate as compared to weaving activity.

The large increase of productivity among the workers engaged in spinning activity has been because of the introduction of New Model *Charkha* as a means of spinning under the IRDP

programme. But such improvements in the mode of production technology for carrying out weaving activity had not been undertaken. The productivity in weaving activity shown only around 7 per cent increase between 1975-76 to 1988-89. On the whole it could be attributed that the spinning and weaving activities could prove an effective instrument for providing employment opportunity to the increasing level of labour-force in Uttarakhand through bringing improvements in the production technology, upgradation of product designs and developing marketing network for the disposal of finished woollen products.

References

1. Mehta G.S., *Uttarakhand : Prospects of Development*, Indus Publishing Company, New Delhi, 1996.
2. Fahimuddin, Agricultural Productivity and Input use in U.P. Hills, *Productivity*, 33(4), January-March 1993.
3. G.S. Mehta, *Planning for Development of Uttarakhand*; ICIMOD, Kathmandu, Nepal, 1997.
4. Mehta G.S., *Constraints in the Development of Uttarakhand*, Giri Institute of Development Studies, Lucknow, 1995.
5. Valdia K.S., *Uttarakhand Today*; Almora Book Depot, Almora, 1996.
6. Mehta G.S., Potential of Expansion and Development of Horticulture in Uttaranchal; in: Doundiyal N.C. (ed.) *The Separate Hill State*; Almora Book Dept, Almora, 1993.
7. Seth J.N., Horticulture Development in Uttar Pradesh Hills, in: Teaotia S.S. (ed), *Horticulture Development in the Hindu-Kush Himalayan Region*; Oxford-IBH Pub. Co. Pvt. Ltd., New Delhi, 1993.
8. Mehta G.S., *Economics of Apple Growing in India*; Project Report submitted with Development Research Institute, Tilberg, The Netherlands, 1987.
9. Mehta G.S., Problems and Potential of Horticulture Development; in: Singh A.K. (ed) *Planning Strategy for a Developing Region*; Print House Lucknow, 1990.
10. Teaotia S.S., Expert Meeting Discussions: Proceeding on Horticultural Development in the Hindu-Kush Himalayan Region, ICIMOD, Kathmandu, Nepal (June 19-21, 1989).
11. Mehta G.S., *Development Experiences and Options in a Hill Region: The Case of Uttarakhand, U.P.*, ICIMOD, Kathmandu, Nepal, 1997.
12. Mehta G.S., *ibid.*, 1997.

13. Joshi B.P., Sustainable Agriculture with Special Reference to Animal Resources in Uttarakhand Himalaya; in: Dandiyal and Sharma (ed), *The Separate Hill State*, Almora Book Depot, Almora, 1993.
14. Joshi B.K. and Mehta G.S., *Situation of Wool and Wool Related Activities in Uttarakhand*; Giri Institute of Development Studies, Lucknow, 1995.
15. Ninth Five Year Plan (1997-2002), Uttaranchal Sub Plan, U.P., Lucknow.
16. Mehta G.S., *Planning for Development of Uttarakhand*; ICIMOD, Kathmandu, Nepal, 1997.
17. Govt. of U.P., Ninth Five Year Plan (1997-2002) and Annual Plan 1997-98, Vol. I; Uttaranchal Sub Plan, U.P.
18. Tewari R.T. and Sinha R.C., *Rural Development in India*, Ashish Publishing House, New Delhi, 1988.
19. Mehta G.S., Uttarakhand: Prospects of Development; Indus Publishing Co., New Delhi, 1996.
20. Mehta G.S., I.S.B. Programme in District Almora of Uttar Pradesh; in: Pande P.C. (ed.), *Rural Development in India: Issues and Policies*, Anmol Publications, New Delhi, 1990.
21. Adhikari C.S., Credit Disbursement and Percolation of Benefits to Weaker Section under IRDP: A Case Study of Salt Block, Almora, Working Paper No. 59, Giri Institute of Development Studies, Lucknow, 1982.
22. Joshi B.K. and Mehta G.S., *op. cit.*
23. Mehta G.S., *op. cit.*

3

Forestry, Environment and Ecology

Forests and Environment

The forests constitute the most important natural resource in Uttarakhand. They form an eco-system and the protection of forest have remarkable contribution in the process of economic development and environmental stability. Besides their protection functions, they constitute natural biosphere reserves. They are sources of fuel, fodder and timber and crucial in maintaining ecological balance and controlling the region and low lands from various natural calamities such as floods and soil-erosion. Other important production function of forests include supply of timber and bamboo for house construction, railway sleepers, furniture, defence equipments, sports goods, raw materials for paper and other industrial products besides the minor forest produce as oil and soap berries, eatable nuts and fruits, wax, honey, gum, resin, and products useful for medicines and sericulture activities.

From the economic point of view, the contribution of forests in providing employment and income opportunities to the people is quite significant. Uttarakhand is very rich in the availability of various kinds of species, medicinal plants and herbs and other valuable products in its forests. About 30 per cent species of the region are not found anywhere else and they include major trees such as oak, pines, rhododendrons and numerous lauracious species. Uttarakhand is also rich in wild relatives of cultivated plants (125 species) which are require for future crop improvements.[1] Forestry has also been recognised playing an

important role in the economy of Uttarakhand. Among the different economic sectors, forestry and logging are considered to be the third most important economic component after agriculture and manufacturing activities in terms of its share in the total net domestic output. As far back in 1978-79 the Uttarakhand forests were contributing 58.22 per cent of the earning generated from forest of the state of U.P. from its stock.[2] However, due to unprecedently increasing rate of deforestation which incurred by forest mafias and caused by mismanagement of forest departments has shown sharp decline in its contribution both for Uttarakhand as well as for U.P. Between the period 1987-88 and 1990-91, its share has declined from 14.23 per cent to 9.63 per cent respectively.[3]

Situation of Forests

As per official documents of revenue department the geographical area covered under forests account for 3224.8 thousand hectares which is around 67 per cent of the total geographical area of Uttarakhand. But as per satellite emageries actual covered area under forest account for only 44.31 per cent while according to the National Forest Policy the forest cover area in Himalayan region should not be less than 60 per cent.

The National Remote Sensing data revealed that the actual forest area has increased to about 12.2 thousand hectares between the period 1991 to 1995. In fact the dense forest cover has shown 0.91 per cent growth as against 0.71 per cent negative growth rate of open forest during the same period. The highest growth in the forest cover has been found in Tehri Garhwal (3.14 per cent) followed by 1.71 per cent in Uttarakashi while the cover area of forest has declined in Nainital (0.97 per cent), Almora (0.55 per cent) and in remaining districts the growth rate ranges below one per cent. Furthermore, only about three-fourths of the forest area is under dense canopy, rest being open area. Thus, effective forest cover in U.P. hills is only one-third of geographical area. This situation requires urgent attention of our planners and

the people. Roughly 17 lakh hectare areas already classified under forests need to be brought under effective forest cover.[4]

Accordingly, over half of the geographical area of Nainital, Pauri Garhwal, Tehri and Dehradun districts is covered by forest, yet this is significantly much less than the recommended forest cover area of mountain areas by National Forest Policy. In remaining districts the actual covered area of forest is found at lowest level in Pithoragarh (33.83 per cent) followed by Chamoli (34.55 per cent), Uttarakashi (38.66 per cent) and Almora (47.11 per cent). On the whole there has been atleast some progress in the forestation programme in Uttarakhand which is evident by the fact that the dense forest cover area in almost the districts has increased atleast some extent. Only the exception is the case of district Almora where around 100 hectare of dense forest area has been exploited for different purposes during past five years period. It also further pointed out that the forestation programme in Garhwal division of Uttarakhand has shown a remarkable progress during the past. The forest cover area in Garhwal division has increased from 1339.9 thousand hectares in 1991 to 1355.7 thousand hectares in 1995, showing the growth of 1.18 per cent. As against of this, the forest cover area in Kumaun division has declined from 913.7 thousand hectares in 1991 to 910.1 thousand hectares is 1995, accounting the deforestation of 3.7 thousand hectares during the period of past four years. The highest exploitation of forest in Uttarakhand took place between the period 1972 and 1982 when about 8.56 per cent forest cover was reduced.[5] Increasing rate of forestation in Garhwal division could be basically due to the fact that the agitations and movements organised against the increasingly cutting of forests in the past has been mainly launched and widely supported by local people in this division. However, such movements have not been unsuccessful in Kumaun division because of lack of people's participation and poor management of different movements in approaching people at grass-root level.

In Uttarakhand forest with thick crown cover with 60 per cent or more crown density occupy only less than 5 per cent

Table 3.1 : Districtwise Forest Area in Uttarakhand

(Forest area in 000 ha.)

District	1991					1995					
	Forest Dept.	Civil and Soyam	Pancha-yati	Private & can-tonment	Total	Forest Dept.	Civil and Soyam	Pancha-yati	Private & can-tonment	Total	% growth between 1991 to 95
Nainital	361.3	19.2	20.8	2.2	403.5	363.0	19.2	20.8	2.2	405.2	0.42
Pithoragarh	137.8	121.0	71.4	—	330.0	137.8	121.0	71.4	—	330.3	0.09
Almora	147.2	182.1	62.8	0.1	392.1	147.2	182.1	62.8	0.1	392.1	—
Chamoli	363.9	104.3	52.2	—	52.1	378.4	104.3	52.2	—	534.9	2.84
Garhwal	240.3	180.6	29.6	0.6	451.2	238.8	180.6	29.6	0.6	449.6	-0.35
Tehri	269.4	127.8	—	—	397.2	269.4	127.8	—	—	397.2	—
Uttarakashi	695.5	14.8	—	—	710.3	695.5	14.8	—	—	710.3	—
Dehradun	151.3	51.6	—	16.9	219.8	150.7	51.6	—	16.9	219.2	-0.27
Uttarakhand	2366.8 (69.10)	801.4 (023.39)	236.8 (6.91)	19.8 (0.57)	3424.8 (100.00)	2380.8 (69.23)	801.4 (23.30)	236.8 (6.88)	19.8 (0.57)	3438.8 (100.00)	0.40

Source : Annual Plan, Uttarakhand Sub. Plan, 1995-97 and 1997-98, Vol. I Lucknow, U.P.

of the total area of forest, as estimated by selected imageries. Though, these forests exhibit great bio-diversity and have rich wild life, but are in various stages of degradation. For less than 6 per cent of the forests of the lesser Himalayan terrain have leaf canopy more than 60 per cent. This indicate the low productivity of forests for about 5.5 to 20.7 tonnes per hectare. The average low productivity is the result of very poor management of unreserved forests.[6]

As per official records of agricultural department the forest area in Uttarakhand was 3438.8 thousand hectares in 1995. During the period 1991 and 1995 about fourteen thousand hectares land area was brought out under the forestation; thus accounting a growth rate of merely 0.40 per cent in the forest area during past four years period. Almost the districts of Uttarakhand have made atleast some extent of progress in developing forests though highest growth of 2.84 per cent in forest area has been estimated for district Chamoli. The exception is the case of Tehri-Garhwal and Dehradun where forest area has decreased 0.35 per cent and 0.27 per cent respectively during 1991 and 1995.

Management of Forests

The forests in Uttarakhand are largely controlled and managed by Forest Department and Civil and Soyam Department. However, in some districts significantly a small area of forests is also under the management of Village Van Panchayat, private individuals and defence department etc.

Reserve Forest

The reserve forests which are managed by forest department were covering largest area of 69.23 per cent of the total forest area of Uttarakhand in 1995. Though, the reserve forest area in almost the districts, except in Chamoli and Dehradun, districts has increased at some extent between the period 1991 and 1995; but over one-fourth of the forest area is under river beds and bouldry areas (1.3 per cent), alpine pastures and grasslands (5.4

Table 3.2 : Districtwise Forest Cover Area

(Area in '000 ha)

District	Geographical area '000	1991			1995			Percentage in forest cover area		
		Dense Forest	Open Forest	Total	Dense Forest	Open Forest	Total	Dense Forest	Open Forest	Total
Nainital	679.4	294.6	65.7	360.3	292.6	64.2	356.8	0.67	-2.28	-0.97
	(100.00)	(43.36)	(9.67)	(53.03)	(43.06)	(9.45)	(52.52)			
Pithoragarh	885.6	217.8	80.5	298.3	218.8	80.8	299.6	0.46	0.37	0.44
	(100.00)	(24.59)	(9.09)	(33.68)	(24.71)	(9.12)	(33.83)			
Almora	538.5	209.5	45.6	255.1	207.6	46.1	253.7	-0.91	-1.10	-0.55
	(100.00)	(38.90)	(8.47)	(47.37)	(38.55)	(8.56)	(47.11)			
Chamoli	912.5	251.9	63.2	315.1	253.0	62.2	315.2	+0.43	-0.16	0.03
	(100.00)	(27.61)	(6.93)	(34.54)	(27.73)	(6.82)	(34.55)			
Garhwal	544.0	215.6	99.3	314.9	220.7	96.9	317.6	2.36	-2.41	0.86
	(100.00)	(39.63)	(18.25)	(57.88)	(40.57)	(17.81)	(58.38)			
Tehri	442.1	173.4	74.8	248.2	181.1	74.9	256.0	4.44	-0.13	3.14
	(100.00)	(39.22)	(16.92)	(56.14)	(40.96)	(16.94)	(57.90)			
Uttarakashi	801.6	258.6	46.1	304.7	263.4	46.5	309.9	1.86	0.87	1.71
	(100.00)	(32.36)	(5.75)	(38.01)	(32.86)	(5.80)	(38.66)			
Dehradun	308.8	124.3	32.7	157.0	124.3	32.7	157.0	—	—	—
	(100.00)	(40.25)	(10.59)	(50.84)	(40.25)	(10.58)	(50.84)			
Uttarakhand	5112.5	1745.7	507.9	2253.6	1761.5	504.3	2265.8	0.91	-0.71	0.54
	(100.00)	(34.15)	(9.93)	(44.08)	(34.46)	(9.86)	(44.31)			

Source : The State of Forest Report, Department of Forest, Lucknow U.P. and Ninth Five Year Plan, Uttarakhand Sub. Plan, Lucknow, U.P.

per cent), snow lands (2.4 per cent) etc.[7] These forests are also not in sound health. The local people are cutting the oak trees continuously on a large scale for fuel, fodder and using for house construction and manufacture of agriculture implements. Due to the clash of interests of forest department and local people the reserve forests are facing intractable problems in their management. This type of major complain has been consistently experienced in many states of India, therefore, the 14 states of the country have constituted the Forests Protection Committees (F.P.C.) by involving the village people. F.P.Cs. are recognised by the Forest Department and 25 per cent of the total revenue earned from concerned village forest is to be provided to the F.P.Cs. This initiative to participate local people in the management, protection and income sharing of forests has been quite successful in most of states. The forest department of U.P. is also firmly agreed to form F.P.Cs. on the pattern of other states. This would be a quite important measure to regenerate various forest products and to protect the forests from fires and increasingly cutting by forest mafias and contractors.

Civil and Soyam Forests

The civil and Soyam lands accounting for 23.30 per cent of the total forest area are owned by the Revenue Department but the unufruct belongs to local people. These land areas are generally used for grazing of animals. This category of land could also be allotted for the construction of *panchayat ghar*, schools, hospitals, rehabilitation of people caused by natural calamities such as floods, earthquake, landslides etc., and different welfare related programmes such as scheduled caste/tribe settlements etc. The afforestation programme has been initiated in this land by the Civil Soyam Division of Revenue Department through Block Development and Tehsil authorities. The locally available different species of trees, generally chir pine, oak etc. has been planted in this land. The productivity of these lands is very low. Moreover, due to the use of civil land on other than forestation at large, the actual forest area has been decreased at

certain extent. However, as per the official records the forest area under Civil and Soyam Department is constantly 801.4 thousand hectare for the past several years.

Forest Panchayats

The Forest Panchayats were formed in the districts of Almora, Pithoragarh and Nainital of Kumaun division and Chamoli and Pauri Garhwal districts of Garhwal division during the British rule in India in 1931. However, in the remaining districts of Garhwal the Forest areas could not be brought out under the Forest Panchayat because they were the part of Tehri Kingdom at that time. The Forest Panchayat consists of 5 to 9 members elected by the local people. The members elect their own *sarpanch* for a period of 5 years. The Sub-Divisional Magistrate is designated as the Forest Panchayat Officer. He is assisted by the Forest Panchayat Inspectors who are also senior Kanoongo of the Revenue Department.

The functions of the Forest Panchayats are as follows :

1. To check indiscriminate cutting of trees, tempering of fencing by villagers.
2. To earmark silviculturally fit trees for felling.
3. To prevent encroachment on Van Panchayat lands.
4. To fix boundary pillars and to maintain them.
5. To carry out the directions of the Deputy Commissioner or Sub-Divisional Magistrate regarding the administration of these forests.

The Forest Panchayat can levy a fine upto Rs. 50.00 with the prior approval of the Deputy Commissioner. Van Panchayat can also forfeit weapons of the offenders. The financial power of the Forest Panchayats are as follows :

1. They can sell the grass and fallen twings for fire wood, and stones and slates to local people.

2. Resin tapping and felling of trees can be taken up with the approval of the Forest Department.
3. Auction of trees upto the estimated value of Rs. 500 and fodder land areas with the approval of the Divisional Forest Officer.
4. Auction above Rs. 5,000 are conducted by the Forest Department with the approval of the conservator of forests.

The income generated from different sources of Van Panchayats is deposited with the Sub-Divisional Magistrate. However, this money is not readily available to the Forest Panchayats for undertaking any kind of development and the welfare of local people. The responsibility of preparing working plan for Panchayati Forest rests with the Forest Department under the Van Panchayat Act of 1976.[8] But, both the revenue forest and departments act as watch and ward organisations.

These Forest Panchayats were once luxurious prime forests as they were formed from the new reserve forests which were deserved due to people's agitation and mass movements. However, now, the encroachment on the Forest Panchayat and pilferage of grass, fodder leaves, fuel, timber etc. is the common practice. Forestry is a science but the management of Van Panchayats, so far the silvicultural aspects have been total neglected.[9]

The forest area under the management of Forest Panchayats is 236.8 thousand hectares accounting for around 7 per cent of the total forest area of the region. There has been not any change in the area reported under Forest Panchayat for the past several years. The forests cover of Forest Panchayat is considerably at much larger level in Pithoragarh (71.4 thousand hectares) followed by Almora (62.8 thousand hectares) which represents 20 per cent for former district and 16 per cent for later district in the total forest area of the region.

However, the Forest Panchayats in Uttarakhand are badly managed and are over exploited by local people because of their nature as common property. As it has been well believed that

wherever the users have independent rights to the use of common property including forest resources, no user can control the activities of the other users. Total demand exceeds the supply and if there is no organisation to enforce discipline, unrestricted exploitation is bound to result in degradation of the resources.

Increasing tussle between the forest and revenue departments for power over the management of the Van Panchayat has also influenced the local people to undertake encroachment in the Van Panchayat forests. At present the revenue department is administering the activities of Van Panchayats while the forest department has to look into the technical matters. Practically neither the forest department nor the revenue department is seriously concerned in the management and providing technical support as required for the promotion of forests covered under Van Panchayats. The revenue department has been singularly incompetent to handle the affairs of Van Panchayat. A large numbers of cases against the local people those were engaged in the illegally exploitation of forest products, encroachment and several illegal activities over the forests of Van Panchayats are pending with the revenue department for the past several years without making any decision in this regard. Inability of revenue department to decide upon the long-standing cases of defaulters of Panchayati forests has further strengthened and influenced the increasing participation of local people to undertake various illegal activities on the forest land of Van Panchayats.

Alternative Options

Rather than decide over the distribution of management and certain other powers between revenue and forest department it will be more appropriate and advantageous measure to vest almost all powers with Van Panchayat.[10] In fact the Van Panchayat should be provided either the status of autonomous body or it should be merged with the newly formed Village Panchayats. The Village Panchayats which are constitutionally formed by electing the *Pradhans* and its members by the local people of the concerned

villages can well understand the local situations and problems and elements promoting to the degradation of forest resources. Thus, it is expected that empowering Village Panchayats over the administration, management control, solving forest related problems and disputes and planning for development of forestation would certainly be a instrumental measure for solving the increasing problems of deforestation in Uttarakhand. In addition to this several other alternative approaches could also be suggested for reducing the problems of deforestation. However, initiation of any kind of approach in this regard would necessarily require the maximum participation of local people at all stages and process of its properly implementations. In some areas of mountains the attempts at involving community participation in forest regeneration has been quite successful in the past. In fact, the National Forest Policy, 1988 has well emphasized the importance of people's involvement in the development and protection of forests. The need for working out the modalities for giving due benefits to the village community living close to the forest land to ensure their participation in the afforestation programme has also been well emphasized by the Ministry of Environment and Forest in 1989.

The community forestry programme, as it known in Nepal and it is launched in boardering areas of Pithoragarh (Dharchulla), and the social forestry programme initiated in Uttarakhand were two important initiatives launched in the mid-1970. Based on the concept that people are the critical component in forest management, these programmes have transformed traditional governance, forestry activities and attitudes to meet the local villagers needs. This new approach of involving local people in forest management activities has shown quite significant progress in the regeneration of forests in common land areas of Nepal mountains.[11]

In Uttarakhand, the social forestry programme implemented by Forest Panchayats and Gram Sabhas on the common and civil/soyam lands in different districts of hills has been quite successful measures in terms of the regeneration of forests. A

study undertaken by Shah (1986)[12] in four blocks of districts. Almora revealed that the social forestry projects undertaken by Forest Panchayats has shown significantly better progress as compared to projects implemented by Gram Sabhas. In all, about 49 per cent projects have been successful in the regeneration of different local variety trees. In fact, all the forestry projects of two blocks namely, Garur and Bhikhiasen, had been successful in growing local spices of trees and grass.

Another social forestry programme was introduced by the Central Himalayan Environment Association in 11 villages of the Khulgar Watershed area near Almora Town by involving the local people in 1986. Locally available spices and three plants were used for afforestation on about 73 hectares of land. The plantation success rate averages 55 per cent. In some villages it was as high as 90 per cent.[13] Thus, providing increasing emphasis on maximising the participation of local people in the programmes related to the preservation and regeneration of forests in Uttarakhand would be a instrumental measure. However, the programmes at involving people in forest management could not be successfully done alone by the Government itself, so the strong support of local institutions and NGO's would be quite necessary in this regard. Lack of institutions participating at the local level in collecting and bringing awareness for managing forest resources is a great constraint. The Government should initiate for a concrete policy measure to strengthen the support of local NGO's and social institutions by way to providing external support in the matters related to financial and technical aspects.

Forest Policy

The forest policy deals with social and economic aspects of forests and covers a very broad range of subjects.[14] On the one hand, it is to give due consideration for the users and so has to legislate accordingly keeping in view their interests. On the other hand it has to enter the field of silviculture where the focus is on growing those forest crops in the most economical manner

which are best suited to the interests of the forest policy. The forest management policies have been introduced since the period of British Government in India. Several new approaches have been developed and various amendments have been undertaken in the policies introduced in the past. But the conflicts over the claims of various forest products had been common between local people and the Government administration. The history of forest administration during the British period in Uttarakhand may be divided in to four periods :

(a) **1815-1878 :** The British occupation of Kumaun and Garhwal was in 1815 while the Forest Act was passed in 1878. During this period village boundaries were demarcated within which each village exercised its rights of grazing and collecting of timber and fuelwood. There was no system of conservancy and so the most valuable forests were indiscriminately cut down by the Government Contractors.

(b) **1878-1893 :** The boundaries of different forest tracts in Almora and Nainital were demarcated and declared as protected forests. Since these forests were situated in the Bhabar region at the foot-hills they did not effect the daily life of the common man in the hills. It was actually towards the end of 1893 when all wastelands were notified as protected forests and the Government adopted a policy of forest conservation.

(c) **1894-1911 :** A legislation was passed for the preservation of deodar, chir, box, sal, shisham, tun and khair in 1894. The Government issued further instructions through which the protected forests were classified as 'closed civil forests' and 'open forests'. The District Magistrate was to look after the rights and concessions of the villagers in closed forests while in the open civil forests, villagers could exercise their rights without any interference.

In 1911 a new settlement of forests commenced and the forests were classified into three different categories and

classes. The first 'A' category forests were for the fulfilment of the requirement of the local people and for the sale of forest produce. The 'B' category of forests were meant for the preservation of fuel and grass. These both the categories of forests were under the control of forest department. The third 'c' category of forests were not under the control of forest department and so the people had full rights regarding the collection of timber and fuel and grazing animals.

(d) **During 1911 to 1947,** the British Government undertaken surveys and demarcated extensive areas of trackless forests populated by only wild animals. The policy was also to organise forest protection against fire and other damage; to enumerate its valuable trees and enlarge for their judicious exploitation, to record minutely in conjunction with civil authorities, all existing rights and to wage a perpetual was against uncontrolled grazing, theft and indiscriminate falling of trees by contractors. However, recessment among local people was continued both in Garhwal and Kumaun region against the forest policies introduced by British Government in Uttarakhand. In 1916, the Kumaun Association was formed to deal with the problems which are faced by local people due to over control of forests. The Government appointed a committee in 1921 to look into the problems and grievances of the people. The committee classified the forests into two categories. The first category of forests were kept under the direct control of the District Magistrate while the second were under the control of forest department. Some forests were already kept under the management of Van Panchayats.

After independence various amendments have been done and laws have been imposed in favour of the protection of forests in Uttarakhand. However, these acts and laws have certainly led to some difficulties. It has not affected the lives of people in

general but many a times it proves a bottleneck in the implementation of certain development plans such as the construction of roads, bridges, hydel lines, pipelines, etc. coming to the people's concern it is found that after green felling has been stopped the people's rights cannot be met if dry timber and twings are not available in accordance with their demand. The situation today is that while rights do exist the population has gone up to such an extent that the supply is much short of the demand.

Impact of the Forest Policy on Local Population

A study[15] based on a sample of two villages, undertaken in Pithoragarh revealed that the forest products are largely used for heating and cooking purposes. However, the collection and its consumption pattern depend on its availability, distance from villages to nearest forests, family occupation, availability of time and on the season. However, the dominant factors are distance of forests and the availability of fuelwood. It is found that due to depletion of forests, people have to cover a longer distance for collecting fuel wood and thus, it is a time consuming process. Nearly 41 per cent households have to travel 8 to 10 km to collect fuelwood. The overall average distance is around 5.25 km and on an average 5 hours are spent each time a household member to collect fuelwood.

The local people are enjoying the right to use forest products for the construction of houses. Only around 39 per cent of the sample households had applied for trees of which two-thirds had been allotted trees by forest department. Even the timber obtained from the forest was not sufficient to meet their requirement. Thus, they mainly depend on the market for the purchase of required quality and quantity of timbers. In fact, due to increasing problems in the availability of fuelwood in the forests about one fourth of the sample households have acquire the LPG connections.

It was also revealed that the existing procedures in obtaining forest products are cumbersome and time consuming with the result that unnecessarily delays are caused. This has given rise to corruption since those who can afford to please the local staff get their work done easily whereas the common man is the sufferer. There is a considerable resentment against the preferential treatment which is given to the influential segment of the people for whom even the existing rules are at times by passed. Grazing has been a constant problem since over the years, people have started keeping relatively more animals and so the pressure on grazing land is a concern for which no ready solution is easily available.

An assessment regarding the level of awareness among local people about the crucial role of forest in the preservation of environment revealed that about three fourth of the sample households were aware of the fact that the forests are vital for the environmental needs and that the forest wealth should not be depleted indiscriminately. They expressed the views that while it was necessary to cut trees for industrial and domestic needs only the old and mature trees should be cut down. This should be compensated by planting new trees. The villagers accuse the influential persons indulging in unlawful felling of trees in convenience with some forest staff.

Interaction Between Economic Development and Environment

Condition of human living in any spacial unit are determined by the interaction between the population, economy and nature. Population and resources provided by nature are the main elements involved in the process of economic development. The nature also provides the basic resources for human survival and growth, it also imposes, for the same reason, a limit on the possibilities of growth of productive activities. Such conditions arises firstly, the nature may be niggerally and the resource base limited and secondly, an indiscriminate use of natural resources, for meeting

human needs may lead to the eventual depletion of such resources making continued survival and growth difficult, and result in environmental damage adversely effecting the non-economic aspects of human life. A lack of understanding of these interactions and inadequate emphasis on the need to strike a balance among these elements in the strategy for development inevitably result in disequilibrium between the process of economic development, environmental systems and population dynamism.

The need to secure a balance among the above three elements is important universally while its importance is particularly crucial in hilly and mountain areas. In the mountain areas the relationship between the economic pursuit of man for his livelihood and progress and nature is precarious. The economic activities carried out for survival are heavily dependent on the extraction and exploitation of available natural resources. Exploitation of natural resources beyond a point, endangers the environmental and ecological balance, threatening the very survival of people, while limiting the use of resources only to that point where the environmental balance is not threatened is likely to provide only a highly inadequate level of living for the people in the above technological and organisational set-up.

In Uttarakhand, the rapidly increasing population acting upon the limited and environmentally crucial resources, creates the most obvious problem of low level of livings as well as ecological imbalance. Agriculture being the prominent occupation of the people in the region, it is natural that one first looks at the prospects in this sector to provide livelihood to increasing population. However, the physical characteristics of these areas put a limit on the development of agriculture. It also pose the most serious bottleneck in the development of sector in large. Avery limited base of traditional household industries which as basically based on locally available raw material and locally developed production technologies have languished over time due both to declining local production and constrained availability from outside of the raw material and limited marketing scope of the products.

Similar is the case with the use of forest resources for industrial purposes. Forestry in the hill areas illustrates the nature of the dilemma between development, environmental protection and meeting the basic needs of the people. From the view point of environment, it would be dangerous to make any further inroads on the forests thus rendering the use of forest resources for industrial purposes. Also the local population is heavily dependent on forests for meeting some of its basic requirements of life.

Increasing pressure of population and the raising needs of the people imposed heavy pressure on the forests in Uttarakhand. The implication of forest denudation are very serious indeed both from the long-term environmental perspective as well the short term one of meeting the basic needs of the local people. Both these imperatives demand the protection of existing forests cover and the reforestation of larger area as a first priority if environmental degradation is to be avoided and survival of the local population is ensured. Careful thought will have to be given to alternative organisational management for protecting and rejuvenating the forests with maximising the participation of local people.

The economic-environmental dilemma of Uttarakhand is not amenable to easy solution. It is neither enough to argue for local use of local resources nor does opposition to any effort for economic development on the plea that it damage the environment, leads us anywhere. Limited and judicious use of local non-renewable, or difficult to renew, resources combined with the development of a structure of material-light and skill-intensive activities with the minimum adverse effect on environment and ecology could alone offer a better living to local population and prevent damage to the ecological balance.

In this regard, precision instruments and electronics have often been mentioned as such activities which can be developed, but very little efforts has yet been made to systematically plan a network of such units in small complexes in different locations of Uttarakhand. Infrastructure, particularly transport and power, will continue to be the constraints in this regard. The complexes

of such units have, obviously, to be located at places which are already connected by road.

Tourism is an another most important activity which have favourable conditions and opportunity for development in different areas of Uttarakhand. It need to be promoted as a mechanism of social interaction and communication, and it may also come in handy for earning foreign exchange by attracting a larger number of foreign tourists. The economic benefits of tourism to a region are, however, limited particularly if the region cannot have much to offer the tourists in terms of interesting and useful items of specialised local character, for purchase.

Demography, Economy and Environment

The discussions[16] on the demographic, economic and environmental aspects of development of hill areas has generally tended to proceed in isolation from each other and consequently many a times it has been a cross purposes and counter productive. In Uttarakhand, the pressure of increasing population has been acting upon the limited and environmentally crucial resources, creating the most obvious problems of low levels of living as well as ecological imbalances. Consequently, the population is getting increasingly impoverished, and in desperation grows at already depleted resources endangering its own survival in the future.

An imaginative and dynamic approach is thus required to tackle the dilemma of the Uttarakhand. Most primary resources seem to have been stretched to the limited beyond which their further use will snap the environmental chord. Diversification of primary sector especially horticulture to the possible extent, development of fruit processing industries and a net-work of non-resources based light industries and local small scale production of energy offer some of the viable and desirable lines of economic activity. But it must be recognised that the fragile economic base of Uttarakhand, which will remain so even after the above mentioned development take place, will not be able

to bear the burden of increasing population, and the larger population in this area will only endanger the ecological and environmental balance, without being able to improve its economic conditions. Migration will, therefore, continue to occur on an increasingly larger scale; and given these facts, there does not seem any point in lamenting over this phenomenon. In fact, if the protection of environment is considered a high priority, such migration may have to be planned particularly of people in certain hill terrains at higher attitudes, of course, with the provision of alternative and improved avenues of employment of the displaced.

Environmental Protection

A detailed study[17] carried out on the issues related to conservation of environment suggest that regeneration and protection of environment in Uttarakhand could possible done through initiating a comprehensive plan approach in favour of bringing more and more land area under the effective forest cover. To meet this goal the first and foremost priority area would to focus on developing a appropriate land use planning. As around 35 per cent of the geographical area which was under forest cover earlier is currently being wasted or used for grazing animals; although this area is not necessarily planned or developed as pasture land. The first priority for this category of land should be to bring more land under forest cover. Regeneration of environment could be more effectively undertaken by developing the forestry programme, as forests are the major protectors of the environment, and deforestation is the major reason for environmental degradation in Uttarakhand.

There is also an urgent need to classify deforested land, fallow land, waste land, and pastures into different land categories based on quality and suitability for different users; e.g., for wood and fuelwood forest products, plantation of fruit trees, for medicinal herbs and so on. Most land in these categories is controlled by the local village community. It is known as common land and villagers have common rights over its management and

use. However, deforested land, in some cases, is under the forest department as it earlier formed part of the reserved forest. Increasing population pressure on agricultural land and poverty have forced people to encroach on common lands. Most common land in the villages is not suitable for cultivating foodgrains or for other agricultural purposes, so it is left uncultivated and used for grazing and production of fodder. For an ecologically sustainable and economically beneficial use of these lands, it is necessary to encourage organisations of the people for its better management and use. Beside maximising the participation of local inhabitants, it is also important to include committed NGO's, representatives from the forest department and related Government departments and locally elected representatives at different stages of programme implementation.

It must be recognised that the afforestation programme should not be confined to a single objective of protection and regeneration of environment. It must pay equal attention towards the basic requirements of local people. Forest are the main source for supplying fuelwood for cooking and heating purposes of people, fodder for animals, timber for construction of houses and several other purposes. At the same time, due to increasing level of commercialisation and industrialisation in the plain areas outside Uttarakhand the local people have also been tempted to exploit forests for profit. Local community organisations with responsibility to manage their own forest resources could be the most effective way to check this trend. A careful attention is urgently required in terms of providing alternative ways for fulfilling local needs currently fulfilled by forest resources. As fuelwood is the major need at present met by forests; development and access to alternative energy options is crucial for checking deforestation due to this reason.

References

1. Singh S.P., Forest Welath of Uttarakhand, in: Valdia K.S. (ed.), *Uttarakhand Today*, Almora Book Depot, Almora, 1996.

2. Dhar, T.N. and Gupta S.P. *The Himalayan States of India*; Development Profiles, SHERPA, Lucknow, 1992.
3. Mehta G.S., *Development Experiences and Options in a Hill Region: The Case of Uttarakhand*, International Centre of Integrated Mountain Development, Kathmandu, Nepal, 1997.
4. Singh, A.K., Some Aspects of Land Use Planning for Uttar Pradesh Hills; in: K. Kumar, Dhyani, P.P. and Palni, L.M.S. (eds.), *Land Utilization in the Central Himalaya: Problems and Management Options*, Indus Publishing Co., New Delhi, 1996.
5. Jafri, S.S.A., Deforestation and Land Degradation in Central Zone of India : A Study of Ecology; *Man and Development*, December, 1990.
6. Valdia, K.S.; Distinct Socio-cultural Identity of Resource and Planning for Development, in: Valdia K.S. (ed.), *Uttarakhand Today*, *op cit.*
7. Singh, M. and Lal, M., Land Use Planning in Hill Regions and People's Participation; Paper Presented in a Seminar on Land Use Planning in Hill Region and People's Participation, October 27 and 28 1995 organised by SHERPA, Lucknow, 1995.
8. Shah, S.L., *Planning and Management of Natural and Human Resources in the Mountains*; Yatan Publications, New Delhi, 1986.
9. Shah S.L., Issues Related to Sustainable Land Use in Uttarakhand: Learning Lessons of Multi-Disciplinary Action Research in Land Use Planning, in: K. Kumar, P.P. Dhyani and L.M.S. Palni (eds.), *Land Utilisation in the Central Himalaya, Problems and Managements Optims*, *op. cit.*
10. Saxena, N.C., *Cannons, Trees and the Poor in the Uttar Pradesh Hills*, Overseas Development Institute, London, 1987.
11. Shengji, P., *Natural Resource Management*; ICIMOD, Kathmandu, Nepal, 1993.
12. Shah, S.L., *Planning and Management of Natural and Human Resources is the Mountains*; Yatan Publications, New Delhi, 1986.
13. Mehta, G.S., Development Experiences and Options in a Hill Region: The Case of Uttarakhand, U.P., ICIMOD, Kathmandu, Nepal, 1997.
14. Joshi, A., *Development of Forest Policy in India with Reference on the Hill Region*, Working Paper 117, Giri Institute of Development Studies, Lucknow 1992.
15. Joshi, A. and Pande, P.N., *Forest Policy and Its Impact on the Rural Population in Uttar Pradesh Hills*; Giri Institute of Development Studies, Lucknow, 1991.
16. Papola, T.S. and Joshi, B.K., *Demography, Economy and Environment in the Development of U.P. Hills*, Working Paper No. 50, Giri Institute of Development Studies, Lucknow, 1984.
17. Mehta G.S., *op. cit*

4

Industrialisation and Urbanisation

Industrial Development

It has been well recognised the fact that while agricultural development as such can serve as an effective instrument in fulfilling the objectives of balance regional development and more specifically development of backward areas to a certain extent. But the theoretical as well as empirical evidence suggests that infusion of non-agricultural activities, particularly manufacturing can play an important role in overall process of socio-economic development through creating the increasing opportunities of employment and incomes. The capacity and potentials of providing gainful employment opportunities have been recognised comparatively at larger extent in industrial economy than in the agricultural sector. As it has been generally observed that productive employment opportunities have been consistently increasing in the industrially more developed states/ countries than in the industrially backward states/countries. This indicates the fact that planing for industrial development can significantly widen the employment and income opportunities to a great extent in socio-economically backward and hill areas.

In Uttarakhand, creation of employment opportunities according to the increasing trend of labour-force has been a serious problem. As the activities associated with agricultural sector cannot be developed to a certain extent because the development of agriculture is restricted by various geographical, topographical and other locational problems. Lack of irrigation facilities, small

size of holding, low level of fertility contains available on soil, incapability and unsuitability of land in using improved agricultural development. Practices are the another related problems in the development of agricultural economy in Uttarakhand. Augmenting water resources and bringing additional land area under the facility of irrigation is much difficult in the presently emerging situation of increasing deforestation. So the possibility of increasing agricultural productivity so as to create additional gainful employment opportunities has been realised a rather difficult task. In this regard development of industrial sector can play an instrumental role in gainfully observing the increasing level of labour-force at certain extent in Uttarakhand.

Contribution of Industrial Sector in the Economy

However, the contribution of manufacturing sector[1] in the absorption of labour-forced has not been very much appreciable in the past. In fact negative performance has been observed in terms of providing employment opportunities of manufacturing sector during 1981 and 1991. The concentration of the work-force has been at large scale in agriculture sector for the past several decades but it has been consistently declined from 69.31 per cent in 1981 to 64.53 per cent in 1991. The shift of work-force from agriculture and manufacturing sector has been to tertiary sector. The growth of workers in tertiary sector has also been significantly much higher (45.96) as compared to agriculture sector (14.62 per cent), while it has declined at 28.74 per cent in manufacturing sector. However, the decline in the growth of work-force in manufacturing sector has been due to decrease of male work-force, otherwise the actual number of women work-force has increased from 4.2 thousand to 5.4 thousand, showing a remarkable growth rate of 28.57 per cent during 1981 and 1991.

The contribution of manufacturing activities, both household and non-household industries, in the total net domestic output of the region has increased marginally from 19.21 per cent in

1987-88 to 20.80 per cent in 1990-91. However the value of NDP earned from non-household manufacturing sector is found fourfolds higher than the NDP earned from household manufacturing sector, obviously due to the nature of a larger amount of per unit capital investment and larger quantum of production involved in former categories of manufacturing activities than the latter one. Across the different districts, the share of non-household industries in the total NDP is remarkably much higher for Nainital (18.69 per cent) followed by Dehradun (18.04 per cent) because of the concentration of larger industrial units in these two districts. However, the contribution of household industrial sector in the NDP is found significantly at larger extent in purely hilly districts: Chamoli (14.24 per cent) followed by Almora (7.96 per cent) and Pithoragarh (7.24 per cent).

The value added per worker in manufacturing sector in Uttarakhand is estimated to be Rs. 14120 which accounts around 13 per cent higher than the state average. Excepting the case of Tehri-Garhwal and Garhwal the corresponding figure is worked out to be much higher for all districts than the state average. Across the districts, it is significantly highest for Almora district (Rs. 32.34 thousand) followed by Pithoragarh (Rs. 14.83 thousand) and lowest for Tehri Garhwal (Rs. 2.70 thousand). It is also pointed out that value added per worker is registered significantly much higher for districts where household manufacturing activities are mainly concentrated as compared to the districts, such as Nainital and Dehradun, where the large scale industrial units are mainly concentrated. This indicates the fact that the manufacturing activities which are using labour intensive technologies are generating significantly larger amount of per worker income than the large industrial units which are based on capital intensive technology in the production of goods.

Thus, looking the favourable comparative advantages of using labour intensive technology over the capital intensive technology in the manufacturing activities in terms of their efficiency in generating per worker income it would be desirable that the industrial development in Uttarakhand could be initiated through

the expansion of small scale enterprises by providing necessary facilities and incentives required for their growth and development rather to think in terms of the expansion of large industrial units.

Pattern of Industrial Development

A study[2] on the pattern of development of different categories of industrial units in Uttarakhand revealed that in the past various efforts have been initiated towards the promotion of industrial development in the region. Uttarakhand has been categorised as industrially backward region, even most of the districts have been defined a zero industry districts such that increasing numbers of incentives in the form of financial assistance which are provided by the Government under the provision of developing industrial sector in industrially backward districts, could be availed. In view of attracting increasing number of entrepreneurs for establishing industrial units in Uttarakhand the facility such as transport subsidy is also additionally being provided. Increasing emphasis has also been provided to promote the entrepreneurship capability among the local youths by organising various training programmes for them.

In spite of the availability of various types and varieties of raw material and introduction of several facilities and incentives by the Government for the promotion of different industrial activities, the region has remained industrially backward. Information available on the number, size and product structure is not systematic. There are different sources, censuses, surveys, estimates and registers of different agencies using different concepts and coverage, and these often overlap. The following broad picture is emerged from the available statistics.

Large Industrial Units

The total number of registered factory units (employing 10 or more workers each) was 441 in the entire Uttarakhand region, the total number of employees was 37.5 thousands in 1989-90

Table 4.1 : Large Scale Industries Registered Under Factory Act

Description	Nainital	Almora	Pitho-ragarh	Tehri	Uttara-kashi	Chamoli	Pauri	Dehradun	Uttara-khand
1979-80									
Units	48	11	3	4	2	—	12	97	177
	(27.12)	(6.21)	(1.70)	(2.26)	(1.13)		(6.78)	(54.80)	(100.0)
Investment	34.42	3.62	1.44	0.31	0.03	—	0.38	52.38	92.58
(Crore Rs.)	(37.18)	(3.91)	(1.56)	(0.33)	(0.03)		(0.41)	(56.58)	(100.0)
Employment	9695	863	254	55	56	—	214	8853	19990
	(48.50)	(4.32)	(1.27)	(0.28)	(0.28)		(1.07)	(1.48)	(100.0)
Production	43.98	3.03	1.35	0.81	0.09	—	1.42	45.55	96.23
(Crore Rs.)	(45.70)	(3.15)	(1.40)	(0.84)	(0.09)		(1.48)	(47.33)	(100.0)
1988-99									
Units	265	12	—	14	—	—	13	137	441
	(60.09)	(2.72)		(3.17)			(2.95)	(31.07)	(100.0)
Investment	547.19	7.69	—	16.39	—	—	27.48	140.00	738.75
(Crore Rs.)	(74.07)	(1.04)		(2.21)			(3.72)	(18.95)	(100.0)
Employment	24395	926	—	592	—	—	676	10886	37457
	(65.13)	(2.47)		(1.58)			(1.80)	(29.01)	(100.0)
Production	664.61	13.04	—	31.29	—	—	10.88	178.79	898.61
(Crore Rs.)	(73.96)	(1.45)		(3.48)			(1.21)	(19.90)	(100.0)
Annual Growth Rates									
Units	60.23	1.01	—	5.56	—	—	0.93	4.58	16.57
Investment	165.53	12.49	—	92.96	—	—	792.40	18.59	77.55
Employment	16.85	0.81		10.18	—	—	23.99	2.53	9.70
Production	156.80	36.71		149.85	—	—	74.03	32.50	92.65

the latest year for which data from the Annual Survey of Industries were readily available. There were 177 units in 1979-80, thus showing a growth of two and a half times the number over the decade. Two features of the pattern of these industrial units are worth-noting: (i) Two districts, namely, Nainital and Dehradun, with 265 and 137 units out of the total of 441 in 1989-90, accounted for 91 per cent of the total units. In 1979-80, they accounted for 82 per cent of the units. Both these districts have sizeable part of their area in the plains. Therefore, only nine per cent of the large units in Uttarakhand are in purely hilly districts, and in fact, three districts, Pithoragarh, Chamoli and Uttarakashi have no industrial units at all. (ii) Food products are the largest and fastest growing product groups. Thirty-seven per cent of the total units are in this group and their number increased from 25 in 1979-80 to 162 in 1989-90; 148 of them are in Nainital district itself. The next largest group consists of petroleum products and fertilizers; the number of units in this group increased from 11 to 60 over the reference period; but 54 of them are again located in Dehradun and Nainital districts. The third largest group is of non-metallic mineral products, mainly limestone and brick making, again, mostly located in these two districts.

Level of investment in large industrial sector has increased from Rs. 92.58 crore to Rs. 738.75 crore showing an annual growth rate of 77.55 per cent during 1979-80 to 1988-89. However, the growth of industrial investment is found significantly highest for Pauri (792 per cent) followed by Nainital (166 per cent) and Tehri Garhwal (93 per cent) and lowest for Almora (12 per cent) but this investment has been made largely in Nainital and Dehradun districts; though the share of total investment in Nainital district had increased from 37.18 per cent to 74.07 per cent while it has declined from 56.58 per cent to 18.95 per cent in Dehradun district during the reference period.

The value of industrial production has been increasing at the rate of 92.65 per cent per annum while the employment in industries has been showing very lower rate of growth of only 9.70 per cent during the past decade. It is further noted that the

value of production has increased at highest level in district Nainital (157 per cent) with merely 17 per cent growth in employment, but the growth in employment has been highest in Pauri (23.97 per cent) with 74 per cent growth in the value of production. The lowest level of growth in production is, however, indicated for district Dehradun (32.50 per cent). On the whole Nainital district had the largest share in providing employment of 65 per cent labour-force in industrial sector in the region (Table 4.2).

A review of analysis based on the distribution of industrial units according to their product groups reveals that the industrial units which products are based on the locally available resources have been increased at great extent. The units engaged in the production of food and food related products, wooden products, non-metallic mineral products are the most important industrial categories among them. However, the industrial units which products were based on the raw material available outside Uttarakhand are declining over the years. A major decline of 57 per cent has been recorded in the case of industrial units those were manufacturing electrical and non-electrical goods during 1979-80 and 1988-89. The largest growth of about seven-folds has been estimated for units which are engaged in the production of food and food related products. Industries using forest products as a base for producing different wooden goods have increased from 4 in 1979-80 to 26 in 1988-89. During this period, 9 woollen and cotton textile units comprising 5 units in Dehradun and 4 units in Nainital, and 7 paper and printing units in Nainital were newly established. The industrial units which were classified under the category of 'others' by industry department are mainly involved in the manufacturing and repairing of different kinds of machinery and transport goods. These industrial units showing an increasing trend of 149 per cent, are mainly concentrated in the purely hilly and mountainous districts of the region.

The ownership pattern of existing industrial units in Uttarakhand revealed that significantly a large proportion of units (73 per cent) are established under the ownership of private

Table 4.2 : Product-wise Large Industrial Units

(Area in '000 ha)

Districts	Food and food products	Textile (woollen and cotton)	Wooden products (Railway sleepers etc.)	Paper and printing	Petroleum, fertilizers, chemicals, etc.	Electric & Non-electric (engineering)	Non-metallic and ornaments	Repairs	Others	All products
1979-80										
Tehri Garhwal	—	—	—	—	—	—	—	—	6	6
Dehradun	3	—	4	—	11	37	7	5	30	97
Pauri	6	—	—	—	—	—	—	—	6	12
Almora	—	—	—	—	—	—	—	—	11	11
Nainital	16	—	—	—	—	—	—	7	25	48
Pithoragarh	—	—	—	—	—	—	—	—	3	3
Total	25 (14.12)	—	4 (2.25)	—	11 (6.21)	37 (20.90)	7 (3.95)	12 (6.78)	81 (45.76)	177 (100.00)
1979-80										
Tehri Garhwal	—	—	—	—	—	—	—	—	14	14
Dehradun	14	5	5	—	27	5	18	9	54	137
Pauri	—	—	—	—	3	—	—	—	10	13
Almora	—	—	—	—	3	—	—	—	9	12
Nainital	148	4	11	7	27	11	10	3	44	265
Pithoragarh	—	—	—	—	—	—	—	—	—	—
Total	162 (36.73)	9 (2.04)	16 (5.90)	7 (1.59)	60 (13.60)	16 (3.63)	28 (6.35)	12 (2.72)	131 (29.76)	441 (100.00)

Note : Figures of Chamoli and Pithoragarh are clubbed with Pauri and Almora respectively, and there was no factory in Uttarakashi.
Source : Annual Survey of Industries, U.P. State Planning Institute, Lucknow.

concerns. And the industries owned by government constitute to be around 21 per cent. But the number of industries formed by State/local Governments are observed significantly much higher than the industries established by Central Government. At the district level, it is pointed out that over one-third of the units in Pithoragarh and around 55 per cent units in Almora are established by the State Government while not even a single unit in Tehri Garhwal is formed by the Government. Comparing the proportions of different categories of industrial units established by Government in Uttarakhand and in rest of U.P., it is witnessed that the State Government have given a preferential treatment in the establishment of industries in favour of Uttarakhand over the establishment of units in remaining part of the state. Since the proportion of industries formed by Government at state level account for 7.11 per cent as against 21.28 per cent in Uttarakhand. Also, the proportion of industries established under the joint ownership of public and private are found higher in latter area than the former one. However, the industries owned by private concerns are less in Uttarakhand (73 per cent) as compared at state level (91 per cent). This indicates the fact that the existing provisions of providing incentives and facilities in favour of industrial development in Uttarakhand are not influencing to increasing numbers of private entrepreneurs to establish industry in the region.

Small Scale Industrial Units

The small scale units functioning in Uttarakhand are mainly based on the locally available raw material and most of the units are observed using indigenous mode of production technology which was locally developed during the past several generations ago. Such category of industrial units are involved in the production of khadi and related products, handicraft products which are basically based on forest and mining products, food products, handloom and some miscellaneous products. The data for 1991-92 indicate a total number of 33.32 thousand units

existing in the region, of which 45 per cent are khadi and related units, 18 per cent handicrafts, 9 per cent handloom fabrics and 10 per cent food products. The concentration of small units was revealed at highest level in Nainital district (43.43 per cent) followed by Almora (12.99 per cent) and equal numbers of around 9 per cent each in Uttarakashi, Pauri and Dehradun while only 1.37 per cent units were located in Tehri Garhwal district (Table 4.3). Domination of khadi and related industrial units is indicated in all the districts of Uttarakhand, though is significantly at highest level in Dehradun (83 per cent) followed by 58.09 per cent in Pithoragarh, 55.69 per cent in Uttarakashi and at lowest level in Tehri Garhwal district (23.46 per cent). The second most dominant industrial activity is the manufacture of handicraft products, constituting largest proportion in Pauri district (53.50 per cent) followed by 22.77 per cent in Nainital and lowest proportion of 1.67 per cent in Dehradun.

The trend of growth in the number of different industrial units during the period 1988-89 and 1991-92 revealed that industrial units which are engaged in the production of handloom articles are increasing to a large extent, indicating the annual growth rate of 66.14 per cent as against the overall growth of 27.25 per cent of all small scale units in the region. The growth of khadi and related units is estimated to be 42.79 per cent per annum. However, the proportion of handicraft units, among the total existing small scale units, has declined from 25.59 per cent in 1988-89 to 17.57 per cent in 1991-92, but the proportion of khadi and related units has increased from 35.70 per cent to 44.61 per cent during the same period of time. The lowest level of growth has been observed in the development of units which are engaged in the production of silk products (5.50 per cent) and chemical units (7.03 per cent) during 1988-89 and 1991-92 (Table 4.4). On the other, the proportions of remaining categories of industrial units, in the total existing units, have also been considerably declined over the years.

Table 4.3 : Industrial Units by Production Category (in 1991-92)

Districts	Khadi & other related units	Engineering	Chemicals	Hand-loom	Handi-crafts	Silk	Food processing	Others	Total
Almora	1578	434	100	566	340	196	1115	196	4329
	(36.45)	(10.03)	(2.31)	(13.07)	(7.85)	(4.53)	(25.76)	(4.53)	(12.99)
Nainital	5753	945	337	1590	3295	—	1365	1187	14472
	(39.75	(6.53)	(2.33)	(10.99)	(22.77)		(9.43)	(8.20)	(43.43)
Pithoragarh	1371	56	11	109	117	—	404	292	2360
	(58.09)	(2.37)	(0.47)	(4.62)	(4.96)		(17.12)	(12.37)	(7.08)
Uttarakashi	1658	180	13	169	265	50	127	515	2746
	(55.09)	(6.05)	(0.44)	(5.68)	(8.90)	(1.68)	(4.27)	(17.30)	(8.93)
Chamoli	1122	79	8	383	138	5	369	642	2746
	(40.86)	(2.88)	(0.29)	(13.95)	(5.03)	(0.18)	(13.44)	(23.38)	(8.24)
Tehri	107	31	9	6	22	—	—	281	456
	(23.46)	(6.80)	(1.97)	(1.32)	(4.82)			(61.62)	(1.37)
Dehradun	2433	26	—	17	49	—	—	414	2929
	(82.78)	(0.88)		(0.58)	(1.67)			(14.09)	(8.81)
Pauri	846	394	46	—	1630	6	—	125	3047
	(27.77)	(12.93)	(1.51)		(53.50)	(0.20)		(4.10)	(9.14)
Uttarakhand	14868	2145	524	2840	5856	61	3380	3652	33326
	(44.61)	(6.44)	(1.57)	(8.52)	(17.57)	(0.18)	(10.40)	(10.96)	(100.0)

Note : Figures in brackets indicate the percentage of column totals.
Source : Statistical Diary, Parvatiya Kshetra, U.P., State Planning Institute, Lucknow.

Table 4.4 : Small Scale Industries by Product Groups

Industry	1988-89	1991-92	Per cent Growth	
			1988-89-1991-92	Annual
Khadi and related units	5483 (35.70)	14868 (44.61)	171.17	42.79
Engineering	1024 (6.67)	2145 (6.44)	109.47	27.37
Chemicals	409 (2.66)	524 (1.57)	28.12	7.03
Food Processing	2148 (13.99)	3380 (10.14)	57.36	13.34
Handlooms	779 (5.09)	2840 (8.52)	264.57	66.14
Handicrafts	3930 (25.59)	5856 (17.57)	49.01	12.25
Silk	50 (0.33)	61 (0.18)	22.00	5.50
Others	1534 (9.99)	362 (10.96)	138.01	34.52
Total	15357 (100.0)	33326 (100.0)	117.01	29.25

Note : Figures in brackets indicate the proportion of total industrial units.

Household Industries

The data related to the number of existing household industries, pattern of investment, production and employment structure for the years 1989-90 and 1993-94 have been obtained from the official documents of the industry department. Distribution of household industries is found to be more evenly distributed among the districts in the region. Of the total number of 24,416 units, a fairly larger number of them are located in Almora district (22.76 per cent) and lowest proportion of 8.26 per cent in Uttarakashi. Remote and mountainous districts such as Chamoli (11 per cent) and Pithoragarh (12 per cent) also had good number of such industries. With the investment of merely Rs. 225.1 million the household industries are employing 43,726 workers and producing various commodities and goods valued

at Rs. 803.6 million. Across the districts, the value of production and employment in these industries are quite positively related with the level and rate of investment. All districts are showing almost similar trends in the share of the value of investment and production and in providing employment. The share in amount of investment of such industries in the region varied lowest from 6.35 per cent for Tehri to highest at 21.37 per cent for Almora. The lowest percentage share in production and employment accounts for 6.12 per cent and 6.40 per cent respectively again for Tehri as against highest for Almora at 22.35 per cent and 22.85 per cent respectively.

Growth in household industries, though significant, has been slower than growth in large and small scale industries. Their number has doubled over the period 1989-90 to 1993-94, but investment, output and employment have been slowed. Similarly, the growth of household industries has been relatively faster in the purely hilly districts of Pauri, Chamoli, Tehri, Uttarakashi, Almora and Pithoragarh than in Nainital and Dehradun. The household industries have increased at the rate of 4.89 per cent while the growth of investment is registered at 2.95 per cent as against only 0.69 per cent growth in production, annually during 1989-90 and 1993-94. The employment opportunities have increased 2.58 per cent annually. It is further observed that the expansion of household based industries has largely occurred in Pauri district, the consequences has shown relatively highest growth in the capital investment, value of output and employment. However, the lowest level of growth in the expansion of industrial units at household level has been indicated in the case of Dehradun district (12.79 per cent) followed by Nainital (16.69 per cent). In fact the lowest growth rate in the creation of employment opportunities in these industrial units has also observed in Nainital (8.34 per cent) closely followed by Dehradun (8.96 per cent).

The household based manufacturing activities existing in Uttarakhand are basically based on locally developed mode of production technology and are mainly using own family labour force and locally available raw material. These units have been

Table 4.5 : Household Industries

(in Million Rs.)

Districts	1989-90				1993-94				Per cent Growth			
	No. of Units	Invest-ment	Produc-tion	Employ-ment	No. of Units	Invest-ment	Produc-tion	Employ-ment	No. of Units	Invest-ment	Produc-tion	Employ-ment
Dehradun	3064	30.6	122.4	6128	3456	31.5	124.1	6677	12.79	2.94	1.39	8.96
	(15.61)	(15.60)	(15.76)	(15.82)	(14.15)	(13.99)	(15.44)	(15.27)				
Pauri	1036	10.4	41.6	2072	2027	19.7	57.5	3063	95.66	89.42	38.22	47.83
	(5.28)	(5.30)	(5.36)	(5.35)	(8.31)	(8.75)	(7.16)	(7.00)				
Tehri	1210	12.1	48.4	2410	1597	14.3	49.2	2797	31.98	18.18	1.65	16.06
	(6.17)	(6.17)	(6.23)	(6.22)	(6.54)	(6.35)	(6.12)	(6.40)				
Chamoli	1973	19.1	78.8	3946	2379	24.2	79.5	4352	20.58	26.70	0.89	10.29
	(10.05)	(9.73)	(10.14)	(10.19)	(9.74)	(10.75)	(9.89)	(9.95)				
Uttarakashi	1627	16.3	65.2	3254	2017	18.0	66.1	3684	23.97	10.43	1.38	13.21
	(8.29)	(8.31)	(9.39)	(8.40)	(8.26)	(8.00)	(8.23)	(8.43)				
Nainital	3781	37.8	151.2	7562	4412	42.8	155.6	8193	16.69	13.23	2.91	8.34
	(19.27)	(19.27)	(19.46)	(19.52)	(18.02)	(19.01)	(19.36)	(18.74)				
Almora	4437	44.4	177.6	8874	5556	48.1	179.6	9993	25.22	8.33	1.13	12.60
	(22.61)	(22.63)	(22.86)	(22.91)	(22.76)	(21.37)	(22.35)	(22.85)				
Pithoragarh	2495	24.9	91.6	4490	2972	26.5	92.0	4967	19.12	6.43	0.44	10.62
	(12.71)	(12.69)	(11.79)	(11.59)	(12.17)	(11.77)	(11.45)	(11.36)				
Uttarakhand	19623	196.2	776.8	39736	24416	225.1	803.6	43726	24.43	14.73	3.45	12.88
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)				

Source : Industrial Development in U.P., Progress Report, Directorate of Industries, Kanpur, U.P., 1991 and 1996.

manufacturing various commodities and articles used for performing agricultural activities, collection of forest production, intermediate raw material used for house construction and other goods as per local requirement. The markets for goods produced by these units is limited upto the various parts of Uttarakhand only, so that the volume of production is very limited upto the requirements of local people. These industrial units are such as tailoring, artisans, weaving and spinning of wool, carpentry, blacksmithy, handicrafts etc. and some of the units are involved in the production of copper, ringal (small bamboo) and various locally available raw material based products.

Handicraft Activities

A study based[3] on 528 various handicraft units, undertaken in Pithoragarh district revealed that the handicraft activities functioning in the yards of the households of the proprietors with the help of own family labour-force are mostly traditional activities. These activities which are involved in the production of ringal, copper and woollen articles are carried out from the past several generations by households belonging to certain social groups, as a part of the village economy and social structure.

The main crafts which are manufactured by woollen units are Pankhi, Shawl, Thulma, Carpet, Sweater and Paschmina. The ringal handicraft units products are mat, baskets and several other articles which are used for carrying out agricultural activities and the collection of forest products. The copper handicraft units are involved in the production of various types of kitchen utensils, metal ornaments and *puja* items. The machinery, equipments and small tools used in the production of different types of handicraft products were developed by the local craftsmen during the past several generations ago. The raw materials required for the production of different handicrafts is mainly available in Uttarakhand itself. However, during recent past the availability of main raw materials required for the production of woollen and copper products has reduced substantially which have

adversely affected the production capacity of a large number of handicraft units. Ringal is the only raw material used for the production of ringal handicrafts which is available locally in the forests, even some craftsmen have grown it on their waste and fallow land area.

The handicraft activity with low level of investment provides lower level of earnings to the work-force engaged on them. Irrespective of this fact the contribution of these activities have universally been well recognised in providing gainful employment opportunities to the increasing level of labour-force in the rural areas. While low capital requirement is an attractive feature of handicraft activities, particularly from the view point of a capital scarce economy, they assume important in a strategy for creating employment and earnings in underdeveloped region such as Uttarakhand. The analysis of the data depicted that handicraft activities are providing employment to a larger extent of both men as well as women labour-force, even a sizeable numbers of children are participating in these activities during off time from their education.

Of the total work-force (1271) engaged in the handicrafts, the share of men and women work-force accounts for 46 per cent and 44 per cent respectively. Remaining 10 per cent share is found for children. Accordingly, the domination of male workers is found in the ringal (54 per cent) and copper (46 per cent) handicrafts while the proportion of women is significantly at higher level (49 per cent) as compared to their male counterpart (41 per cent) in the woollen handicrafts. This is basically due to the fact that the production of woollen handicrafts require less physical strength as compared to the production of remaining two other handicraft products.

It was further pointed out that the handicraft activities in fact, have relatively small number of workers per unit. The average number of workers per unit employed is 2.32; it is highest for woollen (2.60 workers) followed by ringal (2.12 workers) and lowest for copper (1.94 workers) handicrafts. Highest proportion of all units (49 per cent) including 54 per cent copper,

52 per cent ringal and 47 per cent woollen units are employing on an average of two workers each and around 16 per cent units in all, consisting highest among ringal (18 per cent) followed by woollen (17 per cent) and lowest from copper (3 per cent) are employing, even more than 4 workers. Per unit average mandays employment is estimated to be 624 which is highest for woollen (740 days) followed by copper (616 days) and lowest for ringal (481 days) units.

The analysis on sex-wise distribution of workers reveals that the participation of women workers in different handicrafts is very remarkable because these activities are run on household basis as a traditional activity of the concerned craft households. As we found that only 19 per cent of the units are functioning without employing women workers as against 6 per cent units are not employing men workers. Approximately 13 per cent units are reported to have been employing child labourers in their respective units. However, women workers are seen equally participating their male counterparts in almost all types of handicrafts, though the proportions of women workers are lagging behind to men workers, particularly in copper and ringal handicrafts.

The distribution of workers according to the mandays employment reveals that on an average a worker gets employment in the concerned handicraft activity for about 258 days in a year. However, the corresponding figure for men is relatively higher (273 days) as compared to women (268 days), because the women workers have to involve themselves in various other household related activities. The child workers are noted finding job in the handicrafts for nearly 134 days in a year. The woollen handicraft is seen providing employment for much higher number of days (285) as compared to copper (235 days) and ringal (227 days) handicraft. In woollen activities, the women are observed getting employment opportunities for higher number of days (318) than the male workers (281 days). Per unit mandays employment are also found significantly at higher extent for men workers than the women workers in most of the handicraft activities except

in the case of woollen handicrafts the figures of mandays employment for women constitute significantly larger (408 days) as compared to men workers (296 days).

The contribution of handicraft activities has also been significant in providing income opportunities to the local people. The value of production on the value per unit investment is also much higher in favour of all handicrafts; it reaches highest to over four-folds for copper followed by over 100 per cent for woollen and 73 per cent for ringal handicrafts. Also, the productivity of workers is as higher as over Rs. 10 thousand in copper followed by about Rs. 5 thousand in woollen and Rs. 1,600 in ringal handicraft activity. Per worker value added is again found lowest in the production of ringal handicrafts (Rs. 1510), otherwise the corresponding figures is estimated to be Rs. 3,725 for copper and Rs. 2,613 for woollen handicraft workers.

Thus the contribution of handicraft activities in raising economic status and gainful employment opportunities to increasing level of labour-force has to be emphasised. Because, most handicraft units are employing a sizeable number of both men and women labour-force. Besides this, with low level of capital investment a high amount of income is being generated from different types of handicrafts. Over and above, per worker value added and productivity level are also quite reasonable for maintaining the livings of households in rural areas of Uttarakhand. Further development of these existing handicraft activities in various locations could, therefore, be an instrumental measure for generating additional productive employment opportunities to the increasing level of labour-force provided that due consideration in response to healthy growth and development of handicraft activities should be given under the planned development strategies.[4] It was found that the adoption of traditional backward technology used in the production of crafts, scarcity and inadequacy in the availability of required raw materials and the prevailing traditional poor marketing network for the disposal of products were the most important factors

which were adversely affecting the development and growth of various handicrafts and various cottage and small scale industries existing in rural areas of Uttarakhand.[5]

The bottleneck in the supply of raw materials can be mitigated through the establishment of raw material banks by the Government in different handicraft producing locations. Accordingly, the procurement/marketing centres at micro level may be established for the purchase of various handicraft products so that the craftsmen can realise reasonable prices for their craft products. The productive efficiency of craft units and the additional level of employment opportunities can be generated by upgrading production technologies of different handicrafts and making available to these modern machinery to the craftsmen at subsidized rates.

Several other categories of household based manufacturing activities have also been playing an important role in providing employment and income opportunities to the labour-force in the region.[6] Prominent among them were the carpentry, blacksmithy, oil processing and several other related small scale manufacturing activities. However, the condition of most of these categories is far from satisfactory. The employment in these units has been decreasing continuously over the years in rural areas while the concentration of household industries is noticed increasing in urban areas. Upto Second Five Year Plan period, the concentration of various small scale manufacturing activities was at large extent in rural areas and a larger past of labour-force was engaged on them for their livelihood and employment. But the policy of rapid industrialisation have benefited the urban areas in developing various household based small scale manufacturing activities. No doubt, a significant proportion of such activities which are more particularly based on traditional production technology and on locally available raw material are still existing and there is relatively higher participation of work-force in the household industries in rural areas as compared to urban areas, but the proportion, in fact, growth rate of both number of units as well as work-force, is decreasing at greater extent in rural areas than in urban areas.

Examining the existing situation of artisan activities at micro level in two villages of Almora district, it was revealed that the importance of a number of manufacturing activities has considerably been decreased in both the villages. This was primarily due to non-availability of raw material in required quantity, secondly, the artisans have been using their traditional outdated technology in the production process and the products were comparatively inferior than those produced in large industries. Thus, the market competition, in terms of the quality of products, was pushing back the artisans products. Thirdly due to the availability of similar types of products of better quality in the local market, the villagers were demanding market goods rather than goods which are produced by artisans.

Prominent among the various household-based manufacturing activities are the wool and wool-related activities[7] functioning in the middle and high mountainous and hill areas of Uttarakhand. An overview of the functioning of these activities revealed the fact that these activities are quite old and operating at household level as traditional activities. It was the period of British rule in India when the woollen activities in general and spinning and weaving of woollen yarn in particular started developing with the initiative undertaken by the Industry Department to promote their development. Later on, several non-Governmental organisations and individuals came forward to get involved in the process of the development of these activities. At the same time, due to increase of population at an unprecedented rate and its increasing addition to the labour-force on one hand and the increasing problem of employment and the avenues of income on regular basis on the other hand had widen the participation rate of population in woollen activities during the recent past. At present these activities have been quite popular in almost all the areas of Uttarakhand. The participation of both male and female segment of population is also considerably increasing during the recent past.

However, it has been well realised that the development of woollen activities is taking place at much below the level of

expectations. Several factors have been reported behind the unsatisfactory progress of these activities by various institutions which are engaged in woollen work in Uttarakhand. The basic problem highlighted in this regard is the irregularly and inadequately availability of different types of wool and other basic raw materials. The wool which is available from Tibet was banned after the Indo-China dispute in 1962 but it has been resumed for past seven years. But the woollen products manufactured from Tibettian and Belchi wool have lost its market. The consumers are preferring to buy mill-made woollen products and the products which are manufactured by soft wool such as Australian/Marino and Remblute Wood. The demand for Tibbetian and Belchi wool has also declined as a result of the changes in the technological means of production during the recent past. The Tibbetian and Belchi wool contain small spirts which is rather difficult to spin through New Model *Charkha*. The traditional means of production, *Takli* and to some extent *Bageshweri Charkha*, were noted to be the most suitable means of spinning for Tibbetian and Belchi wool. But these means have been neglected by the spinners. Because the spinning of wool by Takli or *Bageshweri Charkha* is less productive and provide lower level of earnings as compared to the much more efficient means of production i.e., the New Model *Charkha*.

The better quality Australian wool with long spirts which is available from Australia is generally being spin through New Model *Charkha*. But this category of wool is obtained through a number of unsystematic chennels because no systematic arrangement has been made to import Australian wool. Availability of Australian wool from the wool traders of different states is very irregular. It is also available at high prices and in inadequate quantity. So the various institutions had suggested in favour of the establishment of a wool federation in Uttarakhand which may solve the existing problems of availability of raw wools in the region.

In view of bringing improvements and development of woollen activity in Uttarakhand it may be suggested that the

woollen institutions and the officials of the Government departments which are involved in woollen activities should have to play an active role in the distribution of wool for spinning to the artisans and the collection of processed woollen products from them. Certain measures should also be taken by woollen institutions in providing required assistances and guidelines particularly in regard to the repair of spinning and weaving machines, making awareness about the adoption of know-how technology and the solution of certain other problems those are existing in successfully performing of the woollen activities. The spinners and weavers should be given the production charges by woollen institutions immediately after receiving the allotted work performed by them. Unsystematic and irregular payment practices adopted by the woollen institutions one hand and the supply of wool in an inadequate quantity on the other hand have decreased the productive efficiency of the spinners and weavers.

The marketing of woollen products is carried out by the different woollen institutions both within and outside Uttarakhand. In Uttarakhand these institutions have established various sales centres and shops in almost all the district headquarters and in small towns. The sale of various woollen products is also carried out in the exhibitions which are organised by different Government Departments and organisations throughout the country. However, various kinds of problems[8] are still existing in the sale of woollen products. These problems are generally experienced in terms of the market competitions emerging due to changes in the taste and choice of consumers regarding the purchase of different woollen products during the recent past. It was observed that the choices of consumers has diverted towards the purchase of mill made better quality woollen articles which are available at low prices. Also the prices fixed for different woollen products of the mill made products are reported to be comparatively lower than the prices fixed by different woollen institutions.

Due to non-availability of imported better quality wool at reasonable prices and adequate quantity and problems existing

in the transportation of raw materials and final woollen products from one geographical location to other are also adding much in the cost of woollen products which are manufactured in different remote areas and locations of Uttarakhand. At the same time due to differences in accessibility situations of transportation in different locations the prices of woollen products also varied significantly among different locations. Thus, the concerted efforts should be undertaken to improve the cost effectiveness of the woollen products to a certain extent which are manufactured in different locations. This problem may be effectively solved by way of the introduction of transport subsidy on the purchase of raw materials and the marketing of woollen products both within and outside Uttarakhand.

It has also been observed that there has been no improvement in the designs used in the production of different woollen products for the past several generations. This was particularly seen in the design used in the production of carpet, shawls, wall hanging and *chutka*. Efforts have been made to develop new designs and models of woollen products by various woollen institutions and handloom corporation during the past but the improved designs have not yet reached to the main artisan communities who are involved in the production of these products for the past several generations at household level. The training programmes for the introduction of improved new designs should be diversified greatly in different areas of Uttarakhand in particular and the areas where the woollen activities are mainly concentrated. A provision of providing scholarship atleast at the level to meet the opportunity cost of the trainees artisans should also be introduced so that increasing number of artisans may be included in the proposed training programmes. Introduction of varied types of designs in the woollen products will also be a important instrumental approach to widen the marketing potentials of goods at certain extent.

Approach for Industrial Development

The importance of developing industrial economy has not

only been recognised in terms of its potentiality in widening employment opportunities and increasing the possibility of income levels of population but the process of industrialisation equally leads the diversification and expansion of various economic activities, including the informal sector economies, in a wider context, which further increases the avenues of employment and income. However, the manufacturing sector has been observed playing very little role in providing employment opportunities to the labour-force and contributing a very small amount of income in the region due to poorly development of industrial activities in Uttarakhand. Large industrial units of the region are mainly concentrated in the plain areas of Nainital and Dehradun districts.

The small scale and household industrial units are, however, more or less, evenly distributed in all purely hilly and mountainous districts. These units are basically based on locally available raw materials and, even most household industries are using traditional, indigenous mode of production technology which was locally developed by their households during past several generations ago. Prominent among these industrial units are the khadi and related manufacturing activities and handicraft units. In the high mountain areas the khadi manufacturing activity in the form of spinning and weaving of woollen yarns and the production of various woollen products is quite popular and contributing a significant amount of income for the households who are engaged on it. This activity was initiated and developed by scheduled tribes in bordering areas of Dehradun, Pithoragarh, Chamoli and Uttarakashi districts. The required raw wool for the production of woollen products was obtained from their own sheep and goats. However, during recent past this activity has been adopted by other groups of population living in middle mountain areas of the region and gaining increasing importance in terms of providing gainful employment opportunities to the labour-force. With the development of khadi activities the woollen based handicraft activities are also observed increasingly expanding in various areas of the region. In all the growth of

small scale and household industries has been significantly much larger in purely hill districts as compared to Nainital and Dehradun districts, while the large industrial units are expanding at larger scale in Nainital and Dehradun than in purely hilly districts over the years.

Lack of infrastructural facilities and limited access to markets have been the main factors responsible for private entrepreneur's indifference about establishing larger industrial enterprises in the region, particularly in purely hilly and mountainous areas of Uttarakhand. Similarly, lack of managerial ability and risk bearing capacities among local people have resulted the poor development of industrial economy, even in the case of small enterprises. Certain incentives and benefits may also be essential to off-set the locational disadvantages of the region, but such incentives and disincentives should preferably be used to encourage environmentally friendly industries and discourage environmentally damaging industries. Regulation and control over the latter category are also necessary.

Incentives and benefits notwithstanding, it should be recognised that the best chances for the survival and growth of industry in Uttarakhand will be for those engaged in product lines which fall within the region's comparative advantages. Industrial units based on local raw material, such as forest products, medicinal plants, fruits, vegetables and animal produce are example. Other comparative advantages in favour of Uttarakhand are the climate and pollution-free atmosphere which are suitable for the establishment of sophisticated electronic and precision instrument industries. In the past, initiatives for establishing electronic units in the region were made by the Hill Electronic Corporation Ltd. (HILTRON) in 1985. Later other industrial units, such as Hindustan Photo Films, HMT and others were also established in the region.

The possibility of establishing electronic belts or complexes in different areas, instead of starting one unit here and another there, would be a more effective approach. Various household-based cottage industries have been in the region for a few

generations. Large numbers and categories of these traditional units have been closed due to the scarcity of raw materials, marketing problems, changing pattern in consumer's preferences, and the availability of similar products of better quality from the plains. Improvements in the existing household enterprises producing goods with positive elasticity of demand could be affected through arrangement for supply of raw materials, technology development support and marketing. These products include carpentry, forges, oil processing, mat making, woollen textiles, ringal and copper articles and handicrafts.

The other area where definite success can be achieved is the development of horticulture based industrial activities in this regard. A comprehensive planning strategy for entire horticulture related activities such as the promotion of growing various types of fruits in diversified manner, development of efficient marketing system and the establishment of fruit based small industrial units in main fruit growing locations of the hilly areas and large units in the foothills of Uttarakhand has to be introduced.

The situation, as it exists at present, is that the fruit of different types are grown all over the region and are available for nearly ten months during the year. Unfortunately, those which are grown in the remote and less accessible areas do not find convenient market where they can be sold at a reasonable prices. Most of it, therefore, is either utilised for domestic consumption or goes waste. Consequently there is hardly any incentive to grow fruits on a large scale. Whatever fruits reach in the market is procured by contractors on a pre-harvest contract basis and so the growers get a price which generally is around 18 per cent of the market price.[9]

The Government should initiate a two prolonged policy for the development of the horticulture industry. On the one hand, it should ensure a minimum support price to the growers and ensure that their produce will find a ready market. On the other hand, it should either on its own or through co-operative or through necessary incentives to the private enterprise to establish fruit processing units. In an around the fruit growing belts small

canning and processing units may be established which can produce fruit juice and the fruit pulp. This can then be sent for final processing to the large plants which can suitably be located in areas where they do not pose any environmental hazard and also where the infrastructure facilities are better available. In this pattern of developing horticulture industry would not only ensure higher income and increasing employment opportunities to local people but would contribute very positively towards strengthening the economic base of Uttarakhand itself.

Moreover, in the context of planning for development of industrial activities in Uttarakhand, a dynamic approach would be to develop certain specialised manufacturing activities based on the comparative advantages of the area and which have rather significant development potentials. Planning for industrial development on a highly diversified manner would not be appropriate because of the limited resource base, ecological fragility of available resources and inaccessibility situations. Therefore, industrial development based on lead sector(s) has a better chance of success. In identifying leading industries, issues related to the development potentials, impact of developing such industrial groups on the local economy and ecological and environmental system, and the extent of forward and backward linkages in developing concerned industrial activity would, however, require extensive and thorough assessment. In addition to this, the identified industrial units should have the potentials to maximise the participation of locally available labour-force, both men and women, use of indigenous mode of production technologies with local resources.[10]

Moreover, in Uttarakhand forests and minerals are the two most important natural resources. Both these can form the basis of industrialisation. Unfortunately exploitation of these resources can also lead to environmental destabilisation. Because of increasing concern for the environmental health of the mountain areas in the recent years, there is considerable opposition to mining and to commercial exploitation of forests. This, therefore, poses serious dilemma before anyone trying to advocate industrialisation

based on local resources in hill areas. On the one hand the economic advantages and the benefits to the local people in terms of job are quite obvious and attractive. On the other, these have to be weighted against the possible harm that can be caused to the environment. In addition, one has to contend with social problems created by displacement of the population attendant on large scale mining operations, or of depriving the rural people of their traditional rights in forest if they are used for commercial purposes.

In view of this, a clear-cut policy in regard to mining and other local resource based industrialisation in mountain and hilly areas should be introduced. The policy should clearly identify the areas where mining can be undertaken and what measures should be taken for the rehabilitation of the displaced people and for the rehabilitation of the environment. The experience of units like Almora Magnesites can be particularly instructive in formulating such policy guidelines. The desirability of establishing forest-based industries should also receive careful consideration.[11]

Urbanisation

During the last census decade 1981-91, the urban population in Uttarakhand increased from 8.85 lakh to 12.86 lakh showing an all time high growth rate of 45.33 per cent, against rural and overall growth rate of 17.45 per cent and 22.55 per cent respectively. Comparing these growth rates with those for the earlier decade 1971-81 (urban 57.64 per cent, rural 21.17 per cent and overall 26.52 per cent), we find that the rural population growth rate declined around 6 percentage points as against the decline of overall growth rate from 26.52 per cent during 1971-81 to 22.55 per cent during 1981-91. In fact the urban population growth rate which increased 57.64 per cent during 1971-81 was increased at 45.33 per cent during 1981-91. On the whole the annual growth rate of urban population has been (4.52 per cent) significantly 1.75 per cent and overall growth of population 2.26 per cent between the period 1981 and 1991. This indicates a substantial shift in the population from rural to urban areas.

The phenomenon or urbanisation is more marketed in Uttarakhand when the comparison in the growth of urbanisation is carried out in the national perspectives. As the urban population growth has been significantly at higher level in Uttarakhand than the national level during past both the decades; 4.64 per cent in 1971-81 and 3.51 per cent in 1981-91. However the growth rate of rural population at national level was slightly at lower level (1.97 per cent) than in Uttarakhand during 1971-81, but again it picked up at 1.85 per cent at national level as against 1.75 per cent points in Uttarakhand.

It has generally been believed that the growth of urbanisation accompanied and influenced by the process of economic development, especially in large, by the process of industrial development. The process of industrial development have strong backward and forward linkages which influence the development of various service sector economies and informal sector activities at large scale. This process of development of certain economic and social activities around the process of industrial development determines the level and pattern of urbanisation growth. This process of urbanisations resulting due to larger economic development influence the migration of rural labour-force into urban centre to seek the opportunities of employment and livelihood. Thus, the growth of urbanisation proceed with the association of above certain combined factors.

However, the case of Uttarakhand is extremely different in terms of the factors associated with the growth of urbanisation in past. Since the development of industrial activities, especially large scale industries have been very unsatisfactory in the region, though these units were largely developed in foothill areas. Even the economy has been growing at very low rate, as is indicated by the fact that the growth of Net Domestic Output of Uttarakhand has been much below the level of national average. Only the fact that, service sector has been developing at a faster rate in Uttarakhand. The main activities in this sector include, certain informal and unorganised economic activities such as trade and commerce, transport, etc. It has also to be noted that the district

headquarters and the cantonment areas are the main urban centres/ town in Uttarakhand. So over three-fourths of the total urban population is concentrated in these towns only. In this sense, it could also be attributed that the expansion of various Government departments in different small towns and in district headquarters have also significantly contributed to the increase of work-force participation in service sector and finally in the growth of overall urban population.

A district level analysis related to the pattern of urbanisation revealed that the growth of population in urban areas has been significantly much higher than in rural areas and also, more than overall growth of population during the past decade in Uttarakhand. This indicates that out-migration of population from rural to small towns within the region and expansion of various informal sector economies in urban centres have taken place at larger scale. In fact, the growth of population in industrially well developed districts, Nainital and Dehradun, was estimated at much lower level than the industrially most backward districts such as Uttarakashi, Chamoli, Tehri and Pithoragarh during 1971 and 1981. The growth of urban population has declined from 78.66 per cent during 1971-81 to 60.98 per cent during 1981-91 in district Nainital. In fact, during 1981-91, the growth of urban population was highest in Nainital closely followed by Tehri (60.10 per cent) and Pithoragarh (55.86 per cent). In remaining districts the corresponding growth rate varied lowest from 12.42 per cent for Almora to highest at 45.33 per cent for Uttarakashi. But the share of two industrially most developed districts, Dehradun and Nainital, in the total urban population was around 80 per cent in 1971, which declined 76 per cent in 1981 but, it picked upto 79 per cent in 1991.

Distribution of different towns according to the size of population revealed that around one half of the existing 62 towns constitute less than 5000 population while one town in foot-hill (Haldwani-Kathgodam) have above one lakh population. Another 24 towns and 9 towns are in the population size groups of 5000 to 20000 and 20000 to 1 lakh respectively. All the existing towns

in Uttarakhand have been classified under the categories of services, by applying Nelson's formula of occupational structure. A study[12], based on examining the various indicators of development revealed that the region's economy is basically backward. Primary (agriculture and mining) and tertiary (business, transport and services) sectors are dominant in Uttarakhand. The secondary economic sector, which is the main source for urban economy to develop, the condition in terms of development is very bad. As in industrial category, only one town, Jaspur, which specialises in household industry comes, and in next two manufacturing and construction, there are no towns. Nainital and Srinagar provide employment in building and road construction work but these are of second and third orders respectively. The Tehri, Almora and Haldwani towns provide equal numbers of occupational opportunities in all the categories. The whole region may be considered as a summer tourist centre, but it is not considered so, therefore, transport, communication and storage are backward.

References

1. Joshi A and Mehta G.S.; *Pattern of Industrialisation and Industrial Performance in Uttaranchal : A Preliminary Note*, Working Paper 116, GIDS, Lucknow, 1992.
2. Mehta G.S., *Industrial Development in Uttarakhand : A Micro Level Analysis*, Working Paper No. 141, Giri Institute of Development Studies, Lucknow, 1998.
3. Mehta G.S., *Contribution of Handicrafts in Employment and Income Generation in Uttarakhand*, Working Paper No. 127, Giri Institute of Development Studies, Lucknow, 1996.
4. Mehta, G.S., Employment Potentials of Handicraft Activities in Uttarakhand, *Manpower Journal*, 33(2), July-September 1997.
5. Garia P.S. and Adhikari C.S., *Laghu Avam Kutir Udhyogo Kee Upekshya, Ek Avalokan*, Working Paper, Giri Institute of Development Studies, Lucknow, 1987.
6. Mehta G.S., *Condition of Rural-Artisan Activities in U.P. : A Study of two selected villages in Kumaun Hills*, Working Paper No. 58, Giri Institute of Development Studies, Lucknow, 1981.

7. Joshi B.K. and Mehta G.S., *Situation of Wool and Wool Related Activities in Uttarakhand*, Giri Institute of Development Studies, Lucknow, 1996.
8. Papola T.S., *A Study of Woollen Carpet industry in Kumaun and Garhwal*, Giri Institute of Development Studies, Lucknow, 1980.
9. Mehta, G.S., *Marketing of Apple and Mangoes in India : A Study of Fruit Growers*, Project Report Submitted with Development Research Institute, Tilburg, The Netherlands, 1988.
10. Mehta, G.S., *Development Experiences and Options in a Hill Region: The Case of Uttarakhand*, U.P., ICIMOD, Kathmandu, 1997.
11. Joshi B.K., *Impact of Industrialisation on the Social Ecology of Hill Areas of Uttar Pradesh*, Giri Institute of Development Studies, 1987.
12. Jafri S.S.A., Urban Growth in Backward Hilly Areas of U.P., *Girivanavasi Sandesh*, 2(2), December, 1975.

5

Employment and Migration

Introduction

Unprecedently increasing trend of population and its larger addition to the labour-force has been a serious problem and concern of discussions among social scientists, policy-makers and administrators who are engaged in the development planning of Uttarakhand. The predominantly agriculture based economy is producing very low level of per hectare income and the possibility of developing agriculture sector so as to increase the agricultural productivity and create additional employment opportunities has been recognised as a difficult task due to certain geographical and locational problems, small size of holdings, inadequately development potentials of irrigation facilities etc. The presently emerging situation is that the pressure of labour-force is consistently increasing on agriculture due to lacking availability of employment opportunities in non-farm sector economy. So, carrying out agricultural operation through overcrowded labour-force engaged on it, is recognised a purely uneconomic task. The grains production undertaken from the own farms of the farmers is hardly sufficient for their basic requirement. So, a large number of farming communities has to purchase foodgrains from the market. Even the increasing flow of various non-food industrial products in rural areas, due to significant increase and improvements in the transport and communication systems during the past, has sufficiently influenced the demands of local people for market goods. Inability

of people to acquire the non-food industrial products and to purchase the foodgrains to meet their household demands due to lack of sufficient purchasing power a larger segment of labour-force is compel to migrate outside Uttarakhand for seeking the opportunities of employment and the avenues of incomes. As a result, it is well evident fact that the demand of both food and non-food products of people living in rural areas of Uttarakhand is largely met through remittances which are sent by migrant family members of different households. In this sense a study[1] postulates that it is good that a workable population are benefited through the money order economy.

Employment

As indicated already that a majority of work-force is engaged in agriculture and allied activities in Uttarakhand. However, the concentration of workers has been increasing in tertiary sector of economies, particularly in informal sector activities and a significant decline in the proportion of labour-force has been observed both in primary sector as well as in secondary sector of economies over the years. Shift of workers from agriculture related occupations in primary sector to tertiary sector could be basically due to the fact that agriculture related occupations provide low level of earnings than the occupations available in tertiary sector. Also, the labour-force cannot be provided regular employment opportunity in agriculture related activities because the work in agriculture is available only for shorter duration during its operational periods. The extent of larger differentials prevailing in earnings between the occupations of household based industrial units and the occupations of tertiary sector, such as self-employed and government occupations, could be the main reason behind decreasing participation of work-force in primary sector economies. It has to be noted that the lacking development of larger industrial enterprises have forced the work-force to join mainly in household based manufacturing activities in the region. And the various occupations and activities associated with

household based manufacturing sector have very low level of income generation capacity.

In the tertiary sector economies, around 2.44 lakh labour-force was employed, out of which the public sector was providing employment to 2.10 lakh labour-force, remaining 34 thousand labour-force was employed in private sector in Uttarakhand up to the period 1993. The State Government is providing employment opportunities to about 95 thousand labour-force and around 48 thousand labour-force is employed in state undertaking institutions and corporations while only 29 thousand labour-force is employed with Central Government and 14 thousand labour-force with local bodies.

The growth of employment in organised economic activities has been indicated significantly much below the growth of both population and labour-force in Uttarakhand. During the period of past ten years, the annual growth rate of employment was 1.17 per cent as against the population growth rate of 2.25 per cent. The employment is growing at highest rate in Almora (15.22 per cent) followed by Tehri Garhwal (13.22 per cent), Chamoli (13.16 per cent), Dehradun (12.68 per cent), Nainital (11.03 per cent) and at lowest rate in Uttarakashi 6.45 per cent while the negative growth of 0.65 per cent has been for Tehri Garhwal. On the other hand, in unorganised private sector, the annual growth of employment was found around one per cent point level but it has been consistently declining in Almora, Uttarakashi, Dehradun and Tehri Garwal over the years. A larger growth of 10.62 per cent is observed in the case of district Nainital followed by 5.02 per cent in Pithoragarh and below one per cent each in Pauri and Chamoli. In all the employment in both organised and unorganised sector of tertiary sector economies of Uttarakhand has increased from 2.17 lakhs in 1984 to 2.44 lakhs in 1993.

It is further pointed out that the development of both organised and unorganised sector of tertiary economies has been largely in two industrially developed districts of Nainital and Dehradun. This could be basically due to the fact that various informal sector economies and commercial establishment have been fastly developing with the development of various industrial activities

in these districts. As indicated already that over 91 per cent of the large industrial units of Uttarakhand are alone located in the plain areas of Nainital and Dehradun districts. The share of employment in organised sector for both the districts together has increased from 53 per cent in 1984 to 70 per cent in 1993. Also, the share of employment in informal sector activities which was 71 per cent in 1984 has increased at 88 per cent during 1993. However, in purely mountainous and hilly districts, the share of employment of organised sector has in fact, declined in Pithoragarh, Uttarakashi and Tehri Garhwal while it has marginally increased in the remaining three districts. Again the share of employment in informal sector activities has largely declined in most of the districts of purely hilly areas excepting the case of Pithoragarh.

Table 5.1 : Employment in Organised and Un-Organised Sector

District	Employment '000					
	Organised Sector		Un-organised Sector		All Sectors	
	1984	1993	1984	1993	1984	1993
Almora	22.96	26.53	2.01	1.83	24.97	28.36
	(12.22)	(12.64)	(6.82)	(5.64)	(11.49)	(11.61)
Nainital	44.23	49.93	8.67	17.89	53.90	67.82
	(23.54)	(23.80)	(29.40)	(55.15)	(24.34)	(27.76)
Pithoragarh	14.51	16.05	0.64	1.00	15.25	17.05
	(7.72)	(7.65)	(2.17)	(3.08)	(7.02)	(6.98)
Uttarakashi	9.29	9.95	2.13	0.32	11.42	10.27
	(4.94)	(4.74)	(7.22)	(0.98)	(5.25)	(4.20)
Chamoli	11.37	12.89	0.14	0.15	11.51	13.04
	(6.04)	(6.14)	(0.47)	(0.46)	(5.29)	(5.34)
Tehri Garhwal	12.91	12.52	1.76	0.48	14.67	13.00
	(6.87)	(5.97)	(5.97)	(1.48)	(6.75)	(5.32)
Dehradun	55.24	62.63	12.13	10.73	67.37	72.96
	(29.40)	(29.85)	(41.13)	(33.08)	(30.99)	(29.87)
Pauri Garhwal	17.38	19.73	2.01	2.04	19.39	21.77
	(9.25)	(9.40)	(6.82)	(6.29)	(8.92)	(8.91)
Uttarakhand	187.89	209.83	29.49	32.44	217.38	244.27
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Source : Training and Employment Exchange Directorate, Lucknow, U.P.

Work-force Participation and the Extent of Unemployment

In Uttarakhand, over one-third of its population is employed in various economic activities, though the agriculture and related activities are playing an important role in providing employment to its labour-force. But the participation of both men as well as women work-force is consistently declining over the years. In all, the work-force participation of male population has declined from 47.69 per cent in 1981 to 46.60 per cent in 1991, while it has increased from 24.21 per cent in 1981 to 25.62 per cent in 1991 for women work-force. Increasing trend of migration of male labour-force could be attributed a possible explanation behind the decline of their participation in different economic activities in Uttarakhand. The work-force participation rate of population in Uttarakhand is significantly much higher than the national level, particularly due to significant contribution of women population in different economic activities; it also resulting relatively higher participation ratio of women than the national average.[2]

A higher rate of population growth and unusually high participation rate, however, has not resulted in a high extent of overt/open unemployment. It cannot be considered a serious problem in the region insofar as to the estimates based on various sources, the magnitude is found hardly one per cent of labour-force. A very low magnitude of overt unemployment is possibly because of out-migration of a sizeable proportion of male workers. But, urban unemployment could be considered to be of a substantial magnitude as the various estimates put it around 4 to 5 per cent of the urban labour-force. At the same time, it is also found out that unemployment among the educated is considerable and is mostly concentrated in urban areas.[3]

Migration

It has universally been well recognised the fact that the non-availability of gainful employment opportunities in Uttarakhand

significantly a larger segment of labour force migrate outside region for seeking employment opportunities and the avenues of income so as to maintain its household's living at the place of native. The able bodied young and educated family member move elsewhere leaving his remaining family members at home. The migrants regularly send a larger amount of earning at the native place from the place of destinations to their dependent family members. Now the situation is that over 55 per cent of the households in the region are only dependent on the money received from the migrant family members because the income earned from agricultural and other sources is much below the level of their requirements.

As a result of the increasing rate of out-migration of labour-force from Uttarakhand the region has lost a larger proportion of well educated and active human resources in the past. A study[4] based on the secondary data and the primary data collected in a very diversified manner revealed that the rate of out-migration accounts for 10.2 per cent of the total population. Out of these out-migrants, 2.2 per cent migrated within the hills, 1.5 per cent migrated to terai and Bhabar and 6.5 per cent migrated outside Uttarakhand. These out-migrants go for various categories of jobs is, 32.5 per cent for Government/semi-Government jobs, 23.6 per cent for defence, 17.4 per cent for private, 11.2 per cent for education and 8.4 per cent for others. The highest proportion of out-migrants was recorded from Pauri 15.1 per cent followed by Tehri Garhwal (13.1 per cent) and Almora (10.9 per cent) while the lowest rate of out-migration was estimated from Uttarakashi (4. per cent) followed by Dehradun (2.1 per cent) and no labour-force migrated from Chamoli. Another study carried out in Kumaun region postulates that the district Almora and Pithoragarh alone has lost around 10 per cent of their population due to migration.[5]

The trend of inter-district migration is consistently declining in the region with marginal increase of in-migration in Almora and Pithoragarh districts and fastly increase in Nainital during 1951-61 and 1961-71. It also indicated that out-migration from

the region up to 1921 mainly remained confined with the state of U.P. In migration in the region from outside state has been higher than the out-migration from the region. However, with the considerable increase and improvements in the means of transport and communication, literacy among labour-force, knowledge about the opportunity areas for employment, aspiration of better quality life have influenced the out-migration of people largely particularly after 1971. A study[6] indicates that 54 per cent of total out-migrants have crossed the boundaries of the state (of whom 44 per cent have gone to Mumbai and Delhi alone) and 23 per cent have joined the armed forces. According to another estimates,[7] around 50 per cent of out migrants from Kumaun and Garhwal region go to these forces. The study by Bhauryal (1986) finds that the proportion of total persons joining armed forces in high (28 per cent) from the region but it is still higher at 42 per cent from remote villages.

A study[8] finds that migration was temporary or semi-permanent in nature in earlier periods but in the recent years it has a tendency of becoming permanent. Earlier the migrants were mostly single and more likely to return to their native place but an increasing tendency of wives and children accompanying the working migrants in recent years makes their return more unlikely. Since around 10 per cent of the labour-force have migrated outside region with their wives and over 74 per cent of the wives are living with their husbands for over 15 years.

Reasons of Migration

The migration of labour-force from one location to another is influenced by variety of factors. However the economic condition of households of the migrants at the native place is the most important factor which push its working age group labour-force to migrate in search of employment and income opportunities. Besides this, inequality and variations in resources and income distribution are another important influencing variables which lead to the migration of people from less resources

or less opportunity areas to greater opportunity and resources areas in search of employment, income generation and betterment of life. In other words, population tends to migrate from low opportunity areas such as rural or underdeveloped areas to higher opportunity areas such as larger and well developed cities or towns to get the opportunity of socio-economic and cultural development. Thus, the intensity of migration from rural areas is intimately associated with the degree of unevenness in the distribution of resources.

Lack of amenities of life and economic opportunities in rural areas also influence the flow of migration from rural to urban areas where these facilities are commonly well available. Consequently, the lower level of wages available in agriculture based economy of rural areas leads the population to shift to higher wage non-form economies in urban and developed areas. Expected wage availability in urban areas is thus an equally important determinant of migration by which the population living in rural areas is influenced to migrate to urban areas.[9] Confirmation in this context of wage differentials is highlighted in a study by Hay (1974)[10] of migration relating to Tunisia. He finds, urban earnings functions are proxy variables defining the urban expected income levels. A study by Carvajal (1974)[11] also revealed that differences in average income or wage levels between two places invariably turn up among the most important explanatory factors. Thus, the migration is positively associated with the urban income and negatively related to the rural income.

Migration also generally occur due to a complex interaction of push and pull factors and it takes place when the positive pull factors at the place of destination are out-numbered by negative push factors at the place of origin.[12] The migration motivated with pull factors refers to the kind of attraction and personnel willingness of people that attracts people into the cities and urban areas whereas the push factor refer to conditional migration where people migrate due to some economic compulsions, natural calamities, political and cultural pressures etc. The out-migration from rural areas of Uttarakhand is more

commonly motivated by both push as well as pull factors. However, the magnitude of rural-urban migration is identically related to the push factors as a result of limited opportunities of employment in rural agricultural economies and higher employment opportunities in urbanised economies (Mac Donald, 1987).[13]

The geographical and topographical situation of the location of villages and its distance from nearest transport facility and urban settlement is also found to be significantly associated with the out-migration, particularly in case the of migration from hilly and mountainous areas of Uttarakhand. A study by Bhauryal (1987)[14] revealed the fact that rate of out-migration to be highest from the villages near the road and town (21 per cent) followed by from those moderately remote from road and town (15 per cent) and lowest from the remote from road and town (12 per cent). Nearness to road and town implies more awareness, better contacts and easy access to towns facilitating higher degree of out-migration.

A detailed study by Khanka (1987)[15] undertaken to examine the causes and factors associated to the migration and the basic characteristics of migrants revealed that although the main reason of migration is economic in nature, yet, what is important to note is that relatively larger land-holders seen more prone to migrate than the marginal holders or the landless. Similarly another study by Bhauryal (1987) finds that since most migration is for economic reasons, mostly such members of the households migrate who are more likely to be able to get employment at destination. A study by Mehta (1986)[16] postulates that a highest proportion of migrants are among the lowest income groups and the intensity of migration starts declining among succeeding higher income groups of population, despite the fact that migration is motivated from all categories of income groups. The economic compulsion of the labour-force is seen forcing them to migrate outside their villages.

Similarly another study by Pande (1984)[17] also postulates the views that basic reason of migration is mostly economic in nature.

The propensity to migrate (seasonal) is higher among the scheduled castes and scheduled tribes due to poverty and absence of productive assets. It is found that with the larger size of land holdings, tendency of seasonal migration tends to decrease. Higher the income and agricultural holdings, lesser is the extent of seasonal migration. The marginal agricultural farmers or landless labourers have more chances of seasonal migration as compared to relatively larger holding groups of family members.

Characteristics of Migrants

Besides the various socio-economic and locational factors that influence the propensity of migration of labour-force, certain basic personal characteristics of in individual also equally influence the motivation and mobility of labour-force into different geographical locations. The educational characteristics and age components are among the most important elements which determine the mobility of an individual. Individuals with relatively higher level of education and with young age group tend to migrate more frequently into different places and different wage paid occupations, even when the mobility is over a larger distance, as compared to the individuals with relatively lower level of educational attainment and fall in relatively higher age groups.[18] A study also revealed by Mehta (1986)[19] that the out-migration of population appears to be very selective and it is well testified by the fact that an overwhelming majority 60.98 per cent migrants moved out at young age i.e., the age group of 20 and 25 years while the migration of population with less than 15 years age group accounts for about 14 per cent and only 2.44 per cent for above 34 years age group. However, the tendency of migration among individuals with different levels of educational attainment have been almost similar. But significantly a higher number of migrants had secondary level of education followed by illiterates and higher education. Consequently the migrant population is confining to males largely. A study by Bhauryal[20] revealed that male migrants belonging to the prime working age group

predominate among out-migrants. The average age at migration is found to be 20 years and 91 per cent of the migrants belonged to age group 15 to 35 years. Regarding the educational characteristics of migrants the study finds that a very high level of educational selectively among the migrants. Of the total population, illiterates were 42 per cent and literates were 58 per cent, but among migrants, 89 per cent were literates. Though both illiterates and were educated people migrate but the propensity to migrate increases with the level of education.

Regarding the trend of migration of population from different size class of families the general observations are that the migrants tend to out-migrate largely from large family size in which both the needs the earning capacity are relatively higher than the local earning opportunity. An assessment of the analysis on family size and the trend of migration reveals (Mehta, 1996)[21] that there is direct relationship between the size of family and migration since around 28 per cent migrants had moved from a family size of above 7 members while only 10.24 per cent migrants had a family size of less than 3 members. The study by Bhauryal (1986) also finds that proportion of out-migrants from the families of up to 6 members is quite low but it is progressively higher from the families having 7 and more members and is highest from the families having more than 10 members. The propensity of migration is also found considerably higher among the scheduled castes and scheduled tribes due to poverty and absence of productive assets (Pande, 1984).[22] The proportion of migrants scheduled castes and scheduled tribes accounted for about 82 per cent followed by Brahmins (67 per cent) and Thakurs (50 per cent). The scheduled castes have the lowest propensity of migration from the villages having comparatively better agricultural conditions.[23]

Consequences of Migration

As indicated in the proceeding analysis that the size of population is general and qualitatively better resourceful human

resources have been consistently decreasing in the region over the years largely due to unprecedently increasing volume of migration of population and active labour-force from Uttarakhand. However, the labour-force with better educational attainment and are possessing sufficient productive ability to generate relatively higher amount of income than what they are able to generate in the region are compelled to migrate outside Uttarakhand such that they can fully use their productive capability and efficiency so-as-to, generate income according to their ability and productive skill. As has been well depicted by the fact that the migration of labour-force from Uttarakhand had been economically quite successful since migrants are receiving significantly higher amount of income at the place of destinations as compared to what they were generating at the native place.

A study by Pande (1984) pointed out that on an average a migrant was able to find employment for only 168 days during whole year period at the place of his origin and lack of alternative avenues for employment migration proved as relief to a great extent. There is a great role of remittances in the economy of Kumaun as about 7 to 10 per cent of total income is added by remittances (excluding the money brought by migrants) and at least 39.50 per cent households get the money by remittances. The share of remitted money is about 40.52 per cent in total household income of those family who get remittances. To some extent, the migration results international, inter-regional and inter-caste transfer of money which have also changed the pattern of income distribution at the native place.

A study by Bhauryal (1987) reveals that absence of males has resulted in overwork for female, children and aged. Of the total children, about one-fourth were found working in migrant households as against 17 per cent in non-migrant households. Also, the decrease in cropped area, family insecurity and dislocation of household activities are observed in the migrant households. In spite of the use of hired labour and consequent higher cost of cultivation by the migrant households, output per acre land could not be maintained at the level of non-migrant

households. Net value of output per acre is estimated to Rs. 860 in the case of migrant households as against Rs. 1,004 for non-migrant households. About 70 per cent migrant households were using hired labour as against 39 per cent of non-migrant households in addition to extended work for female and children.

Insofar as the effect of migration on migrant household's income is concerned, it turns out to be highly positive. On an average, remittances contribute around one-third of the total disposable income of a household. At the same time, population loss due to loss of labour-force is not found significant because despite migration, the households still have workers enough to get the maximum yield from the land they posses. Thus, migration results in net benefit of a significant magnitude to the households sending out-migrants. This is so even when only regular cash remittances are taken into account not accounting for accumulated savings of return migrants. It is also important to note that most migrants serve in the armed forces and return with accumulated savings which are found to contribute significantly to capital formation.[24]

The nature of migration motivated with economic need leads to better economic benefit both at the native place of migrants as well as the place of destination. It is through significant amount of income contribution to the natives and supply of required categories of manpower for economic development at various destinations. Migration remains the only alternative for labour-force in the lesser opportunity areas which forces people to move to higher opportunity areas for the betterment of soico-economic improvements of their households. A relatively higher extent of benefits from migration can be observed in the case of those individuals who were able to contribute only small amount of income for their household prior to migration as compared to those who could assist their families by a greater amount in monetary terms. The migrants from the higher income groups tend to send lesser amount of remittances because their own expenditure level remains higher. On the other hand, population with lower income group always tend to concerned with the

poor-economic conditions of their households which compels them to spend lower amount of income on themselves at the place of destinations and contribute as much as possible towards their families living at the native place.

Thus, considering this phenomenon in view, it could be derived that the migration of lower income group population leads to a better income contribution to their households and also help in reducing the income inequality among the different income groups in the villages. Examining the increase in the household income with the initiation of migration it is seen that the income level of migrant households at the native place has raised nearly two-folds more as compared pre-migration of period of its family members. Looking at the households according to income groups, it is noticed that almost all the households whether they fall in lower or higher income groups, have increased their average household income significantly after migration. However, the increase in the income of lower income group households has increased to a much higher degree as compared to households with higher income groups. But in absolute terms the income of upper income group of households is still higher as compared to lower income group households despite the fact that they are receiving lower amount of contribution from the migrants from within this income group. This is due to the fact that households falling into higher income group have very high amount of income even before the migration of their family members, though very small numbers of migrants were earner before migration.[25]

Average size of remittances which are received from migrant family members are found to increase with raising income level though the proportion of remittances declines with higher income groups. Most of the migrant at the lower income levels belong to very poor families and thus the needs for cash to their relatives even for food and other necessary consumption items is generally greater. Such migrants try to remit the greater part of their earnings even at the cost of their own standard of living and quality of life. As regard, those having families/dependants with them, and single migrants, the latter are more likely to remit significantly

more than the former. Around 89 per cent of the latter groups of migrants were remitting while the proportion of remitters among former group of migrants was about 62 per cent.

Overall, it was well depicted the fact that the existing gap in the income level or the income distribution among various households in different villages has been reduced to some extent after the initiation of migration, since the lower income group households are receiving a higher proportion of remittances thereby increasing the income levels of the lower income household at larger extent. Thus looking at this kind of structural changes in the pattern of income distribution as a result of migration of labour-force from low income group households it may be concluded that migration motivated with economic reasons and made from less opportunity areas, where employment opportunities are not available as per the productive capacity, ability and cognitive skill of human resources, to higher opportunity areas, where such productive human resources can better-utilise their potentials, could be an important instrumental measure for raising the income levels of lower income groups of households and mitigating the imbalances existing in the pattern of income distribution in less opportunity areas.

References

1. Jafri, S.S.A., Consequences of Rapid Population Growth in Uttarakhand; A Geographical Outlook; in R.S. Tripathi and R.P. Tewari (ed.) *Population Growth and Development in India,* APH, Publishing Co., 1996.
2. Mehta, G.S., *Development Experiences and Options in a Hill Region, The Case of Uttarakhand, U.P.,* ICIMOD, NEPAL, 1997.
3. Khanka, S.S., Labour-force, Employment and Unemployment in a Backward Economy; A Study of Kumaun Region, U.P., (Ph. D. Thesis), Kumaun University, Nainital, 1983.
4. Jafri, S.S.A., Consequences of Rapid Population Growth in Uttarakhand; A Geographical Outlook; in R.S. Tripathi and R.P. Tewari (ed.) *op.cit.*
5. Khanka, S.S., *op. cit.*, 1983.
6. Bora, R.S., Migration from U.P. Hills and its consequences, paper presented in the seminar on Development and Change in U.P., Giri Institute of Development Studies, Lucknow, 1987.

7. Kumar, K., Population Structure of U.P. Himalayas, in O.P. Singh (ed.) *Himalaya, Nature, Man and Culture,* 1983.
8. Bhauryal D.S., Economics of Outmigration, A Study of Kumaun Region, (Ph.D. Thesis), Kumaun University, Nainital, 1987.
9. Mehta, G.S., *Socio-Economic Aspects of Migration,* Deep and Deep Publications, New Delhi, 1992.
10. Hay, M.J., *An Economic Analysis of Rural Urban Migration in Tunisia*, Mimeapolis Minn University of Minnesota, 1974.
11. Carvajal M.J. and Geith Man D.T., An Economic Analysis of Migration in Costa Rica, *Economic Development and Cultural Change*, 1974.
12. Sovani, N.V., Internal Migration and Future Trend of Population in India, paper presented at World Bank Population Conference; Bet. Yougo, August, 1965; Bas A., *Internal Migration in India, Pakistan and Cylon*, World Bank, 1965.
Bange, D.J., *Principles of Demography,* Princes, New York, 1969.
13. Mac Donald, J., *Migration Versus Non-Migration, Regional Migration Differentials in Rural Italy*, International Publication Centre, 1961.
14. Bhauryal, D.S., *op. cit.*, 1987.
15. Khanka, S.S., *op. cit.*, 1987.
16. Mehta, G.S., Consequences of Migration Characteristics and Its Effects on the Pattern of Income Distribution, Working Paper, 92, Giri Institute of Development Studies, 1986.
17. Pande, P.N., Migration only Alternative; A Study of Rural Areas in U.P. Hills, *Rural India*, April-May, 1984.
18. Millor, S.M., Comparative Social Mobility, *Current Sociology*, No. 9., 1960.
19. Mehta, G.S., *op. cit.*
20. Bhauryal, D.S., *op. cit.*
21. Mehta, G.S., *op. cit.*
22. Pande, P.S., *op. cit.*
23. Bhauryal, D.S., *op. cit.*
24. Khanka, S.S., *Ibid.*
25. Mehta, G.S., Characteristics and Economic Implications of Migration; *Journal of Rural Development*, 10(6), November 1991.

6

Infrastructure and its Impact on the Process of Development

Infrastructure

Development of infrastructural facilities, both economic and social, are considered to be the most important and instrumental to the promotion, development and diversification of various economic activities. In Uttarakhand, considerable attention has been provided in the expansion of educational facilities both in rural and urban areas. The elementary level of education facilities are mainly provided by the State Government however, some efforts have also been made by the private organisations and individuals to expand primary education in urban areas during recent past.

According to the Basic Education Department, the primary education facility has been provided in each village panchayat in Uttarakhand. The total number of Junior Basic and Senior Basic schools existing at present are 8679 and 1829 respectively. Over half of the villages have a Junior Basic School facility within the village; another 24 per cent have one within one kilometre. However, the children of around 24 per cent and another 2 per cent have to cover one to three kilometres distance and above 3 km respectively for the availment of Junior Basic School facilities. Consequently, around half of the villages have a Senior Basic School facility within a three kilometres distance. Among the districts, Dehradun is best placed in terms of accessibility to Junior Basic Schools, with 76 per cent of the

villages having a school within and another 10 per cent having one within one kilometre. Even in other districts, at least 75 per cent of villages have a school within one kilometre, except for Pithoragarh and Pauri Garhwal which only fall marginally short of this figure.

Significant progress has also been attempted in the expansion of secondary level educational institutions in the region. The total number of schools has increased from 650 in 1981 to 1192 in 1994 showing an annual increase of around 6 per cent. It is also noticed that nearly 66 per cent of total existing secondary schools are alone concentrated in the rural areas. However, the expansion of schools for boys has been carried out significantly at larger level as compared to the schools for girls. This is indicated by the fact that between the period 1980-81 and 1993-94, the growth of schools for boys has been estimated at 28 per cent as against 26 per cent schools for girls. But the expansion of this level of educational facility has been done well in rural areas than in urban areas of the region. The number of Junior Basic and Senior Basic Schools per lakh of population are 143 and 30 respectively, while the figure for secondary schools accounts for 19 only. During 1992-93, the number of ITIs was 50 and over 8 thousand students were enrolled with these institutions. In addition to this, around 1.5 thousand children were also imparting training in 15 Polytechnics which were existing in the region up to 1992-93. The ratio of technical educational institutions, such as industrial training institutions and polytechnics, to one lakh population is 1.06 and 0.29 respectively. The plan outlay for the development of education sector was 218.50 crores for Eighth Plan and it has increased to 313.73 crores for Ninth Plan period. However, the share of outlay for education to the total outlay for Uttarakhand has declined from 10.30 per cent in Eighth Plan to 9.08 per cent in Ninth Plan period.

Significant emphasis has also been provided in the expansion of medical and health facilities in Uttarakhand during the past Plans. The amount of outlay proposed for developing and

expansion of medical facility was 65 crores during Eighth Plan period and it increased to 71 crores for Ninth Plan. Number of allopathic hospitals and dispensaries per lakh of population are significantly much higher (11.81) in Uttarakhand than at state level (4. 63). Further, there are 233 primary health centres, 1366 sub-health centres and 14 community health centres to provide facility for basic health needs in the region. However, these facilities are inadequate according to the nationally accepted norms of one centre for 20,000 people. There is one primary health centre for about 28 thousand people on an average.

In terms of drinking water facilities in the region is concerned, a significant number of villages are lacking this facility. Although, efforts were made to overcome from this problem through the expansion of piped water supply programme in the past, yet, this problem is acute in remote and in accessible mountain areas. Also, due to increasing deforestation and environmental degradation in various areas of Uttarakhand the discharge of natural water sources has been considerably reduced. In fact, the underground water level has been reduced at larger extent. Only in less than 50 per cent villages, the springs have either used to yield water or sprout water only during rainy season, when already sufficient rain or surface water is available. Decreases in spring discharge ranging from 25 per cent to 75 per cent and resulting in the spring-fed rivers have gone down considerably - 30 to 40 per cent during the last decade.[1] Indeed most of the lesser Himalayan rivers and streams are affiliated too little too much water syndrome.

There are certain cases in Uttarakhand that the number of drinking water schemes and programmes were introduced but on the part of government inability to properly supervise, lack of proper knowledge about the capacity of water resources in generating or discharging the volume of water during summer season and untimely release of finances to meet the construction cost of the projects, a significant members of such schemes and programmes are not completed. These schemes also need renovation and reorganization to fulfil the imperative needs of water supply.

It is reported[2] that all the 54 towns of Uttarakhand are supplied with safe drinking water but in many towns the quantity of water is not adequate as per norms due to rapid increase in population, extension of area and reduction of water discharge level in the sources. It is claimed by the Government that up to the end of Eighth Plan period, around 71 per cent of the total villages have been provided the facility of drinking water. Another over one-fourth of the villages are availing the drinking water facility partially. But, still, 324 villages are lacking the facility of drinking water in absolute term. All the villages of Uttarakashi and Dehradun districts have atleast some facility of drinking water but over one-half of the total village of Dehradun are partially connected with this facility.

Similarly, significant progress has been made in providing electricity both in rural as well as in urban areas. Electricity is mainly used for domestic purposes such as lighting, heating and cooking. The proportion of villages having the facility of electricity increased from 27.17 per cent in 1980-81 to 75.53 per cent in 1991-92 and 78.80 per cent by the end of 1996-97. All the villages in Dehradun are electrified while lowest proportions of villages of Pauri Garhwal (69.9 per cent) followed by Tehri Garhwal (74.1 per cent) are availing the facility of electricity. The per capita consumption of electricity was 83.4 kWh in 1980-81 and it rose to 217.10 kWh in 1990-91.

The communication system in the region is poorly developed. However, during the recent past the telephone facility have become available in district headquarters and small towns. Still, there are only 395 telephone connections per lakh of population. The number of post offices per lakh of population are only 12.0 but the figure is much higher for Pithoragarh district (18.3) closely followed by Almora (17.0), Chamoli (16.8) and Pauri Garhwal (13.2). Population per bank branch in 1993 was 8.41 thousands while the credit-deposit ratio was estimated to be 23.62 per cent as against 36.25 per cent for state average. In fact, it was very low at 13.40 per cent for Pauri Garhwal, 13.80 per cent for Chamoli and 14.19 per cent for Tehri Garhwal while the

corresponding figure reaches as high as 52.13 per cent for Nainital and 30.90 per cent for Dehradun.

Table 6.1 : Status of Drinking Water Supply

District	Total No. of Villages	Availability of Drinking Water		
		Fully	Partially	Not at all
Uttarakashi	662	505	157	—
	(100.00)	(76.28)	(23.72)	
Chamoli	1553	1194	331	28
	(100.00)	(76.88)	(21.31)	(1.80)
Tehri Garhwal	1945	1238	640	67
	(100.00)	(63.65)	(32.90)	(3.44)
Dehradun	725	356	369	—
	(100.00)	(49.10)	(50.90)	
Pauri Garhwal	3181	2700	402	79
	(100.00)	(84.88)	(12.64)	(2.48)
Pithoragarh	2171	1606	517	48
	(100.00)	(73.97)	(23.81)	(2.21)
Almora	3009	2236	686	87
	(100.00)	(74.31)	(22.80)	(2.89)
Nainital	1749	809	925	15
	(100.00)	(46.26)	(52.89)	(0.86)
Total	14995	10644	4027	324
	(100.00)	(70.98)	(26.86)	(2.16)

Source : Draft Ninth Five Year Plan (1997-2002), Uttarakhand Sub-Plan, Lucknow, U.P.

As far as the development of transportation means is concerned, it revealed that more and more emphasis has been given for increasing the length of roads and linking increasing number of villages with the road network. The road transport is the main mode of transportation in Uttarakhand, though little use of horses, ponies and other animals is carried out for transportation of goods in few areas. The length of *pucca* road per lakh of population has increased from 49.3 km in 1960-61 (pre-Chinese War) to 163.15 km in 1980-81 and 200.91 km in 1994-95. Basically the motive behind the construction of roads at increasing level was non-economic factor, i.e. Defence and secondly of course the economic development of the region.[3]

The metalled road, passes through 35 per cent of the villages, is within one kilometre of nine per cent of the villages; within one to three kilometres of 17 per cent villages; and within three to five km of 13 per cent of the villages. Inhabitants of 26 per cent of the villages had to walk more than 5 kilometres to reach a metalled road. Accessibility is much better in Nainital and Pauri Garhwal districts, with 81 and 55 per cent of the villages having a road passing through them, and rather poor in Uttarakashi, Pithoragarh and Tehri Garhwal where inhabitants from over one-third of the villages have to walk over five kilometres to reach a road.[4] The length of road per 1000 sq. km of area in 1994-95 was 246.01 km. however it was only 95.68 km in Uttarakashi followed by 131.60 km in Chamoli, 132.11 km in Pithoragarh but it was highest in Dehradun 472.12 km followed by 408.24 km in Pauri garhwal. However, the process of road development, in terms of the density of road, in Uttarakhand is much below the norms laid down by Indian Road Congress in the road development plan, 1982-2001, for mountain and hilly areas. The density of roads in Uttarakhand is works out to be 31.43 km per 100 sq. km area is much less than the IRC recommendation of 40 km./100 sq. km.[5]

Impact of Infrastructure on Development

The preceding analysis has well depicted the fact that the infrastructural facilities of different kinds are well developed in Uttarakhand. However, the contribution of various infrastructural facilities in the process of overall economic development in general and in the diversification of various economic sectors in particular would possibly depend on the level and extent at which the initiatives for developing various social and physical infrastructure have considered for the necessities and requirements associated to different sectors of the economy. In general the pattern of development of various categories of infrastructural facilities should be based on the demands of specific areas, economic sector's specific and the perceptions of local people. At the same time, the impact of available various infrastructural

facilities in any area specific is more generally influenced by the extent and level of its utilisation pattern. For instance the expansion of educational facilities and development of road transport network in Uttarakhand has been undertaken in an impressive manner. But, its contribution on the process of development, in improving the quality of life and standard of living of local people will determine and govern by the pattern of utilisation and the purpose of people behind the utilisation of these facilities.

Utilisation of Education

(i) Enrolments

It has been well recognised that imparting education among human resources implies improvements in cognitive ability, technical skill and knowledge, productive efficiency and mobility into different occupations and geographical areas, and as a consequence, raising earnings and their income levels and also increasing contribution to economic development. Besides the general contribution that education makes to economic development, it is also considered a potent instrument for bringing about equality of economic opportunities among different segments of the population. So it is plausible that education can compensate for the lack of material assets, so as to improve socio-economic conditions of people, who own little or no asset and have been socio-economically backward for the past several generations and thus, influences a degree of socio-economic equality, despite inequality in the ownership of material resources.[6]

Recognising the value of education in terms of its role in influencing social and economic change, national integration and as an important source for a transformation of the system to relate it more closely to the life of the people and reducing the problems of socio-economic inequality among them, education has always been accorded an important and honoured place in Indian society. Therefore, an increasing emphasis has been provided to impart education among the socially and economically

disadvantaged groups of people. In Uttarakhand, significant emphasis has been provided in the expansion of different levels of educational facilities in different locations of the region. Increasing emphasis has also been made to cover increasingly the remote areas and areas dominated by scheduled castes and scheduled tribes population so that each socio-economic groups of population living in different remote and developed areas can equally participate in educational system. Considering the geographical and topographical problems existing in the region, relaxation in the norms fixed for the establishment of primary level school facilities based on minimum coverage of population size and the distance of villages to nearest school is also made. During recent past initiatives have also been taken to appoint atleast one woman teacher in every school. This has been done on the understanding that women teachers can better understand the psychology and problems of the children and to motivate children to learn and benefit from the educational activities in the school, and they can also be instrumental in getting more girls into the schools and retaining them in the availment of education.

Expansion of educational facilities is necessary but not a sufficient condition for the different socio-economic groups of population to attain its benefits. What is much more important is the extent to which different levels of education facilities are utilised by these disadvantaged groups. Success in providing educational opportunities can be meaningful only when various groups of population utilize it fully and equitably.[7] We shall now, therefore, examine the existing pattern of utilisation of educational facilities in terms of enrolment, drop-out, retention and performance in availing education in general and among different groups of population, i.e. boys and girls, rural and urban population and general castes and scheduled tribes in the region.

The analysis based on secondary data collected from the office of education directorate revealed that during 1994-95, around 1051 thousand children were enrolled in primary level of education, 208 thousand in middle level of education, 460 thousand in secondary education and 46 thousand in higher

educational (degree and post-graduate levels) systems in Uttarakhand. In all over 1764 thousand children were imparting various level of education in the region. Comparing the enrolments of children attaining schools between the period 1980 and 1994 we find the pattern of utilisation of different levels of education by the children is consistently increasing over the years. Overall growth of 8.35 per cent has been estimated for the children imparting education. Annual increase in the growth of enrolments has been recorded significantly highest at middle level education system (15.00 per cent) followed by higher educational level (10.46 per cent), primary level (8.20 per cent) and lowest growth rate of only around 7 per cent is registered for children enrolled at secondary level of educational system.

Girls and Boys

Further, a look into the availment pattern of different educational levels of boys and girls revealed that the enrolments of both the groups of children are consistently increasing in all the educational levels. But the participation of girls at different levels of education is lagging far behind the boys. In all, around 617 thousand boys and 434 thousand girls are enrolled in primary education. In middle level education, the number of boys is 131 thousand as against 76 thousand girls, but the number of children enrolled in secondary level education picked up to 298 thousand among boys and 162 thousand among girls. The participation of girls is below the level of boys at each level of education and it has been considerably declining with the increases of educational level. At primary educational level, the participation of girls is 41.32 per cent as against 59 per cent for boys but it declined at 37 per cent at middle level and further reached at 35 per cent points at secondary level of education.

However, the enrolments of girls are increasing fastly as compared to boys at different levels of education. In fact, the proportion of girls participating in different level of education are largely increasing while the participation of boys is showing a declining trend. At primary level of education the participation

Table 6.2 : Enrolments of Children in Different Levels of Education

Level of Education	1980			1994			Annual Growth		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Primary	307.69	181.50	489.19	616.65	434.23	1050.88	7.17	9.95	8.20
		(62.90)	(37.10)	(100.00)	(58.70)	(41.32)	(100.00)		
Middle	49.18	17.81	66.99	131.35	76.31	207.66	11.93	23.46	15.00
		(73.41)	(26.59)	(100.00)	(63.25)	(36.45)	(100.00)		
Secondary	176.02	62.45	238.47	298.38	161.61	459.99	4.97	11.34	6.64
		(73.81)	(26.18)	(100.00)	(64.87)	(35.13)	(100.00)		
Higher	N. A.	N. A.	18.50	N. A.	N. A.	45.59	N. A.	N. A.	10.46
Total	532,89	261.76	813.15	1046.38	672.16	1764.12	N. A.	N. A.	8.35

Source : *Shikshya Kee Pragati*, Directorate of Education, Allahabad, Uttar Pradesh, 1980-81 and 1994-95.

of girls increased from 37.10 per cent to 41.32 per cent as against a decline from 62.90 per cent to 58.70 per cent for boys with an annual growth of 9.95 per cent for girls and 7.17 per cent for the boys during 1980 to 1994. Significantly larger inequality in the availment of middle and secondary level of education was prevailing against girls during 1980 which has, however, further reduced at considerable extent in 1994. In fact the enrolments of girls are increasing at much higher extent than the boys at both middle as well as secondary level of education. The growth of enrolments for girls at middle educational level was over 23 per cent as against 12 per cent for boys and it was 11 per cent for girls and around 5 per cent for boys at secondary level of education during the reference period. An overall assessment reveals that there are clear cut inequalities in the participation of education among different sexes but the performance of girls is more remarkable than the boys in availing education. Even the enrolments are greatly increasing in favour of girls than the boys. And, finally the growth rates of enrolments of girls are almost double than that of boys at middle and secondary levels of education.

Considering the age-specific enrolment rates of children at different educational levels it also revealed the fact that the enrolment rates of girls are marginally lower than the boys in Uttarakhand. A study[8] undertaken in Almora district finds that the enrolment rates of boys were 94.63 per cent as against 91.69 per cent for girls at primary level education. However, in most of the blocks the enrolment rates of girls and boys were more or less similar except in one or two blocks. However, in socio-economically most backward block(s) such as Kapkote the enrolment of both boys and girls were low, though the enrolment rates among girls were relatively higher. It was found that both school related problems as well as poor socio-economic background of children were the main factors associated with the poor enrolment of children in primary school. The villages were very small in size and the settlements were widely dispersed so a significant proportion of children of these villages have to

cover long distance of 4 to 6 km to reach schools. Though, in many non-accessible areas like Dhauladevi block, NGOs were involved in providing pre-primary education extending even up to Class II. The poor socio-economic background of parents was also a contributing factor to non-enrolment in many parts of the region. Older girls, especially, were needed in the house to look after their younger siblings when their mothers go to forest to collect firewood and fodder. Some of these children were also found collecting forest products for its sale to the contractors.

General Castes and Scheduled Castes/Tribes

In the past, various efforts have been carried out under different planned development strategies to bring increasing number of children from socio-economically backward communities in the education system. In this regard the SC/ST students are given general and residential scholarships, special coaching facilities at different educational levels by Government departments concerned. Under the provision of opportunity cost system, SC/ST girls and boys are provided scholarships and other financial incentives, starting from class I in the region. Increasing attention is also being given to the expansion of primary educational schools in the recently identified Ambedkar Villages and areas dominated by Scheduled Castes and Scheduled Tribes. Relaxation in criteria of opening schools for these areas are also strictly followed. All are the school-going children at the primary school level have been covered under the provision of scholarships so as to attract them to enrol themselves in schools. For the purpose of efficient and proper distribution of scholarship and other incentives among SC/ST children the Village Education Committee (VEC), headed by the Village Pradhan and the Headmaster of the school concerned and a representative among the parents of SC/ST children as the member, has been formed. The amount of scholarship is to be distributed among SC/ST children every year in two instalments in the presence of VEC.

In spite of the fact that considerable efforts has been placed for increasing the rates of enrolments, retention and educational performance and to bring reductions in the drop outs of SC/ST children in Uttarakhand the educational performance of general caste children, both girls and boys is noticed comparatively better than the SC/ST children. The analysis based on data obtained from the office of Basic Education Officer revealed that the enrolment rates of upper castes children were 94.35 per cent as against 89.52 per cent for scheduled castes and 83.81 per cent for scheduled tribes children. Also the SC/ST girls were lagging far behind their male counterpart in the availment of primary education. The enrolment rates of general caste boys were 95.38 per cent as against 92.46 per cent for SC boys and 89.17 per cent in the case of ST boys. Similarly in the case of girls the enrolment rates were 93.30 per cent, 86.20 per cent and 78.74 per cent in the case of general castes, SC and ST groups of children, respectively. The differences in the enrolment rates of general caste and SC/ST girls was reported to be quite sharp. However, examining the data on the age specific actual enrolments and final analysis carried out by the basic education department in the calculation of enrolment rates of different groups of children a remarkable discrepancy was appeared in this regard. Therefore, we had carried a detailed survey through personal visit to various schools and thus, the rates of enrolments were separately calculated for different social groups of children.

This analysis shows that the overall enrolment rates among SC/ST children (93.42 per cent) were relatively higher than the enrolment rates found among the children belonging to the general castes (92.20 per cent). Further, grouping the various blocks into two categories - developed and backward, on the basis of applying certain socio-economic and educational indicators, we found that the differences in enrolment rates of SC/ST and general castes children were remarkably higher in backward blocks than in the developed blocks. The enrolment rates of SC/ST children were 89.83 per cent in the backward blocks as against 98.55 per cent in developed blocks. But the enrolment rates of general caste

children were marginally higher (90.34 per cent) than the SC/ ST children (89.83 per cent) in the backward blocks, while in the developed blocks the differences in enrolment rates in favour of SC/ST children were two points level. The existing inequalities between general caste and SC/ST children in the utilisation of primary education are mainly caused by relatively lower level of enrolments of SC/ST girls than general castes girls, particularly in the backward blocks. Otherwise, the Scheduled Casts/Tribes are not lagging behind their upper caste counterparts in the availment of primary education. In fact, the enrolments of scheduled caste and scheduled tribe boys are significantly much higher than general caste boys in both developed blocks and at the district level.

(ii) Stagnation, Drop-Outs and Retention

The rates of retention have been worked out on a classwise basis at a primary level of education. The retention rate at class I is expected to be 100 per cent. And thus the overall retention rate of children at Class II is worked out to be 90 per cent. However, by the time children reach class III, the rate of retention begins to decline at 78.29 per cent. The retention is Classes IV and V was found to be 63.49 and 61.02 per cent respectively thereby meaning that 36.51 and 38.98 per cent students respectively failed or had dropped out of education stream. Finally only around 66 per cent of these enrolled in Class I reaches Class V.

Inequalities in the retention rate was quite prevalent among boys and girls. The retention rate of boys was significantly higher (47.20 per cent) as compared to that of girls (40.30 per cent). Also, the stagnation as well as dropout rates of girls was somewhat at larger extent as compared to boys. It was estimated that around 21 per cent girls and 17 per cent boys drop out their study before the completion of primary level education. The stagnation rate among girls was 38.98 per cent as against 33.50 per cent for boys.[9]

Differences in the retention rates between the children of general cases and SC/ST were also quite significant in different blocks and in fact, within the block.[10] However, the retention rates of SC/ST children in different classes were significantly higher than of the general caste children. Also, the differences in the retention rates in favour of SC/ST children in the developed blocks were remarkably much higher than in the backward blocks. The proportion of SC/ST children continuing primary education is estimated to be 65.89 per cent as against 58.38 per cent of general caste children. However, the retention rates of SC/ST children in developed blocks was (72.22 per cent) much higher than in the backward blocks (61.36 per cent). Thus, the extent of inequality among SC/ST and general caste children was worked out to be 18 points in the developed blocks as against only one point level in the backward blocks with an overall inequality of 7 points.

The performance of Scheduled Castes and Scheduled Tribes children, in terms of their continuing to study in different classes of primary education, seems to be rather significant as compared to the general caste children. Overall drop-out rates are estimated to be around 39 per cent, constituting 43 per cent for general castes and 32 per cent for SC/ST children. The rates of drop-out of SC/ST are significantly at the lowest level in the developed blocks (27.78 per cent) as against 39 per cent in the backward blocks. In both types of blocks the children dropping out study before the completion of the primary level education are relatively much larger among general caste children than among SC/ST groups. In all, the drop-out rates are generally higher before the completion of the third and fourth levels of primary educational classes for both the groups of children.

During discussions with the officials of education department, parents of SC/ST children and the teachers of primary schools, it was revealed that provision of financial assistance in the form of scholarship and free tuition introduced for SC/ST children has been greatly instrumental in increasing their enrolments and retaining them in school regularly. Due to the poor socio-economic

condition of SC/ST households, they were generally unable to send their children to avail education. With the availability of scholarship and other financial incentives, a larger number of SC/ST children have found the opportunity to get enrolled in primary schools. Earlier, the attraction of the SC/ST children was mainly to avail the scholarship but the level of attendance remained rather low. In fact, most children had enrolled themselves in primary schools mainly to avail the facility of financial assistance. To overcome this problem the schools have fixed a general criterion for the eligibility for availing scholarships and other incentives. The children securing 70 per cent regular attendance in schools are considered eligible for various financial assistance provided for them. This newly introduced practice has certainly improved the attendance rate and the level of retention of SC/ST children.

(iii) Attendance

The analysis[11] on the pattern of attendance of children indicated that a large number of children do not attend school regularly due to one or another reasons. School related problems as well as the family environment of children are the main factors responsible for the irregularity of children's attendance in school. The analysis shows significant differences among different schools located in different blocks and even schools of same block in terms of number of days the schools functioned during a month. A majority of schools in various blocks functioned for 14 to 15 days in a month. Furthermore, it was found that an overwhelming proportion of children, particularly those studying in Class I and II are very irregular in attending classes. In most schools glaring discrepancies were appeared between the attendance figures as per the attendance register for the day and actual physical count of students physically present in the classes on that day. Attendance was generally marked not daily but after an interval of some days for all the preceding days. As per the school records, a majority of children (61 per cent) were found to have attended

their school for more than 13 days and another 24 per cent for 11-12 days while the attendance of remaining 15 children was below 10 days in a month.

Utilization and Impact of Road Transport

The impact of transport network in the production and distribution system is quite significant insofar as it increases the accessibility to productive resources and physical mobility of raw material, finished goods and factors of production, promoting competition and hence economic efficiency. It also creates conditions for increasing the scale of production on the one hand and for strengthening of economic linkages on the other. Consequently, the transport can influence the process of growth through bringing changes in attitudes and behaviour of the people by facilitating the dispersal of knowledge and reduction in socio-cultural bottlenecks - taboos and traditionalist - which tend to inhibit the adoptions of modern technologies, and the growth and diversification of demand for final goods and services.

Regarding the impact of transport on economic development it may be taken for granted that, in the context of a nation as a whole, creation of transport facilities does induce the process and accelerate the process of growth. But this is not always true for regions or areas covered by the transport network. The extent to which an area, when linked with other areas, benefits or is exploited on account of externalities, depends upon the kinds of economic impulses generated from within the region and the terms of trade of the area with other region. Thus, while dispersal of the development process essentially requires building up of transport network, the transport linkages may sometimes lead to the accentuation of inter-areas and regional differences in the level of development. There are issues relating to absolute and relative development of particular regions become important. In this context it will be worthwhile to examine how and at what extent the creation of transport facilities has been effecting the diversification and development of various economic sectors in Uttarakhand.

As has been indicated already in the preceding analysis that the development of road transport network and to link various remote areas and villages with road network has received a significant importance and priority under the past development plans of Uttarakhand. During the period of Seventh Five Year Plan, the share of expenditure on transport was 15.34 in the total expenditure of Rs. 1213.15 crores. During Eighth Plan, approved outlay for transport sector was Rs. 297.50 crore. It also noted that proposed outlay for Ninth Plan has increased to Rs. 1052 crore accounting for two and a half folds higher than the plan expenditure incurred during last plan period. Also the share of outlay for transport sector of the total plan outlay for Ninth Plan accounted around 24 per cent. During Eighth Plan, 1640 km road was constructed and 1154 km road was reconstructed and repaired. The target of Ninth Plan is to construct additional road length of 1705 km in addition to repair of 1168 km road. Thus, we find considerable efforts have been undertaken towards the development of road network in this socio-economically backward region so as to link it with rest of the areas on one hand and to bring improvements in the life-style of local people on the other.

However, the impact of developing road transport network on the socio-economic development and the quality of life of an area specific mainly determined by the motives and frequencies of the utilisation of available transport facility by different socio-economic groups of people. Since the transportation system by itself may not lead to development. It is the utilisation of transport facilities for various productive and welfare enhance purposes which will determine the contribution of developing transportation to the general development. A study undertaken in the district Almora[12] to examine the pattern and purpose of the utilisation of transport facility by local people, and its impact on the pattern of economic development revealed that expansion of road transport, consisting of 28 km in length, has certainly provided an opportunity to about 66 local people to establish different types of shops and establishments. Nearly 43 per cent owners

of different establishments located on the sample road felt that they would not have started any activity in the absence of the road while 29 per cent reported that their turnover has increased substantially and another 7 per cent have expanded their business by introducing new items for sale. Similarly, a sizeable number have been able to establish better links within areas nearby and have, therefore, enlarged the very size of their market. The artisan and processing units, however, did not feel much benefits though they recognised the utility of road for travel out of the village.

In terms of the utilisation of road transport facility by the local people it was found that from each households atleast one member is making on an average one visit every month to the urban centres or community development block for various purposes. Households in all the land holding groups have been utilizing the road transport so far as their visits out of village are concerned. However, within the overall patter of visits for various purposes, the frequency of visits were highest among the members of landless households.

Examining the purpose of such visits, the study found that purchase of goods for domestic use is the largest single reason accounted for around one-third of the total visits. Purchase of raw material for production of cottage products and disposal of such products come next, but visits for these purposes are mainly observed in the case of landless household. The smaller land holding size and poor agricultural condition in the area are reflected in the small proportion (11 per cent) of the visits to the market to purchase agricultural inputs like seeds and fertilizers. Around 9 per cent of the household members are utilising transport facilities for availing the medical facilities.

Regarding overall economic impact of developing road transport network in the region a study[13] revealed that only a marginal impact has been noticed in production and productivity of agriculture in the linked village with roads which even cannot be attributed to the availability of road transport alone. Because the productivity has also been increased equally in non-linked village also, though an increasing trend has been noticed in

productivity in the linked village, while in the non-linked village it has shown a declining trend. A slight shift in favour of cash crops was noticed after the emergence of road transport in the linked village, but no impact was seen in the extent of agricultural produce marketed. New practices and crops seem to have been brought to the village by transport, but their productive results have been mainly absorbed in improving consumption rather than sale for profit.

It is significant to note that in all major crops, except paddy, the yield levels have registered an increase in the village connected with road while they have declined in the non-linked village. The cropping pattern of both the villages is heavily dominated by food crops, particularly cereals. But non-food crops have somewhat larger percentage of areas in the linked village than in the non-linked one. What is important to note is that this difference has mainly arisen in the period after the construction of road, during which the share of cash crops has increased by around 3 percentage points in the village on the road while it has shown a declining trend in the off-the-road village. Current harvest prices of crop-output and wages of agricultural labour, however, are the same in case of both the villages. It looks, the markets for produce and labour have a wider coverage and their prices are not determined at the level of a single village itself.

The non-agricultural activities were found to have stagnated or declined rather than increased with the introduction of road transport in the village. The village away from the road has more establishments and workers in the non-agricultural activities than the one on the road, no doubt, because the former is a larger village. But the number of non-agricultural establishments and employment has increased in the linked village while it has decreased in the non-linked village. Transport thus seems to have introduced goods produced outside, particularly in the urban areas, as substitutes for locally produced ones, and, no alternative avenues, in terms of other non-agricultural activities, have emerged to take care of artisans so displaced. Significant magnitude of activity is found to have emerged on the road side,

mainly in the form of trading establishments. But the main linkage these establishments provide to the economy of the village is by way of supplying consumption goods produced elsewhere. Thus, there is very weak production linkages of these activities with the village.

The road seems highly underutilised particularly because of the limited number of bus services. Non-passenger traffic is only occasional and limited. The villagers certainly make larger number of visits to the nearest market centres located at the road heads, due to the availability of bus transport facility. But most of these visits are again for purposes of buying consumption goods. The frequency of villagers contacts with the local development officials has only marginally increased with the introduction of road transport.

Thus, the impact of road transport is more visible and direct on the consumption economy and only marginal and indirect in the production economy of the villages in Uttarakhand. It looks that the limitations of productive potentials render the road transport mainly a consumption item in the resource poor region. The increasing absorption of consumption goods produced outside Uttarakhand is made possible not so much by increased in income generation in local production as by remittances from out-migrants from the area. And, increasing consumption requirements due to growing contacts with outside region, force more and more able bodied persons to migrate out of the area in search of employment and income opportunities, which, in turn is facilitated by the availability of transport facilities. By and large, this is the pattern of the impact of road transport, visible in the backward economies of the remote and geographically enclaved areas of Uttarakhand.

References

1. Valdia, K.S., *Uttarakhand Today*, Almora Book Depot, Almora, 1996.
2. Government of U.P., Draft Ninth Five Year Plan (1994-2002) and Annual Plan, 1997-98, Vol. I, Uttaranchal Sub-Plan, Lucknow, U.P.

3. Jafri, S.S.A. and Bhaskar Rao, Regional Development Experience in U.P. Hills : A Note. *Indian Journal of Regional Science,* 20(1), 1988.
4. Mehta, G.S., *op. cit.*
5. Government of U.P., Ninth Five Year Plan, 1997-2002.
6. Mehta, G.S., *Education Employment and Earnings,* Deep and Deep Publications, New Delhi, 1990.
7. Mehta, G.S., Provisions, Existing Conditions and Prevailing Situations in Educational Opportunities. *Man and Development,* 12(2), 1990.
8. Joshi, B.K., Joshi, A. and Mehta, G.S., *Situation Analysis of Primary Education in District Almora*, Giri Institute of Development Studies, Lucknow, 1994.
9. Joshi, B.K., *Ibid.*
10. Mehta, G.S., Utilization of Primary Education, Inequality Among General Castes and Scheduled Castes/Tribes, *Man and Development,* 20(3), September, 1998.
11. Joshi, B.K., *et. al., op. cit.*
12. Mehta, G.S., Roads and Area Development : A Study in Utilization and Impact, *The Indian Journal of Regional Sciences,* 16(2), 1984.
13. Papola, T.S. and Sinha, R.C., *Road Transport and Economic Development*, Giri Institute of Development Studies, Lucknow, 1981.

7

Energy and Tourism

Energy

The main sources of energy in Uttarakhand are fuelwood, kerosene, electricity, LPG and non-conventional energy system like, solar and wind energy devices, bio-gas, etc. The fuelwood obtained from the forests is an important energy used for cooking, heating and lighting purposes in almost all parts of the region. The expansion of bio-gas has been carried out only in few areas of foothills and valley areas while the solar energy devices have been quite popular in almost the mountainous areas, which is mainly used for lighting purposes. The electricity is used for both industrial purposes as well as lighting. In fact the traditional energy system is still dominating among the various energy sources, in almost the mountain areas and it is the fuelwood obtained easily and in sufficient quantity from the local forests. The energy consumption pattern in the domestic sector - as seen from various case studies - shows that the contribution of traditional fuel amounts to more than 90 per cent of the total energy requirement. The share of fuelwood in traditional energy is more than 65 per cent.[1]

However, the fuelwood is mainly used for cooking and heating purposes and around 79 per cent households are using electricity for lighting purposes. In fact the kerosene and pine sticks are also common sources of lighting of a majority of households in the region.

A study[2] revealed that cooking which accounts for the bulk of the domestic energy demand a majority of the households (99 per cent) are depending on fuelwood while over 80 per cent of the households are only using fuelwood for cooking. The situation in regard to space heating shows virtually the same pattern of the distribution of households according to sources of energy, both for cooking and heating. This just shows that in a large majority of cases the two functions are not separate but take place simultaneously. Coming to domestic lighting, the most important sources of energy are kerosene, pine sticks and electricity. Over 80 per cent households reported the use of kerosene. Pine sticks have been traditionally used for lighting in the rural areas for the past several generations while about one-fourth households are still using this source of energy, particularly in non-electrified villages. In fact, in most villages the pine sticks is the popular substitute of kerosene.

In terms of the use of electricity by households for lighting purpose, a significant proportions of households in electrified villages have not acquired the connection of electricity. So, only quarter of the households reported the use of electricity for domestic lighting. This can be presumed that only about 25 per cent of the households in the electrified villages have domestic electric connection. However, on the other hand, the Government claimed that around 79 per cent of the villages in Uttarakhand have the facility of electricity. The per household consumption of fuelwood averages at 54.5 qtls. per year but it varied largely from 33 qtls. to 71 qtls. among the different households. The variations in the consumption pattern of fuelwood could be due a number of reasons related to both need and availability. The consumption is higher in those villages which are either close to forests or are situated at higher attitudes

The kerosene is used in all the villages for lighting purpose. The annual consumption of kerosene oil per household and per capita also follow a similar pattern. Per household consumption of kerosene varied between 14 litres to about 75 litres per year with an overall average of 42 litres. Per capita consumption ranged from 2.25 litres to 13.25 litres per year with the overall average

of about 7 litres. Two factors may influence the consumption of kerosene; the economic condition of the households, because of kerosene oil being a commercial source of energy and availability of the product, besides the availability of pine sticks as a means of substitute of kerosene among different villages. It is also clear that the remote clusters of villages have a lower consumption of kerosene than those located in the proximity of towns and market centres. This does not necessarily imply that the demand of kerosene oil is generally lower in the relatively isolated places. The problem is that kerosene is not easily available at such places. The consumption of electricity per household is estimated to be varied between 260 and 400 kWh per year. The average for all the clusters of villages was 399 kWh per household per year.

Further, comparing the share of the different sources of energy in terms of useful energy available from the different fuels it revealed that the share of fuelwood in total energy consumption varies between 84.1 per cent and 98.5 per cent, of kerosene oil between 0.3 and 2.5 per cent and of electricity between 0.2 and 0.6 per cent. Thus, it is clear that an overwhelmingly large share of household energy in the rural areas of Uttarakhand is provided by fuelwood. The importance of fuelwood becomes even more greater when we take into account the useful energy available at household level. The average share of fuelwood then increased up to over 99 per cent as against less than 0.2 per cent each for kerosene and electricity. The reason for this shift in the relative share of different fuels is the kerosene oil is used exclusively for lighting and its efficiency for this purpose is only one per cent.

A Suggestive Approach for Energy Development Planning

Looking at the importance of fuelwood as an energy source in Uttarakhand it may be suggested that the focus of any energy policy ought to be in increasing its supply and availability without causing any more damage to the existing forest resources. This implies a vigorous programme of raising fuelwood plantation in

an around the villages on common and barren lands. Beside this, the devices such as solar energy and generation of electricity through developing micro-hydro system are the additional alternative options which development should be provided a great priority so as to minimise the over exploitation of forest resources and to use them as fuelwood for cooking and heating purposes.

Uttarakhand have area specific comparative advantages and opportunities for the generation of hydro-electricity at large scale. However, minimal attention is paid to the development of hydel power; as is illustrated by the fact that the micro-hydel power plants installed so far have the total capacity of only about 20 MW, while the total potential in the region is estimated to be about 800 MW. Even the utilisation capacity of the existing plants is very low due to lack of demand (productive activities using energy are absent from the area). Electricity is used only for lighting purpose. Thus, there has been very little impact of and contribution by these plants to the economic development of Uttarakhand.[3]

A large scale programme for developing mini- and micro-hydel plants should become a priority in the development agenda of Uttarakhand. This may require changes in policy favouring private sector participation. At the same time, this programme should be integrated on an area basis with the parallel programmes for development of productive activities using the lead sector approach, so that power development will have a maximum impact on the economic development of the area. Electricity should also be recognised as a commodity that can be exported to earn revenue for the development of the region. Therefore, to ensure that the benefits from water return to the area, appropriate mechanism should be evolved for sharing the revenue realised from the sale of power.[4]

Tourism

Tourism could be an important lead economic sector which development can provide increasing level of employment and

income opportunity. Significant advantages and opportunities in terms of developing tourism and tourism related activities on an integrated manner are largely available in almost the areas of Uttarakhand. The region offers the attraction of an interesting landscape and a calm and serene environment conducive to different types of tourism in different climatic conditions and seasons. Alaknanda, Ganga, Pinder Mandakini and several other famous rivers flow through the region and add to the natural beauty. Uttarakhand has some of the most diversified and lofty landscapes, from the monsoon to the insular, it dotted with places of pilgrimages and worship for the followers of Hinduism, Buddhism and a number of other religious groups and it harbours the most bewildering variety of life-styles and culture with histories that dates back to antiquity. The famous Hindu pilgrimage site, e.g. Badrinath, Kedarnath, Hemkund, Sahastradhara, etc., are located in the region. The regional flora and founa and rugged topography add to the tourism potential of the region.

The tourist places for the interest to be classified as religious, trekking and mountaineering, health and science, defence, historical and socio-cultural are almost well diversified and are located in the various areas of the region. Nainital, Mussoorie, Srinagar, Ranikhet, Kausani and Dehradun are among the well known resort for recreational tourism, Rupkund, Har-ki-dun, Auli, Aodital, Pindari are the important trekking and mountaineering places while Chakori, Kalsi, Theri, Garur, Pithoragarh, Narender Nagar, etc., are well known historical places located in Uttarakhand. Both domestic and foreign tourists visit different areas almost the whole year and the tourist traffic is consistently increasing in the region. The number of tourists arrived in Uttarakhand has increased from 112.36 lakhs in 1991 to 140.24 lakhs in 1995. It is further revealed that of the 127.48 lakh tourists arrived in Uttarakhand during 1993, significantly a highest number of them (31.42 lakhs) visited Rishikesh, followed by 26.96 lakhs Dehradun, 14.74 lakhs Mussoorie and 11.73 lakhs Nainital while in famous religious places of Badrinath and Kedarnath, situated in Chamoli district, only 4.877 lakh and 1.19 lakh tourists were arrived respectively.

Considering the increasing traffic of tourists in different tourist places in the region more and more emphasis has been given to the construction of tourist bunglows, guest houses and hotels during the past. Beside the direct involvement of Government, local bodies and corporations in the construction of tourist bunglows and guest houses, the participation of private sector participation has also been increasingly encouraged in the construction of hotels through providing several incentives and financial subsidies to them. By the end of year 1993-94 the number of guest houses and tourist bunglows under the pubic sector were 102 in Uttarakhand. The transportation system in the region is mainly managed by private sector and individuals while the government owned buses operate on few identified routes in limited numbers. The buses, and taxies are the only means of transportation in the mountain areas of region while the rail transport facility is available up to food-hill areas of Kathgodam and Dehradun only. During Eighth Plan period, an outlay of Rs. 6650.00 lakh was earmarked against which an actual expenditure of Rs. 5351.52 was incurred for the tourism development. The proposed outlay for year 1997-98 is Rs. 1157.54 lakh of which a major share will be for the construction of tourist accommodations and the development of infrastructural facilities. Even, during Eighth Plan period a largest share of expenditure was indicated in these two heads accounting for Rs. 772.14 lakh for the development of infrastructure and Rs. 751.66 lakh for tourist accommodation.

As per the tourism policy of the Sate Government, which chalk out during Eighth Five Year Plan period, an approach is being adopted, that would ensure the best possible utilisation of resources of the state for long run. Increasing emphasis has been provided for the development of necessary infrastructural facilities in different tourist locations. A tourist policy is prepared to take care of tourism, which consists of a comprehensive package of incentives and facilities to private entrepreneurs for the development of infrastructural facilities. However, the involvement of private sector is mainly visualised in the construction of hotels, guest houses and park. Little is, however,

devoted to the identification of new tourist places, particularly for adventure tourism, beautification of identified tourist centres, parks and sanctuaries, or to the development of basic infrastructural facilities such as drinking water, sanitation and medical facilities in both different tourist centres as well as on the important tourist routes. In fact, the types and categories of hotels, guest houses and tourist accommodations, existing in different tourist centres and routes of tourists are constructed without keeping into consideration the area specific or location specific demands and the requirements of different categories of tourists.[5]

The participation of local people in the promotion of tourism related activities as well as in the development of various infrastructural facilities, including the construction of hotels and related accommodation facilities has been very limited. It is awared that principal benefits have been grabbed by enterprising and well placed entrepreneurs from the plains and that the efforts of the Government in the past have not changed the situation. The government considers poverty and a lack of entrepreneurship ability as the major causes among local people not fully taking advantages of opportunities provided by the increase in tourism activities. Also, the training currently available is neither suitable for the hills nor it is affordable. Promotion of relevant training facilities for local entrepreneurs is under the consideration of the government, as are extension of credit facilities and subsidies.[6]

By and large the promotion of tourism oriented towards the sustainable, economic, social and environmental development of local people has to a large extent remained neglected. The tourist centres are experiencing a number of problems, especially in terms of accommodation, transport, concentration, seasonability, information publicity, infrastructural facilities, environment, and others.[7] Over-crowding in the existing centres such as Mussoorie, Badrinath and Pindari are causing the increasing problems of environmental degradation. The arrangements for pilgrimage have not changed according to the needs, barring the mode of transport in which motor road have taken over from bridle paths. This change in the mode of transport has inadvertently damaged the

minor pilgrim places. It, therefore, seems quite essential to develop a comprehensive planning approach for promoting tourism and tourism related activities in an integrated manner by maximising the use of available area specific advantages and opportunities on one hand and maximising the participation and linking the local people with tourism activities on the other, such that tourism can increasingly be contribute in providing employment and income opportunities to the local people.

Impact of Tourism in the Economic Development

The value and importance of tourism is well felt in terms of its role in offering alternative gainful employment and income opportunities. Tourism development, in general, can contribute to development in various ways; by generating revenue for the government and local communities; by creating new jobs and income earning opportunities; by inducing new businesses and trading opportunities; by opening markets for local products, by the promotion of new skills and technologies; by the induced improvement in physical and social infrastructure and community facilities of various types; by encouraging positive changes in land use and production system, not least, by enhancement in the environmental and cultural awareness as well as in the appreciation of the community's natural, historical and cultural heritage. In mountain areas where tourism is often expected to serve as a developmental function, the relevance to tourism to local communities lies in its potential for inducing sustainable economic development and environmental benefits for the population.[8]

In this light a detailed study,[9] based on primary data and personal discussions held with the local people attempted to examine the presently emerging situation and contribution of tourism industry on the process of economic development and in providing employment and income opportunities to the people in different tourist centres. Beside this, it is also attempted to investigate the aspects related to the possible development

prospects of tourism in the sample areas and the measures to be undertaken in favour of its development in the future.

The study was undertaken in the Garhwal Division of Uttarakhand. The impact of tourism on certain aspects is assessed at the different tourist centres and on the tourist route of Kedarnath and Badrinath, starting from Srinagar to Joshimath. A listing of all different types of activities, both economic and service sectors which, are directly or indirectly linked with the tourist sectors, was firstly carried out from different halting and tourist centres on this route. Thereafter, a sample of about 9 per cent different categories of trading and service activities was selected from different centres for detailed study. The relevant information regarding the possibilities and prospects of development of tourism and its general impact on the socio-economic and environmental setting of different tourist centres was collected through personal discussions with the social workers and other local people in different halting centres of tourists and the people living in neighbouring villages of tourist routes and centres.

Development of Economic Activities

On the route of Kedearnath and Badrinath shrines various small towns have emerged where different types of establishments, both commercial and service, have been opened by both local residents as well as people from outside Uttarakhand. There are 1876 different types of establishments on these routes. However, a majority of them are involved in selling of vegetables/fruits and general consumer's item (27 per cent) followed by hotels and restaurants (20 per cent). The main halting centres of tourists on the Badrinath and Kedarnath routes are Srinagar, Rudraprayag, Gochar, Karnprayag, Nandprayag, Chamoli, Peepalkoti and Joshimath. Srinagar is well developed and is the largest town among different towns located on these routes, where different types of basic infrastructural facilities are well developed and are available to the tourists. Therefore, Srinagar is the main halting centre of the tourists entering into Garhwal from the side of

Haridwar. Contrary to this, the development of Srinagar has taken place mainly as a result of its location as a halting centre for the tourists. Since tourists starting from Haridwar in the morning reach Srinagar in the evening, so they are forced to stay at this place. Therefore, we found 29 per cent of the total hotels and restaurants located on the Kedarnath and Badrinath route are alone located in Srinagar. In all, there are 700 different types of shops and establishments in this town. The second most important halting centre of tourists is Joshimath which is located about 40 km before the Badrinath shrine.

It was observed that the development of tourism in Garhwal has given the opportunity to local people for the establishment of different types of activities in different halting centres of the tourists. In fact, a majority of the farming community people were observed to be engaged in the supply of their farm produce in different halting centres of the tourists. Some of the vegetable and fruit sellers were found bringing fruits and vegetables from their own farms as well as from the farm of neighbouring households of the concerned villages for the sale in these centres. Similarly, the owners of tea stalls and sweet shops bring milk from the villages for the preparation of milk products. The farmers of nearby areas of these centres were also seen involved in the sale of milk and agricultural produce to the shopkeepers in the markets. In all, over 92 per cent of the owners of the different establishments in the tourist centres belong to neighbouring villages. This proportion is highest in Nandprayag (83.33 per cent) followed by Peepalkoti (75 per cent) and Gochar (69. 23 per cent). The local people have mainly opened vegetables, fruits and tea shops in these halting centres of tourists.

A look at the pattern and trend of the opening of different activities in these centres reveals that a significantly larger proportions of the activities were set up during the period 1980-90 (47.67 per cent) followed by 24.42 per cent activities after 1990 and 19.19 per cent establishment during 1970-80 while only 8.72 per cent establishments were started before 1970. This indicates the fact that the flow of tourism is significantly

Table 7.1 : Number of Establishments at Different Halting Centres of Tourists

Halting Centres	Number of Establishments by types							
	Boarding & lodging hotels	Eating hotels and tea stalls	Vegetables, fruits & general shops	Cloth tailoring & *paan-beedi* shops	Service Establish-ments	Repairing & other shops	Auto/ motor repairs & photographers	All establishments
Srinagar	36	74	177	152	84	146	31	700
	(5.14)	(10.67)	(25.29)	(21.71)	(12.10)	(20.86)	(4.43)	(100.0)
Kamprayag	15	35	78	58	37	49	16	288
	(5.21)	(12.15)	(27.08)	(20.14)	(12.85)	(17.01)	(5.56)	(100.0)
Joshimath	39	34	81	34	28	47	12	275
	(14.18)	(12.36)	(29.46)	(12.36)	(10.19)	(17.09)	(4.36)	(100.0)
Rudraprayg	14	33	91	44	40	40	6	268
	(5.22)	(12.31)	(33.96)	(16.42)	(14.93)	(14.93)	(2.21)	(100.0)
Gochar	4	24	46	29	15	18	3	139
	(2.88)	(17.27)	(33.09)	(20.86)	(10.79)	(12.95)	(2.16)	(100.0)
Peepalkoti	14	24	10	11	15	15	2	91
	(15.38)	(26.37)	(10.99)	(12.09)	(16.48)	(16.48)	(2.21)	(100.0)
Nandprayag	3	14	14	9	7	7	4	58
	(5.16)	(24.14)	(24.14)	(15.52)	(12.07)	(12.07)	(6.90)	(100.0)
Chamoli	6	9	9	17	7	7	2	57
	(10.52)	(15.79)	(15.79)	(29.85)	(12.28)	(12.28)	(3.51)	(100.0)
All Centres	131	247	506	354	233	329	76	1876
	(6.98)	(13.17)	(26.97)	(18.88)	(1242)	(17.53)	(4.05)	(100.0)

Note : Figures in parantheses indicate the percentage of total establishments of respective centre.

increasing in this region after 1980 and this has given increasing opportunities to the local people to start different types of economic activities at the different halting centres of the tourists.

Employment Opportunities

It is further noted that the development of tourism in the region has created employment opportunity for a sizeable number of unemployed. It is found that around 38 per cent of the owners of different establishments have reported to have started concerned activities due to non-availability of any employment opportunity. This proportion is highest in Joshimath (56.52 per cent) followed by Karnprayag (48.15 per cent) and Gochar (46.15 per cent). A second category of entrepreneurs of these establishments have reported (27 per cent) that present activities were started as a result of having good earning opportunities in the respective tourist centres.

The establishment of different economic activities in the different halting centres of tourists have not only provided employment opportunities to the local people by way of establishing different activities but a sizeable number of unemployed youth have also found employment in these activities as wage paid employees. There were 337 workers employed in 172 sample establishments accounting for around two workers per establishment. However, per unit employment was highest in Nandprayag (2.7 persons) followed by 2.5 persons in Peepalkoti and 2.2 persons in Karnprayag. Also, there were 13.06 per cent establishments in which the average employment per unit was above 5 persons while the highest proportions of establishments (31.06 per cent) were employing 3 to 5 persons. Remaining establishments were employing less than 3 workers. Per day average wages paid to the workers employed in different establishments were estimated to be Rs. 18.79. The wages ranged from a high of Rs. 35 in Peepalkoti followed by Rs. 25 each in Karnprayag, Joshimath and Nandprayag while they were lowest in Srinagar (Rs. 17.31). It was further pointed out that the workers

employed in different establishments find employment opportunity for about 131 days in a year. However, this figure was much higher for workers in Rudraprayag (293 days) followed by 198 days in Srinagar.

Table 7.2 : Distribution of Establishments by Year of Starting Business

Centre	Year of Establishment					
	Not Known	Before 1970	1970-80	1980-90	1990	Total establish-ments
Srinagar	—	4	11	29	22	66
		(6.06)	(16.67)	(43.94)	(33.33)	(100.0)
Kamprayag	—	3	3	12	9	27
		(11.11)	(11.11)	(44.45)	(33.33)	(100.0)
Joshimath	—	4	6	10	3	23
		(17.39)	(26.09)	(43.48)	(13.04)	(100.0)
Rudraprayag	—	3	8	13	1	25
		(12.00)	(32.)0)	(52.00)	(4.00)	(100.0)
Gochar	—	—	2	6	5	13
			(15.38)	(46.16)	(38.46)	(100.0)
Peealkoti	—	—	1	7	—	8
			(12.50)	(87.50)		(100.0)
Nand Prayag	—	—	1	2	2	6
			(16.67)	(50.00)	(33.33)	(100.0)
Chamoli	—	1	1	2	—	4
		(25.00)	(25.00)	(50.00)		(100.0)
All Centres	—	15	33	82	42	172
		(8.72)	(19.19)	(47.67)	(24.42)	(100.0)

Note : Figures in parentheses are percentage to totals.

Thus, the overall impact of tourism in providing employment opportunities with the establishments of different types of economic activities is well witnessed by the fact that people living in neighbouring villages of these tourist centres are increasingly opening different types of shops and establishments and providing various types of goods as per the demands of tourists. During the tourist season, the entrepreneurs of different establishments are providing employment to local unemployed also. It may also be pointed out that the development of economic activities, which can cater to the demands of tourists to a large

extent, could be an important measure for the creation of employment opportunities in different halting centres of the tourists. It may be thus suggested that special programmes be introduced to motivate the farmers living in nearby villages of the tourist centres for growing more and more fruits and vegetables which may be brought to the respective tourist centres for meeting the demands of the tourists during the peak tourist season. Since it was reported that a significant number of tourists bring fruits and vegetables with them from Haridwar, Haldwani and Kotdwar markets for their own consumption to the places of their night halt. This is because during peak season the basic commodities, particularly fruits and vegetables are not available in adequate quantity and the shortage leads to rise in prices of all these commodities.

Table 7.3 : Reason for Undertaking the Business

Centre	Traditional family occupation	Could not find job	Good earning opportunities	Others*	Total
Srinagar	13	22	29	2	66
	(19.70)	(33.33)	(43.94)	(3.03)	(100.0)
Karnyprayag	6	13	4	4	27
	(22.23)	(48.15)	(14.81)	(14.81)	(100.0)
Joshimath	9	13	—	1	23
	(39.13)	(56.52)		(4.35)	(100.0)
Rudraprayag	10	8	4	3	25
	(40.00)	(32.00)	(16.00)	(12.00)	(100.0)
Gochar	3	6	4	—	13
	(23.08)	(46.15)	(36.77)		(100.0)
Peepalkoti	3	2	2	1	8
	(37.50)	(25.00)	(25.00)	(12.50)	(100.0)
Nandprayag	2	2	2	—	6
	(33.33)	(33.34)	(33.33)		(100.0)
All Centres	48	66	46	12	172
	(27.91)	(38.37)	(26.74)	(6.98)	(100.0)

* Own choice

Note : Figures in parentheses are percentages to total numbers of establishments.

Economic Implications

Development of tourism in different pockets of the region

has considerably been attributed to the increasing contribution in the incomes of farming households those who are living neighbouring areas of the halting centres of the tourists. The farmers have received the advantages of finding reasonable prices for favour of their agricultural produce, milk, fruits and vegetables in these centres. Though the contribution of the goods with local origin to the overall supply of different economic activities, taken together in all halting centres of the tourists, is estimated to be only 5.57 per cent. The contribution of vegetables, fruits, tea and general items together is noted to be as high as 53 per cent. It should, however, be mentioned that a major quantity of fruits and vegetables in the region is being supplied from outside region, particularly from Haldwani and Kotdwar mandis.

Table 7.4 : Size of Employment

Centres	Size of Employment (in Numbers)						
	1	1-3	3-5	5+	Total Units	Employment	
						Total	Per Unit
Srinagar	51	30	27	18	66	126	1.90
	(40.48)	(23.81)	(21.43)	(14.28)		(100.0)	
Karan-prayag	10	15	23	12	27	60	2.20
	(16.67)	(25.00)	(38.33)	(20.00)		(100.0)	
Joshimath	8	12	15	6	23	41	1.80
	(19.51)	(29.27)	(36.59)	(14.63)		(100.0)	
Rudra-prayag	15	10	15	7	25	47	1.90
	(31.91)	(21.29)	(31.91)	(14.89)		(100.0)	
Gochar	5	10	4	—	13	19	1.50
	(26.32)	(52.63)	(21.85)			(100.0)	
Peepalkoti	2	8	10	—	8	20	2.50
	(10.00)	(40.00)	(50.00)		(100.0)		
Nand-prayag	2	5	8	1	5	16	2.70
	(12.50)	(31.25)	(50.00)	(6.25)		(100.0)	
Chamoli	2	3	3	—	4	8	2.00
	(25.00)	(37.50)	(37.50)		(100.0)		
All Centres	95	93	105	44	172	337	1.96
	(28.18)	(7.79)	(31.06)	(13.06)		(100.0)	

Note : Figures in parentheses are percentages to totals.

The contribution of local supply in the total volume of goods handled by different types of establishments is highest in Peepalkoti (16.18 per cent) followed by Joshimath (10.97 per cent). Both these towns are nearer the Badrinath shrine as compared to remaining six towns. It was found that local goods handled by the different establishments in these centres were seasonal fruits, milk and flowers. Some eating houses were also found involved in the preparation of food items based on locally available foodgrains and vegetables.

A very serious drawback is observed in terms of the non-availability of any locally manufactured specialized goods which the tourists can buy and take back with them. The sole exception being some woollen products such as sweaters, shawls, carpets, chutka, etc., which are produced by local artisans and are available in different towns of the region. The main beneficiaries receiving economic benefits derived as a result of tourism are thus the owners of different commercial establishments and hotels. These beneficiaries benefit by way of supplying different kinds of basic commodities to the tourists which are basically not produced locally. The suppliers and traders are mainly involved in maximising their own benefits. However, the lower income group people, by and large, are not benefited as a result of tourism in the region. Contrary to this, the lower income groups living in neighbouring villages of the tourist centres are forced to buy commodities and goods at much higher prices during the tourist season. This is so because the general price level of commodities which are supplied from outside hill region generally increased with the increase of the volume of tourists and the consequence of the increased demand for different commodities and goods.

Analysing our sample data, it is estimated that the overall sale price of different commodities and goods taken together was more than 164 per cent higher than the purchase price of the respective commodities. Considering this estimated price differences existing between the sale and purchase prices of commodities handled by different establishments in different tourist centres one can easily have an idea of the margin of profit

Table 7.5 : Source of Goods/Articles Handled

(Value in Rs.)

Centre	Place of Procurement by Values of Goods/Articles							
	Value of articles handled	Own produced	Nearby villages	Nearby towns	Outside hills	Origin of goods		Per unit procure-ment of goods
						Local	Outside	
Srinagar	6878673	—	315220	1762293	4801160	315220	6563453	104222
	(51.97)		(4.58)	(25.62)	(69.80)			
Kamprayag	1402700	—	49000	316200	1037500	49000	1353700	51952
	(10.60)		(22.54)	(73.96)				
Joshimath	1264200	—	138700	73000	1052500	138700	1105500	54965
	(9.55)		(10.97)	(5.77)	(83.25)			
Rudraprayg	1975392	—	148200	666992	1160200	148200	1827192	79016
	(14.92)		(7.50)	(33.77)	(58.73)			
Gochar	438075	—	5500	287000	145575	5500	432575	33698
	(3.31)		(1.26)	(65.510	(33.23)			
Peepalkoti	445000	—	72000	172000	201000	72000	373000	44500
	(3.36)		(16.18)	(38.65)	(45.17)			
Nand Prayag	219000	—	—	14000	205000	—	219000	36500
	(1.65)			(6.39)	(93.66)			
Chamoli	613600	—	9000	—	604600	9000	604600	153400
	(4.64)		(1.47)		(98.53)			
All Centres	13236640	—	737620	3291485	9207535	737620	12499020	76957
	(100.00)		(5.57)	(24.87)	(69.56)	(5.57)	(14.43)	

Note : Figures in parentheses are percentages to respective totals.

Table 7.6 : Supply of Goods and Articles in the Tourist Centres

Type of establishment	Place of procurement (Value in Rs.)							
	Value of articles handled	Own produced	Nearby villages	Nearby town	Outside hills	Origin of goods		Per unit procure-ment of goods
						Local	Outside	
Eating/Tea Stall	1971891 (14.90)	—	303700	967413	700778	303700 (15.40)	1668191 (84.68)	89631
Vegetable, Fruits & General Stores	4978110 (37.61)	—	391220	1290890	3296000	391220 (7.86)	4586890 (92.14)	99562
Tailoring & Cloth shops	3467340 (26.20)	—	—	568940	2898400	—	3467340 (100.00)	96315
Service	(1380775) (10.43)	—	3200	264940	1112635	3200 (0.43)	1377575 (99.77)	62762
Repairing & Other Shops	1106552 (8.36)	—	39500	129952	937100	39500 (3.57)	1067052 (96.43)	32546
Auto Repairing & Photographic	331972 (2.51)	—	—	69350	262622	—	331972 (100.00)	41496
All Establish-ments	13236640 (100.00)	—	737620	3291485	9207535	737620 (5.57)	12499020 (94.43)	769572

Note : Figures in parentheses are percentages to total good handled in respective centres.

which is being generated by the owners of the shops and establishments.

Further, attempts have been made to examine the economic implications of tourism through analysing the differences prevailing in the total volume of sale during peak and off seasons. It is expected that the volume of sale during off season would go down substantially because hardly any tourist visits in Garhwal region during off season, particularly during winter season. During off season, a significant proportion of the shops, establishments and hotels remain closed while few of them remain open to cater the basic requirements of the local people.

According to the estimates of our study is revealed that the contribution of tourism is over 70 per cent in the total turnover/ sale of Rs. 2.17 crores in the various establishments of tourist centres. And the goods/articles worth Rs. 66 lakh were purchased by local people during off season. Peepalkoti is observed as the most important halting centre of the tourists while returning from the Badrinath shrine. As a result of this, the sale of different articles and goods is reported to be highest in Peepalkoti during the tourist season (88 per cent) as a whole and also during off season (42 per cent) as compared to remaining halting centres. In other words, it may be pointed out that the contribution of tourism is most effective in the case of Peepalkoti as compared to other centres on the tourist route of Badrinath Temple.

It was observed that the income generated through tourism was relatively higher during the end of the peak season (36.20 per cent) as compared to the beginning of tourist season (33. 37 per cent). This is seen in the fact that the tourists spend significantly larger amounts in the purchase of different commodities, hospitality and stay at different halting centres while returning from the tourists centres as compared to what they spend while on way towards the destinations. The most important halting centre of tourists, after the Peepalkoti, is Nandprayag where the turnover of different establishments increased to 73 per cent during tourist season, in fact the corresponding figure was reported to be 43.08 per cent for off-peak season of the

tourists. The impact of tourism was recorded to be lowest for Chamoli where the contribution of turnover in the overall volume of turnover was almost same during the peak, off-peak and lean seasons. Although, during peak and off peak seasons together the share of turnover was about 67 per cent.

Over and above, it was observed that as a result of increasing concentration of tourists in making hall at Peepalkoti and Nandprayag various types of small hotels and Dharamshals have increasingly been established by the people in these places over the years. There are 38 hotels and restaurants, representing over 42 per cent of the various types of establishments of the all sample towns, are alone found in the small town like Peepalkoti. Similarly, the share of hotels and restaurants was 30 per cent in the total establishments of the Nandprayag. In all, a significant level of contribution of tourism, by way of an increase of turnover of different establishments was witnessed in all the halting centres along the Badrinath route. However, the level of contribution was found varying among different centres marginally.

Further, an attempt was also made to find the extent of economic benefits which have been derived by different types of economic activities as a result of tourism during past tourist seasons. Grouping the different economic activities into six broad categories, we observed that all the groups of economic activities have benefited in terms of increases in annual turnover of their respective business during the tourist season. However, significantly larger gains have gone in favour of hotels and restaurants (74 per cent) followed by each repairing and servicing establishments, photographers and related activists (73 per cent) and vegetable and fruit establishments (70 per cent). However, lowest level of benefit is derived by the establishment which are engaged in providing personnel services to the tourists at different halting centres (64 per cent).

The analysis also revealed that the increasing contribution of tourism is relatively higher during off peak season of tourists in the case of most economic activities particularly those who are engaged in repairing activities (38.72 per cent), hotels and restaurant (38.14 per cent), tailoring and sale of ready-made

garments and clothes (38.04 per cent) and for services sector (37.40 per cent). However, the corresponding share in the turnover during peak season of tourists varied highest from 37 per cent for the sale of vegetables and fruits to lowest at 27 per cent for those who are engaged in the service sector. But the turnover during off season of tourists declined significantly in the case of different economic activities. The turnover during off season touches the lowest level in the case of hotels and restaurants (26 per cent) followed by repairing and photography (27 per cent), sale of vegetables and fruits (30 per cent) while the service sector is found least effected by the tourism as the contribution of turnover during off season is reported to be 36 per cent.

Table 7.7 : Pattern of Sale of Goods/Articles During Different Tourist Seasons

(Sale in Rs.)

Centres	Peak Season	Off Peak Season	Off Season	Total
Srinagar	3677300	4003900	3503295	11184495
	(32.88)	(35.80)	(31.32)	(100.00)
Kamyprayag	702850	717500	56000	1980350
	(35.49)	(36.23)	(28.28)	(100.00)
Joshimath	565700	549750	510550	1626000
	(34.79)	(33.81)	(31.40)	(100.00)
Rudraprayag	1357550	1508440	1215300	4081290
	(33.26)	(36.96)	(29.78)	(100.00)
Gochar	265000	320000	230000	815000
	(32.52)	(39.26)	(28.22)	(100.00)
Peepalkoti	207000	242500	130500	580000
	(35.69)	(41.81)	(22.50)	(100.00)
Nandprayag	115000	165000	103000	383000
	(30.03)	(43.08)	(26.89)	(100.00)
All Centres	366000	365000	365000	1096000
	(33.37)	(33.30)	(33.30)	(100.00)

Notes : Figures in parentheses indicate the percentages of the total of respective centre.

Finally, an exercise is carried out regarding the net addition incurred in the form of increase in the volume of turn over by different economic activities as a result of tourism. For this purpose, the volume of turn over achieved by different types of establishments during off season of tourism is taken as the base

of general turn over. We thus, found that the net impact of tourism is aggregated to be 28.61 per cent in the turn over of various economic activities at the different halting centres of the tourists taken together. However, highest level of benefits of tourism is found derived by hotels and restaurants (86.29 per cent) followed by repairing and photography (46.12 per cent) while the corresponding figures for service sector are estimated to be lowest at the level of 2.07 per cent points only.

Table 7.8 : Sale of Different Goods and Articles During Different Tourist Seasons
(Value in Rs.)

Type of establishment	Peak season	Off peak season	Off season	Total
Eating/Tea Stall	974900 (35.98)	1033400 (38.14)	701500 (25.87)	2709800 (100.00)
Vegetables, Fruits & General Stores	2277950 (36.86)	2054950 (33.26)	1846450 (29.28)	6179350 (100.00)
Tailoring & Cloth Shops	1184000 (31.71)	1420500 (38.04)	1129550 (30.24)	3734050 (100.00)
Service	1029500 (26.55)	1450150 (37.40)	1398050 (36.05)	3877700 (100.00)
Repairing & Other Shops	1517050 (34.01)	1609090 (36.08)	1334050 (29.91)	4460190 (100.00)
Auto Repairing & Photographic	273000 (34.78)	304000 (38.72)	208045 (26.50)	785045 (100.00)
All Establishments	7256400 (33.37)	7872090 (36.20)	6617645 (20.43)	21746135 (100.00)

Note : Figures in parentheses indicate the percentage to total.

Conclusions and Policy Perspectives

Development of tourism on a systematic and comprehensively planned manner could be an important measure for the creation of employment and income opportunities in different economically backward regions such as Uttarakhand. In Uttarakhand, the

problem of the creation of additional employment opportunities in accordance with the growth of labour-force has been widely recognised as a serious socio-economic problem by the planners, policy-makers, social reformers and individuals who are seriously involved in the various aspects related to the development problems of the region.

Considering the extent of problems experienced in the development of Uttarakhand during last development plans the present study has attempted to examine the contribution of tourism in the development perspectives of different economic activities and its possible impact in favour of the creation of employment and income opportunities in the region. It was evident that the development of tourism on the tourist route of Badrinath and Kedarnath has given the opportunities to the local people to open different types of economic activities at different halting centres of the tourists. More or less, the farming community people were found as the main beneficiary among the local people in this regard. They have been able to obtain reasonable prices for their agricultural produced. The local goods and articles which are handled in various shops and establishments are seasonal fruits, vegetables, milk and food products which altogether, however, have only 5 per cent contribution in the turnover of all the economic activities. A major proportions of the quantum of goods and articles handled by different establishments is manly supplied form outside the region. But the people engaged in different economic activities are mostly from Uttarakhand region. A significant proportion of shops and establishments were also found providing employment opportunities on wage basis to the unemployed youth. Average employment per unit is estimated to be 2 persons, in fact 13.06 percent establishments were reported to have employed more than 5 persons followed by 31 percent establishments had employed between 3 to 5 persons each.

The volume of turnover of different types of economic activities has increased considerably as a result of tourism development. The contribution of tourism in the economic benefit derived in the form of increase in turnover of different

establishments is noted to be around 70 per cent. However, the respective contribution of tourism was highest for Peepalkoti and Nandprayag halting centres of tourists. It was also indicated that the tourists spend larger amounts on the purchase and the availment of different facilities during the off peak season of tourist and while they return back from the main tourist destinations - Kedarnath and Badrinath. The Peepalkoti is observed as the most important halting centres of tourists where the hotels and restaurants are rapidly increasing. Also, the highest level of economic benefit is derived by the hotels and restaurants as compared to remaining economic activities in different halting centres.

The study has well recognised the fact that little efforts have been undertaken by the Government as well as local institutions, including private sector, to promote tourism on the pattern of area specific conditions and requirements. The advantages of area specific natural beauty and different elements which have been attracting increasing number of tourists over the past decades has also been depleting. Lack of initiatives in promoting and developing tourist areas coupled with the lack of planning approach based on area specific fragility and systems initiated by the Government for developing tourism sector in the past has been playing an important role in the degradation of environmental and ecological system of the tourist areas. The contribution of private sector in promoting tourism has been limited up to supplying different articles and goods and providing the facilities of accommodation and transportation to the tourists so as to maximise their own incomes and profits. Even the goods and articles satisfying the needs of tourists are mainly supplied by traders, mostly migrant traders from outside region. So, the limited benefits which are derived from tourism are available to migrant traders. This is basically due to the poor development of tourism related productive activities and lack of entrepreneurship and investment capability among local people.

Lack of a well defined policy perception of the role of tourism in the regional development has resulted in high leakages and

weak linkages with the productive sectors in general and in the perspective of its contribution to the area's development. In such a situation of poor development and lack of linkages with the process of development of the region, the important issues emerging for consideration are: (i) what should be a concrete policy option and planning strategy to derive the maximum advantages of the available potentials of tourism in the process of economic development; (ii) how the tourism activity can be promoted further for deriving increasing benefits on sustainable basis with its minimum adverse effects on the environmental and ecological systems, and finally, how the derived benefits from developing tourism activity could reach to the poor and disadvantages sections of society, including women.

The suggestive measures for achieving above-mentioned basic goal of tourism would require an integrated approach of planning for developing tourism activity with different productive activities supporting to end are linked with tourism, indirectly or directly. The tourism policy based on mountain specificities and local perceptions would be a desirable and additionally important element from the view point of challenges imposed by developing tourism on the environmental and ecological system of the region.

Thus, two-way development approach: (i) developing infrastructural facilities in different tourist areas; and (ii) developing various traditional craft and area specific productive activities, confined on the use of endogenous production technology and using their family members, including women, would be a comprehensive planning for promoting tourism activity and providing its development benefits to different segment of population. Planning for developing integrated approach for promoting tourism activity in this manner would require sizeable investment, institutional support and Government intervention in properly implementation of the programme. The on going rural development programmes introduced for generation of employment and income opportunities could be linked with developing tourism related activities. And, the Government should intervene to and for investment in infrastructure development by

involving local institutions in properly implementation of tourism development programmes. The participation of local people and institutions has also to be encouraged in promoting local environment and relevant elements, which are greatly associated to influencing tourism activity, in management and maintenance of available infrastructural facilities and natural resources of the tourist areas. The participation of private sector in promoting hotels and transportation facilities has been appreciated though, their main motive behind developing these facilities has been maximisation of their own income and margin of profit; further participation of private sector should be encouraged for increasing investment in certain thrust areas for influencing the development of tourism activity.

It may finally be concluded that Uttarakhand Himalaya has the area specific comparative advantages of promoting different types and categories of tourism and tourism related activities based on available local natural resources and indigenous technology used in the utilisation and management of these resources. Developing tourism and linked activities with it with minimising the challenges of environmental and ecological problem to a certain extent could solve the presently existing employment and income problems in the region. So, the planning for tourism and the policy should aim to promote gainful employment; to promote production potentials based on comparative advantages and marketing opportunities for local production; to promote the skills and capabilities of local communities; to promote the accessibility of the local people to basic health and education; to promote economic financial support systems; requisite technology, and the related extension and credit facilities needed for tourism related activities; and to promote women's involvement in community development.

References

1. Rajal Kamal, *Developing Energy Options for Hindu Kush Himalayas: Rethinking the Mountain Energy Development Paradigm*, Discussion Paper Series No. MEI-96/1, ICIMOD, Kathmandu, 1996.

2. Joshi, B.K., *Energy Use in Rural Areas of Uttarakhand in Uttar Pradesh*, Giri Institute of Development Studies, Lucknow, 1984.
3. B.K. Joshi and Sinha, R.C., *Socio-Economic Implications of Micro-Hydro Power System in India*, WEP. 2-22, Working Paper No. 105, Geneva, ILO, 1982.
4. Mehta, G.S., *Development Experiences and Options in a Hill Region : The Case of Uttarakhand, U.P., India*, ICIMOD, Kathmandu, 1997.
5. Mehta, G.S., *op. cit.*
6. Academy for Mountain Environics (Dehradun), Mountain Tourism in Himachal Pradesh and Hill Districts of U.P., published by ICIMOD, Kathmandu, Nepal, 1995.
7. Pande, P.N., *Tourism in Uttarakhand, Problems and Prospects*, W.P., No. 137, Giri Institute of Development Studies, Lucknow, 1997.
8. Sharma, P., A *Framework for Tourism Carrying Capacity Analysis* : Discussion Paper Series NO. MEI 95/1, ICIMOD, Kathmandu, 1995.
9. Mehta, G.S., *Impact of Tourism in the Economic Development of Uttarakhand : A Study*, Giri Institute of Development Studies, Lucknow, 1997.

8

Status and Empowerment of Women

Introduction

Since Independence various initiatives have been undertaken towards bringing improvements in the socio-economic conditions of women and maximisation of their participation in different economic, social, political, cultural activities and educational system in India. Provisions were also made in the Indian Constitution to provide equal rights and opportunities of socio-economic development and betterment of living among men and women so as to establish an egalitarian and prosperous society. In view of bringing desirable improvements in the socio-economic conditions of women, efforts were also made to increase the participation of women in the utilisation of different levels of educational opportunities, with the notion that education is the most important instrument in bringing awareness about their rights, social status and as a prime element to maximise their participation in different categories of remunerative occupations available in different economic sectors. This goal of increasing participation of women in education was sought to be achieved by planning for introducing subsidised educational facilities, expansion of girls educational institutions on a priority basis, developing educational curriculum according to the needs and requirements of girls, recruitment of women teachers and providing various other related facilities and financial incentives. In addition to this, various development programmes were also introduced especially for women, in the various plans during the

past with the intention that the participation of women in different programmes could be maximised.

The directive principles of State Policy enshrined in the Constitution have a special bearing on the status and empowerment of women. The Constitution guarantees political equality to women through the institution of adult franchise. This recognition was certainly a radical departure from socio-cultural norms of the traditional Indian society. In the past, various legal reforms were, therefore, initiated to improve the status of women in the typical Indian social system and to strengthen women's empowerment. Important reforms in this direction were Hindu Marriage Act, Hindu Succession Act, Hindu Adoption and Maintenance Act, Hindu Minority and Guardianship Act, Dowry Prohibition Act, Maternity Benefit Act, etc.

Initiatives were also carried out in different plans in the past to maximise the participation of women in different development programmes. A chapter on 'Women and Development' was included in Sixth Five Year Plan, by introducing women specific programmes which can bring improvements in the socio-economic status of women. Further, the Eighth Plan introduced variety of development programmes specifically for women. Under the National Perspective Plan for Women, provision was made to maximise the participation of women in on-going IRDP and other programmes introduced at providing self-employment opportunities. During this plan, an Indira Mahila Yojana, was introduced and a Rashtriya Mahila Kosh established to encourage women to hold their own savings's account and funds for productive activities.

Further, in the recently introduced Panchayati Raj System, a policy for reservation in favour of women has been emphasised as an important approach to maximise their participation in grass root level political system and decision making process in the activities of rural areas, which in turn will possibly help in improving the socio-economic condition and empowering women. Under the 73rd amendment of Constitution of Panchayati Raj System, one-third of the total seat of members and heads of

Village Panchayat, Block Panchayat and District Panchayat are reserved for women candidates.

The Emerging Situation

In spite of the various constitutional provisions, introduction of several development programmes, acts, and policies in favour of bringing improvements in socio-economic conditions of women in India, still, the women have been largely deprived from availing various kinds of opportunities and advantages which can directly improve their socio-economic status and living conditions. Disadvantages against women are commonly practised in awaiting the opportunities of socio-economic development, participation in different activities, availing educational facilities and various development programmes associated with improving the life style and the quality of life because of several social and cultural backwardness and our traditional social system, still operating largely in rural areas. Besides this, women are denied the rights in the decision-making process of their family affairs on account of social and cultural constraints imposed by their family and the continuation of traditional system of civilisation. Restrictions are also imposed in the participation of women in certain social and cultural programmes and to move outside households for certain purposes. Due to these underlined problems imposed by our traditional society against women their participation in different activities, employment, education, political systems etc. has been very poor even after fifty years of independence. The condition of women in rural areas is far behind and more dissatisfactory than in urban areas on account of greater backwardness and the prevalence of traditional social and cultural systems of society.[1] The traditional form of society is keeping open different types of opportunities for their male family members only while the women are marginalised. In fact the women are seriously exploited by men for certain purposes although most household related activities are performed by women in the rural areas.

Similar disadvantage in employment and other activities linked with betterment of life is commonly observed in the case of women on account of the socio-cultural constraints imposed by households and discrimination practised by the employers. The restrictions imposed against women in utilising own rights independently and social compulsions to make movements only for certain distances impose limitations in availing opportunities of gainful employment of women. In addition to this, discrimination against women in employment in India is largely a result of social values which tend to place women in a secondary position and under subjugation of men. Mobility of women is thus extremely limited, and withdrawal from participation in productive work with improvement in the economic status of the households is sometimes considered as an improvement in status. These factors contribute to women acquiring a status of 'secondary' or 'discouraged' workers, which in turn, aggravates discrimination against women.[2]

At the same time the social values determining the supply conditions of women labour are not the only factors responsible for the disadvantages position of women in labour market, which is indicated by not only a low worker population ratio among women than among men, but also by high concentration of female in low paid agricultural and other informal sector jobs, lower wage rates for women than men even in those jobs, and a very low proportion of women in better paid organised sector jobs and discrimination of various kinds even in these sectors, particularly in private enterprises.[3] In all the women are highly disadvantaged in terms of earnings but they are not very much disadvantaged so far as the availment of education facilities and securing employment opportunities is concerned.[4]

Status of Women in Uttarakhand

As indicated already that the women have been playing an important role in the economy of Uttarakhand for the past several generations. This is well reflected by the fact that the worker

participation rate of women in Uttarakhand is significantly much higher as compared to other states of the country and also above than the national average. Domination of women workers in different economic activities has also been higher and consistently increasing due to unprecedently increasing trend of out-migration of male work-force outside the region. In fact, the worker participation rate of women has been constantly increasingly at larger extent than men in Uttarakhand over the years; it is particularly in agricultural and related activities and both household and non-household manufacturing economic sectors.

The women have to perform different household related activities as their routine work, besides to participate independently or along with their family members in the various economic activities of the households. Agricultural and related activities are the dominant economic occupations of the people in Uttarakhand both for employment and livelihood. The women participate in almost all the agricultural operations while the participation of male family members is confined to limited number of operations in agriculture. A study undertaken by Pande (1996)[5] revealed that the per day work disposal of women folk according to outdoor, indoor and recreational activities indicated that about 62.17 per cent time devoted for out-door activities, 21.11 per cent for indoor activities and 8.72 per cent for recreational activities. The out-door activities were highly time consuming and about 10.25 hours of total daily work of 16.49 hours was absorbed towards their performance. Work relating to agriculture and livestock consumed about 29.35 per cent of women's time. The study found that fuel and fodder collection and water fetching was associated with drudgery problem for womenfolk because these activities required travelling long distances for their procurement. The procurement of fuel, fodder and water absorbed 5.41 hours in a day, registering about 32.80 per cent of total time. However, the level of educational attainment of women and the number of adult female family members in the households considerably influence the working pattern and hours of work of womenfolks in positive manner.

It has been generally recognised that the work burden among women in Uttarakhand is very high, as indicated already, that they have to participate in almost the household related activities, including the social and religious functions in the absence of male family members, but the financial and other matters related to decision-making, on any aspect, are more or less handled by the male family members, excepting in women headed households. Due to lack of independent economic status and lack of control over income generating resources of women they are marginalised both inside and outside households in terms of their social and economic status. However, the socio-economic status of women is believed to be determined by their level of educational attainment. Since, educated women were found better placed in various decision-making matters and the socio-economic status of educated women was better than the illiterate women in most of the households.

The study (P.N. Pande, 1996) revealed poor progress of on-going developmental programmes and schemes for women as they have still to penetrate in these areas despite a lot of paper work done in this connection. Womenfolk were found to be marginalised in such programmes aimed at their empowerment. Very few women centred programmes such as Mahila Mangal Dal, Aanganbadi and balwadi programmes were run by voluntary organizations. The women were also found unaware about other development programmes which were initiated for their betterment. Even the Mahila Samardhi Yojana, which is meant for women only, was not heard of by the womenfolk in these areas.

However, the dominating role of women in population distribution, work-force, social and cultural activities and in overall economic development process on one hand and their meaningful contribution and participation in social and political movement organised in Uttarakhand in the interest of regional development perspective in the past on the other hand can not be easily cited. The women have been well recognised as a backbone of the region in terms of the role they have been playing

in the development and prosperity and maintaining the social and cultural heritage of Uttarakhand for the past several generations. But in most of the cases they lack equal treatment, behaviour and status as provided to their male counterparts both at household level as well as in the local social system.

Moreover, the domination and close association of women, directly or indirectly, with different activities at household level, social, cultural, community and regional affairs has been a long history in the tradition of area specific socio-cultural system. This deep rooted association and linkages of women with local social and cultural environmental had been a channel of encouragement for maintaining the traditional value system and ideology of the region. The system of cooperation and friendly atmosphere in the behaviour of mountain people prevailing here, has been maintained by women without any hesitation and without any basic shortcoming for the past several generations. Even in currently increasing situation of socio-economic conflicts among local people, which is influenced by the forces outside Uttarakhand, is also only short term phenomenon and the womenfolk are encouraged in a battle against this evil and should be able to overcome the situation without much problem.

In most areas of Uttarakhand, the women are well aware about their role, basic responsibility and the way they can devote their energies in the interest and welfare of the region. In this context the mass participation of women in various social movements organised for imposition of ban on the opening of wine shops in the region, environmental and economic movements, widely known as Chipko Movement against increasingly deforestation and degradation of mountain environment and on-going political movement in favour of creation of separate Uttarakhand state are some examples which prove the extent of awareness among women folks in the region.

The reasons and factors associated with motivating active participation of women in different socio-economic and political movement in the past have been the rise of those activities which have gone against the interest of women largely. They have felt

that the increasing rise and development of such unwanted activities which were carried out under the protection of local unsocial elements for their self-interest and the inability of Government to intervene and impose ban on those activities would ultimately create severe problem in the peaceful socio-economic and environmental setting of the region; also they would be the main sufferers if development of such undesirable activities is carried out. For instance the cause of mass participation of women in Chipko Movement has been the result of excessive and increasing deforestation by the forest mafias and contractors belonging both to Uttarakhand and outside Uttarakhand, mismanagement of forest department, lack of intervention on the part of Government to impose ban on over exploitation of various forest products. The influential local men and contractors have also started participating with the forest mafias in deforestation merely for obtaining short term financial gains. In the meantime, women had realized that the increasing deforestation at this manner would ultimately create serious problem for them in obtaining fodder for animals, fuel-wood for cooking and space heating, timber for house construction and different forest products for various purposes, because the collection of forest products is the responsibility and prime duty of women. As a result women have established various women societies and organisations at mass level to fight against deforestation and they have succeeded to a considerable extent in their efforts.

Similarly lack of introducing development planning according to the acceptability of local geographical, topographical and related local conditions and thus marginalisation of the region in planning for development resulting in increasing unemployment, increasing dependency of Government upon the natural resources of the region for satisfying the demands of outside region without providing any incentive and development gains to the local areas in exchange of exploiting area specific local resources, high incidence of outmigration of male population outside Uttarakhand, leaving their wives at the home, for seeking employment have motivated the women volunteers to organize collectively for demanding separate statehood of Uttarakhand.

Agitation of women for imposition of ban on the supply of wine and other alcoholic products is another most popular movement initiated in almost all mountain areas of the region during eighties. This movement had been successful in achieving the goal in 1977 when the Government had restricted the use and supply of wine and related items in the region, though local mafias and businessmen had started supplying alcoholic products in the name of ayurvedic medicines. This issue was brought into notice of judiciary by the women organisations and a ban was imposed on the sale of these alcoholic products. Again the women's movement received mass cooperation and assistance from students, NGOs and various social workers in 1991-92 when the Government had permitted the wine contractors to open wine shops even at tehsil level and in small towns. The movement of women against opening wine shops on mass scale is an ongoing process with the slogan of '*Nasha Nahi Rozgar Do*'. In this movement also, the women volunteers are well supported and influenced by the national level women's organisations to carry out agitations with maximising the participation of women. Recently in 1997, a national seminar was also organised in Pithoragarh in this regard by the women's organisations which was attended by various local and national level social workers, well known women representatives including Mrs. Mohini Giri, Radha Behen, Chhaya Kunwar, etc. The overall participation of women has been very appreciable in the local level agitations and movements organised for bringing improvements and changes in the socio-economic conditions of women and general development of the region in the past.

Empowering Women Through Panchayati Raj System

Providing reservation to women in the recently introduced Panchayati Raj system is believed as an important planning approach to minimise the traditional feelings of people about the status of women in our society in terms of keeping them under the subjugation of men, imposing restrictions by the households

and society against them in the availment of certain opportunities and several social, cultural and traditional boundations disfavouring them in improving personnel life style and status in existing social and economic settings. This would also enhance the possibilities of increasing equalities in the process of socio-economic development, participation in different economic activities and development programmes, bringing closeness in mutual, understanding, status and role to play in the household and activities performed outside household and in different decision making matters, among the men and women family members and, finally to enhance and strengthen the empowerment of women in true sense.

Considering the involvement and domination of women in different activities, historical experiences regarding their participation in various regional movements associated to different motives, level and pattern of awareness about the regional development and maintaining traditional value system and have relatively better educational attainment it is expected that the introduction of Panchayati Raj system in general and reservation policy for women in particular in the Panchayat would be an important instrumental measure for achieving improvements in the socio-economic status and strengthening the empowerment of women in Uttarakhand. Moreover, the policy and planning for empowering women could be more successful in Uttarakhand as compared to other rural areas and states in view of above underlined features representing among hilly women.

However, the achievement level of the intervention undertaken by the Government through introducing reservation policy under the Panchayati Raj System on empowering women would mainly depends upon its implementation process, socio-economic and political background and characteristics of elected women representatives in the village panchayats. Factors such as the attitude and intention of elected women towards the initiation of various development programmes and the capacity in making efforts to link different segment of village population with the introduced programmes also matter very much in improving the

status of women representatives in the social environment of the village panchayat. As a consequence this process would lead increasing improvements in strengthening empowerment of women.

In this context a study was carried out to examine at issues related to implementation of reservation policy for women and its impact on bringing improvements in the socio-economic status and empowerment of women. The study also attempted to analyse the characteristics of women representatives elected as *Pradhans* and members of the sample village panchayats and the magnitude of their participation in different panchayat related activities and in the implementation of development problems in the concerned village panchayats. The sample area of the study was selected in block Kapkoate of district Bageshwar.

Implementation Process

The announcement of the implementation of Panchayati Raj System in Uttarakhand was carried out during November 1996. And, it took about two months in the identification and fixation of criteria for the reservation of seats for women in the three tier system of Panchayats and the finalisation of various formalities for the implementation of the Panchayati Raj system. The village development officer was designated as a responsible person for the fixation and identification of village Panchayats, implementation of criteria fixed for reserving certain village Panchayats for women *Pradhan*, number of seats to be reserved for women members in each village Panchayats etc. Thus the election of the *Pradhans* and members of the Village Panchayats were held by the end of December 1996.

Implementation of Panchayati Raj system in Uttarakhand started with the preparation of house-listing of every village. In most of the cases existing *Gram Sabhas* were converted into a Village Panchayat. However, there were larger numbers of *Gram Sabhas* having small size of population and were earlier provided the status of *Gram Sabha* due to the existing geographical and

topographical problems in their locational settings. The Village Panchayats were formed by merging two or more such small village *sabhas* into single Village Panchayat. In the initiation of such procedure the option was left open for the inhabitants of concerned villages to suggest and provide collective choice and preference about the merger of their villages. Beside this, the locational aspects related to the geographical and topographical situation of identified villages was also considered as an important element for the merger of villages in forming village panchayats.

For the purpose of the implementation of reservation policy for favour of women firstly, all the village panchayats were listed in alphabetical order and secondly, 34 village panchayats in that alphabetical order were made reserved for women *Pradhan* in the Block Panchayat. Later the location-wise categorisation of households into 9 to 11 groups was undertaken in each village panchayat for the purpose of the fixation of the constituency for the members of panchayat. In each village panchayat 3 to 4 constituencies were, thus, kept reserved for women candidates.

When people at the village level were informed that the proposed Village Panchayats will be provided larger financial resources and additional administrative powers, the election took place in almost all the village panchayats for both village *pradhans* as well as its members. With the nomination of a larger numbers of candidates from each social groups an entirely new political environment was created in the villages before the final election were held. This emerging political environment has given birth to groupism, social clashes and conflicts. As a consequence traditionally maintained co-operation and friendly environment among different groups of population has begun to deteriorate. In fact, several groups emerged and the households were divided into various groups and division during the election period.

However, once the process of formation of Panchayats was completed the general public as well as the representatives of the Village Panchayats found that no new benefits are appearing in the introduction of this revised Panchayati Raj system. So the traditional system of co-operation and friendly environment have

started re-developing in various villages. Only a major change was reported by the local people in terms of providing representation to women in the new form of panchayats; though a significant number of male population has shown dissatisfaction over the introduction of reservation policy in favour of women.

Identification of Reserved Village Panchayats

The procedure for identification and fixation of locations as reserved for women candidates adopted at village panchayat level have already been highlighted. However, the time devoted in identification of reserved village panchayats for women *pradhans* and reserved locations/constituencies for its women members was very short. Limited duration of two months between the announcement of election and the actual dates fixed for final election had limited the scope of a large number of women having relatively better socio-economic and political background, better educational level and social outlook as compared to most women elected as members and the *pradhans* in the various village panchayats. It would have been more appropriate to initiate the measures for providing knowledge and awareness among villagers in general and women in particular about the reservation of seats for different sex and social groups of population in different village panchayats so that most eligible women candidates would have found the opportunity of contesting election for these positions.

A majority of the identified villages brought under the reservation for women pradhans had the representation of well educated women. Some of the women in few villages had even participated in social movements organised at regional level in the past. However, in certain villages the well educated women could not contest election either for the post of *Pradhan* or the member of the village panchayats because of restrictions imposed by their heads of households due to higher work load, social backwardness, lack of awareness about the duties, benefits and role of elected women in the Panchayats, etc. Procedures adopted

for the fixation of reservation of seats for women in the Panchayats and identification of Village Panchayats as reserved for women candidates was not based on the local condition of geographical and topographical settings of the villages but it was based on the same pattern of criteria as adopted in the plain areas of the state. Several Village Panchayats which were identified for reservation of women *Pradhan* are located in remove, inaccessible and far away from the nearest road heads and block headquarters. This has been creating a serious problem to women *Pradhan* to participate in meetings regularly which are organised outside their respective villages and at block office. On an average, reaching the block office from some of the respective village panchayats takes more than one day. Therefore, irregularity in most of the meetings organised at Block Panchayat and District Panchayat level was a common phenomenon.

In the process of identification of village panchayats for implementing reservation policy for women candidates the locational aspects of concerned villages in terms of topographical, geographical and accessibility situation should have been given top priority. This was the beginning of implementing a new policy and introduction of any new policy basically requires maximum support and participation of local people. Care should also have been taken to include flexibility options based on locally acceptable conditions and prevailing situations for the successful implementation of the concerned programme. So, selection of village panchayats located in better accessible areas and neighbouring to block headquarters for reservation of women *Pradhan* would have been a important element in maximising the participation of women *Pradhans* in different meetings held outside their respective Village Panchayats.

Similarly, the procedure adopted for the identification of reserved Village Panchayats for women *Pradhans* and locations/ areas within the village panchayats for women members should have provided greater opportunity to the well educated women and to those having higher contribution in the various regional movements and local level social reform activities as compared

to the women who have actually availed the opportunity to find place in the village Panchayats and *Pradhan* and the members. Practically, it is rather difficult tasks for a less qualified women and new entrants in political system and who have never participated in any meetings and social activities to play an active and dominant role in the male dominated meetings for any decision making process. So, the identification of reserved village Panchayats and locations within the village Panchayats for women *Pradhans* and women members respectively, should have been undertaken propulsively by keeping in mind the availability of suitable women candidates in different village Panchayats. It has to be considered that the inclusion of well qualified women in village Panchayats at the initial stage of the introduction of Panchayati Raj system in rural areas would be a important instrumental measure in planning for improving social status and empowering women. This group of women, if provided representation at village Panchayat level can strongly raise the issue related to the betterment of women, can play a dominant role in decision making process and make suitable recommendations for improving the status of women in the meetings.

Socio-Economic and Political Background

The advantage of introducing reservation policy for women in Panchayati Raj system has gone mainly in favour of women belonging to socio-economically and politically sound background. Awareness and knowledge about the provision of providing reservation for women and criterion laid down for the identification of reserved village Panchayats for women *Pradhans* was available mainly to the those whose male family members were already associated in any political system and village *sabhas* in the past. As a result such category of people have started making efforts to make local conditions favourable for their women members considerably before the time of actual elections. However, the other groups of people, those who were lacking

the association with any political system could get information about the introduction of reservation policy for women at much later stages when the other groups of people had fully developed the platform conducive for their women candidates. It was observed that a majority of the elected Women Pradhans in different village Panchayats were the relatives and family members of people who had represented *Gram Sabhas* in the past. However, second majority of the elected women *Pradhans* were the family members of people engaged in business activity or working as a contractor or employed as teacher in local educational institutions/schools. Most of the women Pradhans had strong economic background; though, agriculture was the main family occupation but the contribution of income generated through other than agricultural activities and occupations, to the total income of household was observed much higher than the income earned from agriculture.

Personal Characteristics

Enquiring about the personal characteristics of the elected village *Pradhans* we found that most of them were well educated but only two, out of the total sample of twelve women *Pradhans* had earlier participated in the strike and political movement at college level. A majority of seven *Pradhans* had availed secondary education followed by four *pradhans* had middle level and only one had post-graduate level of education. One women *Pradhan* having secondary level education had earlier been associated with Yuvak Mangal Dal and had the background of participation in local level movements. These women *Pradhans* were quite young and were concentrated in the age group of 25 years to 35 years. The elected women members of various village Panchayat were also young. However, most of them had availed middle and primary level of education and three women members were illiterate.

Factors Motivating Women for Contesting Election

Almost the women *Pradhans* of Village Panchayats were motivated to contest election by their male family members and male relatives but only one of them had taken the initiative herself and then consulted the head of the household/husband in this regard. Three women had initially refused the advise and suggestions of their male family member for contesting the election of *Pradhan* by pointing out the various problems in contesting the election. However, they were assured of getting full-co-operation and assistance in the routine work of the Panchayat and other difficult situations. They were also made aware about the benefits to be derived in terms of improving socio-economic status after becoming village *Pradhan* and ultimately they agreed to fight the election.

Before being elected as *Pradhan*, almost all of them were engaged in agricultural activities. However, only one woman *Pradhan* was living away from her village in neighbouring town with her husband who was working as a contractor. The women *Pradhans* were accompanied by their male family members or husbands while making first visit to the block headquarters for the purpose of filling nomination papers for contesting the election. The women members of the different village Panchayats had also informed that they were influenced and motivated by the male family members for contesting the election for the respective positions. The male members of the family had been with them in approaching the block office for completing the basic formalities required for the eligibility of the candidates and the filing of nomination papers. It was reported by all sample women members of different village Panchayats that this was their first visit to the block otherwise they had never seen block office or any other government office in the past.

Nature and the Magnitude of Participation

The Block Panchayat is the important and main forum for

holding meetings of the members and *Pradhans* of village Panchayats, members and Block *Pramukh* of Block Panchayat. Issues related to the formulation, identification, introduction and planning for different development programmes are generally discussed at Block Panchayat level. Discussions also take place in terms of experiences and problems faced by various *Pradhans* in the implementation of development programmes, besides the distribution of any new scheme and development activities among the village Panchayats. However, this is very surprising that only one meeting had been organised at Block Panchayat after the introduction of Panchayati Raj system. It was reported that the participation of women *Pradhans* and members was quite satisfactory in this meeting. However, most women *Pradhans* were accompanied by their male family members. With the objection raised by the Block Pramukh and other male *Pradhans* against the presence of family members of women *pradhans* they left from the meeting held at Block Panchayat.

The issues for discussion in the meeting were mainly raised by Block *Pramukh* and male *Pradhans* which were latter discussed and well participated by few women representatives of village Panchayats. However, a significant duration of time was devoted in the introduction of elected *Pradhans* and members representing different village Panchayats. Issues related to providing knowledge and information regarding the duties and rights emphasised in Panchayati Raj system, details of development programmes to be implemented in different village Panchayats, provision of budget for development projects and several other matters were put before the Block *Pramukh* by both male as well as female *Pradhans*. However, the participation in the discussions related to these issues was mainly dominated by male *Pradhans* while the female *Pradhans* were playing the supporting role only on limited numbers of issues.

The women *Pradhans* were also observed hardly organising any meetings at village Panchayat level. Most of the *Pradhans* had reported that they did not realised for holding meeting frequently, either of the members of the general public of the

concerned village Panchayat. Only one meeting was organised in most of the village Panchayats after the introduction of Panchayati Raj system. However, two women *Pradhans* had reported that they had called the meetings of members and general public in two occasions during the past.

In the meetings of the village Panchayats, the issues related to the identification of projects and activities to be covered under the Jawahar Rozgar Yojana (JRY) had been the main agenda of discussion. Besides this, the official charge was transferred from the *Pradhans* of old *Gram Sabha* to the new *Pradhans* of village Panchayat. The gathering of general public and the attendance of members was reported to be quite satisfactory in the meeting of most of the Village Panchayats. However, the women members of the Village Panchayats had little participation in the several issues of discussion held in the meeting. In fact, the domination of male members and the individuals who had been associated in the last *Gram Sabhas* in the capacity of *Panch* or *Pradhans* in the past was significantly much appreciable. Several women *Pradhans* had reported that the male members of the Village panchayats had negative attitude and non-cooperative behaviour in making and finalisation of development project proposals for carrying out in the village Panchayats. In fact, in three sample Village Panchayats, the male individuals among the general public had intentionally raised several objections and disfavoured the initiation of various important development programmes under the JRY scheme and other activities. The strong views expressed by the representatives of old *Gram Sabhas*, those were mainly the family members of present women *Pradhans*, in the meeting had made it possible to defeat the interest of individuals opposing the initiation of proposed programmes. The women members of the panchayat were unable to participate actively in discussions for the initiation of concerned programmes due to the fact that a majority of them had first chance of participation in such large male dominated gatherings.

Participation in Development Activities/Programmes

It was observed that some Village Panchayats had not initiated any development programmes so far excepting that all of them are engaged in the implementation of Jawahar Rozgar Yojana only. So far, each Village Panchayats had received Rs. 20,000 to Rs. 25,000 under the Jawahar Rozgar Yojana since the introduction of Panchayati Raj system. This amount is being utilised mainly in the construction of *Kharanja,* repair of water tanks and the maintenance of the fixed assets of the Panchayats. The participation of women *Pradhans* in the implementation of JRY was found quite dissatisfactory in the sense that most activities undertaken under JRY schemes have been managing by the male family members of the husband of the women *Pradhans*. Several doubts were also raised in mind regarding who signs on the payments made to the beneficiaries of the concerned scheme. However, enquiring from the beneficiaries of JRY schemes we found that the payments are made by the concerned male members who is engaged in supervising the programme. But the beneficiaries were unaware with the fact that who signs on the payments made to them. Among the sample women *Pradhans*, only two of them were found personally engaged in supervision and the implementation of JRY scheme. However, in the social and cultural programmes and functions organised by the people, the presence of Panchayats people was well appreciated by general public. In such occasions, the members and the *Pradhans* are specially invited by the individuals or the groups of people who are organising concerned programme in different villages. However, not any women *Pradhan* had organised any social function and social activities in their concerned village Panchayat.

Working Pattern

We did not find any differences existing in the working pattern, maintaining routine work of Panchayat, organising

meetings, initiation of development programmes, involving different socio-economic groups of people in development activities and programmes and the process of implementation of different development work between the Village Panchayats headed by women and men *Pradhans*. However, in the women headed village Panchayats, the implementation process of development programme such as JRY schemes and related activities the women *Pradhans* were mostly assisted by their male family members due to one or another reason while any kind of work undertaken in the men headed Village Panchayats is independently performed by the male Pradhan of the concerned Village Panchayats. In several cases it was noted that performing any development programme has been the collective responsibility of all working family members of the women *Pradhans* rather than the women *Pradhan* alone or the Village Panchayats. In general, the members of the Village Panchayats, either headed by women or men *Pradhans*, are observed they had been mainly concerned and are consulted by Pradhans for approving the proposals of different development activities which are to be forwarded to the Block Panchayat or the District Development Authority or any government department for its final approval and requesting for financial assistance. However, the implementation part of different development activities and programmes in most Village Panchayats is independently undertaken by the *Pradhans* with the assistance and association of his/her main followers and family members without the involvement and participation of the members of respective Village Panchayats.

Involvement in Decision Making Process

Inquiring from the general public and the members of the sample Village Panchayats regarding the role that had been played by the present women *Pradhans* in the general functioning and proposing the development programmes to be undertaken in the near future in the last meeting held in different Village Panchayats,

it was revealed that most of the proposals of different activities and programmes were mainly proposed by the male members of the Panchayats and the general public. The aspects related to the relevance behind proposing such selected activities to be undertaken at the Village Panchayat level were collectively discussed by Pradhans, both men and women and the general public of different Village Panchayats; but the domination in the discussions was always seen from the *punchas* (representatives) belonging to the last *Gram Sabhas* and those were mainly the male members of the women *Pradhans* and members of the present Panchayats. However, in these sample Village Panchayats the women *pradhans* had been remarkably well dominating in the several issues raised for discussions and in the decision-making processes regarding the identification and selection of different development work to be proposed for undertaking in the concerned Village Panchayats. Lack of knowledge about the functioning procedure of meetings, prevailing traditional system which restrict women to speak freely before their elder male family members and relatives, lack of previous experience in attending male dominated such a large meetings and several related problems might be prohibiting the effective participation of women in several issues of discussions and the decision making processes at policy level of the Village Panchayats.

Outlook and Co-operation of Male Members

The women *Pradhans* have reported that they generally find good co-operation in the functioning of routine work of the Panchayats. But the nature of providing co-operation of male members seems to be motivated by personal interest and benefit of concerned member rather than for the interest of general public. They desire personal involvement in the implementation of JRY types programmes so as to derive the financial benefits. The groups of village community who were previously against the election of present women Pradhan have been creating increasing objections and problems in passing the proposal of different

schemes in the last meeting. However, three women *Pradhans* had reported that they realise full co-operation from different groups of people in all the matters associated with Village Panchayat's activities because of their stronghold and good reputation in the respective villages.

However, the outlook of general public regarding the attitude and intention of women *Pradhans* towards, making efforts for bringing development programmes for the welfare of local people, participation in different programmes/activities, etc., was quite dissatisfactory in half of the sample Village Panchayat. It was reported that the women *Pradhans* of these villages are mainly concerned with their household activities rather than to participate in the initiation and implementation of development programmes. In fact two of the women *Pradhans* had never bothered to participate in the JRY scheme which was being implemented by their male family members. Reports were also obtained from the beneficiaries of JRY that women *Pradhans* of these villages were never seen by them at the place of JRY activities have been undertaken.

Changes in Socio-Economic and Political Status

Four of the sample women *pradhans* and almost all the members of different Village Panchayats had informed that they do not find any changes and improvements in their social and personal life, association with any political system, status at household or any society level, routine of family work after electing as the *pradhan* or member of Village Panchayats. They also do not feel any favourable changes in getting respect from the village people. However, all *pradhans* receive honourable treatment in the social functions, religious activities and local level function by both male and female population of the respective Village Panchayats. But, three women *Pradhans* had found the opportunity to become the member of different political parties, attaining the local level meeting of political parities, NGO's Yuvak Mangal Dal and different social organisations. As

a result of having significantly good reputation in local areas before heading the concerned Village Panchayats of these *Pradhan* have provided them an additional opportunity to mobilise the support of a larger segment of population for performing any desired social activity. Two of these women *Pradhans* had reported that they regularly keep contacts, and ask bout any kind of difficulty, and assist the different groups of population in properly functioning of any domestic activity or any matter with the expectation to maximise the support of local people. However, remaining seven women *Pradhans* had been availing the additional opportunity of only participating in social functions such as marriages, religious activities and other related social activities; otherwise they do not reported any improvements that have been occurred in their socio-economic conditions and attachment with any political system after electing as the *pradhan*.

Views on Empowering Women

Further, asking about the views of women *Pradhans* regarding their acceptations about the implications of introducing reservation policy under Panchayati Raj system on achieving the goal of empowering women, a majority of women *Pradhans* have very optimistic views that concerned policy would not only provide opportunities of empowering women but several traditional social and culture system prevailing and disfavouring women for the past several generations could be removed satisfactorily in the future. It was expressed that this is very early to discussed about concerned issues because the implications of this policy measures can not be realised after this short duration of about 6 months of the introduction of Panchayati Raj system in the sample areas. In fact, the women *pradhans* were not fully awarded about the provisions of rights, duties and methodology of functioning of Village Panchayats introduced in the constitutional amendment of Panchayati Raj Act.

Moreover, only a single meeting has been organised at Block Panchayat level since the implementation of Panchayati Raj

system. It was unfortunate for many of the women *Pradhans* that previously they had never participated in such meetings. Therefore, only limited numbers of women *Pradhans* were observed participating in different issues of discussions and at the final stages of policy decision making processes. It was believed that with the increasing participation of women representatives in such meetings to be organised at Village Panchayat and block panchayat level would definitely enhance the increasing confidence among women to participate activity in discussions, particularly in issues of policy decision making process and present their views before the meetings for discussions.

In this regard, the women Pradhans had recommended and suggested that frequently organising meetings independently for women representatives of different village Panchayats could be a instrumental measure so that the domination of women in various issues of discussions and presenting their views could be increased. This measure could develop the women's capacity, creativity and self-confidence of exposing themselves in terms of presentation of views before the larger common meetings of women and men. The existing women *Pradhans* which have developed self-confidence and acquired skill and art of participating in discussions sufficiently as a result of the past experiences and knowledge gained from attending several social and political meetings can play a significant role in this regard. This process will not only increase the participation of women representatives of Village Panchayats in various issues of discussions and policy finalisation but it will also be a important measure for improving social status and empowering them in the future.

The objective of introducing reservation policy for women in Panchayati Raj system with the prime motive of bringing improvements in socio-economic conditions and empowering women could have been a successful measure of state intervention in Uttarakhand, if the identification of Village Panchayats for the reservation of women *Pradhans* and location/constituencies within the Village Panchayats for women members should have

been done considering into account the local conditions in terms of area specific geographical, topographical and accessibility situations. Beside this, villages having the availability of well educated women and having past experience of active participation in different social, economic and political movements should have been purposely selected as reserved village Panchayats for women *Pradhans*. Providing opportunities to such category of women in heading the village Panchayats at the initial state of the introduction of Panchayati Raj system could have been instrumentality in planning for improving socio-economic status and empowering women This is so because they can strongly raise the issues related to the betterment of women and can play a dominant role in decision making process and make suitable recommendations for the inclusion of such development programmes which can favourably improve the status of women.

References

1. Mehta, G.S., *Education, Employment and Earnings*; Deep and Deep Publications, New Delhi, 1990.
2. Government of India, Towards Equality; *Report of the Committee on the Status of Women in India*, Ministry of Education and Social Welfare, New Delhi, 1974
3. Papola, T.S., *Women Workers in Urban Labour Market : A Study of Segregation and Discrimination*, Giri Institute of Development Studies, Lucknow, 1982.
4. Mehta, G.S., Education, Employment and Earnings : The Extent of Disadvantages Against Women, *Man and Development*, 22(1), 1989.
5. P. N. Pande, *Drudgery of the Hill Women*, Indus Publishing Company, New Delhi, 1996.

Bibliography

Academy of Mountain Environics (1995), *Mountain Tourism in Himachal Pradesh and Hill Districts of Uttar Pradesh*, ICIMOD, Kathmandu, Nepal.

Adhikari, C.S. (1982), *Credit Disbursement and Percolation of Benefits to Weaker Sections in IRDP: A Case Study of Salt Block*, Almora, Working Paper No. 59, Giri Institute of Development Studies, Lucknow.

Ashis Madav (1979), Agriculture Economy of Kumaun Hills, Threat to Ecological Disaster, *Economic and Political Weekly.*

Bange, D.J. (1969), *Principles of Demography*, Princes Books, New York.

Bas, A. (1965), *Internal Migration in India, Pakistan and Cylone*, World Bank, Washington D.C.

Bhauryal, D.S. (1987), Economics of Out-Migration, A Study of Kumaun Region (Ph.D. Thesis), Kumaun University, Nainital.

Bisht, H. (1963), Himalayan Tourism in Uttarakashi and Chamoli Districts of Garwhal, A Study in Economics of Tourism (Ph.D. Thesis), Garhwal University, Srinagar,

Bora, R.S. (1987), Migration from U.P. Hills and Its Consequences, Paper presented in a Seminar on 'Development and Change in U.P.' organized by Giri Institute of Development Studies, Lucknow.

Carvajal, M.J. and Geith Man D.T. (1974), An Economic Analysis of Migration in Costa Rica, *Economic Development and Cultural Change.*

Chand R. and Joshi, K.C. (1992), Constraints on Production in Himalayan Agriculture, In : Raina, J.C. (ed.), *Himalayan Environment, Man and Economic Activities,* Pointer Publications, Jaipur.

Dhar, T.N. and Gupta, S.P. (1992). *The Himalayan States of India*, Development Profile, SHERPA, Lucknow.

Fahimuddin (1993), Agricultural Productivity and Input Use in U.P. Hills, *Productivity,* 33(4).

Garia, P.S. (1987), *Laghu Evam Kutir Udyogo Ki Samiksha : Vikas Khand Kapkote Ke Sandarbh Main, Zila Almora Ke Sandharbh Main*, Giri Institute of Development Studies, Lucknow.

Garia, P.S. (1987), *Parvatiya Kshetro Main Ringal Udyog*, Giri Institute of Development Studies, Lucknow.

Garia, P.S. (1996), *Nirvanikaran Evan Kshtriyon Ki Samasyaen*, Giri Institute of Development Studies, Lucknow.

Gaira, P.S. (1996), *Uttarakhand Mein Kshtryion Ki Vikas Karyakramo Mein Bhagidari*, Giri Institute of Development Studies, Lucknow.

Government of India (1982), *Report of the Task Force for the Study of Economic Development in Himalayan Region*, Planning Commission, New Delhi.

Government of India, Draft Fourth, Fifth, Sixth, Seventh, Eighth and Ninth Five Year Plans, Planning Commission, New Delhi.

Government of U.P., Draft Seventh Five Year Plan, State Planning Institute, Lucknow, U.P.

Government of U.P., Draft Eighth Five Year Plan, Uttaranchal Sub-Plan, Uttaranchal Development Department, Lucknow, U.P.

Government of U.P., Ninth Five Year Plan (1999-2002), Uttarakhand Sub-Plan, Uttarakhand Development Department, Lucknow, U.P.

Hay, M.J. (1974), *An Economic Analysis of Rural-Urban Migration in Tunisia*, Minn. University, Minnesotra.

Kala Shankar (1990), Socio-Cultural Impact of Tourism : A Study of Religious and Linguistic Impact : A Case of Garhwal Himalaya, In : Chada, S.K. (ed.), *Ecology of Eastern Himalaya*, Ashish Publishing House, New Delhi.

Kaur, Jagdish (1987), Badrinath : A Study in Site Character, Piligrim Pattern and Process of Modernisation, In: Raha M.K. (ed.), *The Himalayan Heritage*, Gian Publications, New Delhi.

Jafri, S.S.A. (1985), Urban Growth in Backward Hilly Areas of U.P., *Giri Vanavasi Sandesh* 2(2).

Jafri, S.S.A. (1990), Deforestation and Land Degradation in Central Zone of India : A Study of Ecology, *Man and Development.*

Jafri, S.S.A. (1996), Consequences of Rapid Population Growth in Uttarakhand : A Geographical Outlook, In : Tripathi, R.S. (ed.), *Population Growth and Development in India,* APH, New Delhi.

Jafri, S.S.A. and Nagarkoti, D.S. (1988), Rural Development Programme : Impact on Growth and Distribution in U.P. Hills, In : Tewari, R.T. and Josh, A. (eds.), *Development and Change in U.P.,* Ashish Publishing House, New Delhi.

Jodha, N.S., Banskota, M. and Pratap Tej (1992), *Sustainable Mountain Agriculture, Perspectives and Issues*, Vol. I, Oxford and IBH Publishing Co., New Delhi.

Jodha, N.S., Banskota, M. and Pratap Tej (1992), *Sustainable Mountain Agriculture : Farmers Strategies and Innovative Approaches*, Vol. 2, Oxford and IBH Publishing Co., New Delhi.

Joshi, A. and Mehta, G.S. (1992), *Pattern of Industrialization and Industrial Performance in Uttarakhand : A Preliminary Note*, Giri Institute of Development Studies, Lucknow.

Joshi, A. and Pande, P.N. (1992), *Forest Policy and Its Impact on the Rural Population in U.P. Hills*, Giri Institute of Development Studies, Lucknow.

Joshi, A. (1993), *Development of Forest Policy in India, with Reference on the Hills of U.P.*, Giri Institute of Development Studies, Lucknow.

Joshi, B.K. (1982), *Under-Development of Hill Areas of Uttar Pradesh*, Giri Institute of Development Studies, Lucknow.

Joshi, B.K. and Sinha, R.C. (1982), Socio-Economic Implications of Micro-Hydro System in India, WEP, 2-22, Working Paper No. 105, International Labour Organization, Geneva.

Joshi, B.K. (1984), *Energy Use in Rural Areas of Uttarakhand in U.P.*, Giri Institute of Development Studies, Lucknow.

Joshi, B.K. (1987), *Impact of Industrialization on the Social Ecology of Hill Areas of U.P.*, Giri Institute of Development Studies, Lucknow.

Joshi, B.K., Joshi, A. and Mehta, G.S. (1994), *Situation Analysis of Primary Education in District Almora*, Giri Institute of Development Studies, Lucknow.

Joshi, B.K. and Mehta, G.S. (1995), *Situation of Wool and Wool Related Activities in Uttarakhand*, Giri Institute of Development Studies, Lucknow.

Joshi, B.P. (1993), Sustainable Agriculture : With Special Reference to Animal Husbandry in U.P. Hills, In : Dhoundiyal, N.C. (ed.), *The Separate Hill State*, Almora Book Depot, Almora.

Khanka, S.S. (1984), Population and Development in a Backward Economy : A Study of Kumaun Region in U.P., In: Josh, S.C. (ed.), *Rural Development in the Himalayas : Problems and Prospects*, Gyanodaya Prakashan, Nainital.

Khanka, S.S. (1985), Labour Migration and Its Effects in a Low Developed Region of U.P., In : Singh, J.S. (ed.), *Environmental Regeneration in Himalayas, Concept and Strategies*, Gyanodaya, Nainital.

Khanka, S.S. (1986), *Relevance of Industrialisation in Bhim Tal Area of Goula Catchment*, Central Himalayan Environmental Association, Kumaun University, Nainital.

Khanka, S.S. (1988), Opportunity Conditions Influencing Entrepreneurship in Kumaun Hills, *P.U. Management Review*, Vols. X and XI.

Khanka, S.S. (1988), *Labour-force, Employment and Unemployment in a Backward Economy*, Himalaya Publishing House, New Delhi.

Khanka, S.S. (1989), Entrepreneurship in Small Scale Industries in Kumaun, U.P., *Journal of Regional Development*, 18(4).

Khanka, S.S. (1990), *Entrepreneurship in Small Scale Industries*, Himalaya Publishing House, New Delhi.

Khanka, S.S. (1993), Industrial Development of Kumaun Division, In : Dhoundiyal, N.C. (ed.), *The Separate Hill State*, Almora Book Depot, Almora.

Mac Donald J. (1961), *Migration Versus Non-Migration, Regional Migration Differences in Rural Italy*, International Publication Centre.

Mehta, G.S. (1984), Roads and Area Development : A Study in Utilization and Impact, *The Indian Journal of Regional Sciences* 16(2).

Mehta, G.S. (1986), Condition of Rural Artisan in U.P. Hills, *Indian Journal of Labour Economics* 27(4).

Mehta, G.S. (1987), *Economics of Apple Growing in India*, Report Submitted with Development Research Institute, Tilburg, The Netherlands.

Mehta, G.S. (1987), *Marketing of Apple and Mango in India : A Study of Fruit Traders*, Submitted with DRI, Tilburg, The Netherlands.

Mehta, G.S. (1987), *Consequences of Migration Characteristics and Its Effect on the Pattern of Income Distribution*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1989), Education, Employment and Earnings : The Extent of Disadvantages Against Women, *Man and Development,* 11(2).

Mehta, G.S. (1990), *Education, Employment and Earnings*, Deep and Deep Publications, New Delhi.

Mehta, G.S. (1990), Problems and Potential of Horticulture Development, in Singh, A.K. (ed.), *Planning Strategies for a Developing Region,* Print House, Lucknow.

Mehta, G.S. (1990), Provisions, Existing Conditions and Prevailing Situations in Educational Opportunities, *Man and Development,* 12(2).

Mehta, G.S. (1990), Industry, Service and Business Programme in District Almora, U.P., In : Pande, P.C. (ed.), *Rural Development in India: Issues and Policies,* Anmol Publications, New Delhi.

Mehta, G.S. (1991), Characteristics and Economic Implications of Migration, *Indian Journal of Rural Development,* 22(6).

Mehta, G.S. (1991), *Socio-Economic Aspects of Migration*, Deep and Deep Publications, New Delhi.

Mehta, G.S. (1991), *Some Emerging Trends in Rural-Urban Migration*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1991), Horticulture Development in U.P. Hills : Problems and Prospects, Proceedings of Seminar on Himalayan Horticulture Development, SHERPA, Lucknow, December.

Mehta, G.S. (1993), *Horticulture in the Development of Western Agro-Climatic Zone*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1993), Potential in Expansion and Development of Horticulture in the Development of Uttarakhand, In : Dhoundiyal, N.C. (ed.), *The Separate Hill State*, Almora Book Depot, Almora.

Mehta, G.S. (1993), Pattern of Rural-Urban Migration, In : Lamba P.S. and Solanki, S.S. (eds.), *Impact of Urbanization and Industrialization in Rural Society*, John Wielley and Co., New Delhi.

Mehta, G.S. (1995), *Constraints in the Development of Uttarakhand*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1995), *Contribution of Handicrafts in Employment and Income Generation in Uttarakhand*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1996), *Uttarakhand : Prospects of Development*, Indus Publishing Co., New Delhi.

Mehta, G.S. (1997), *Development Experiences and Options in Hill Regions : The Case of Uttarakhand, U.P.*, ICIMOD, Kathmandu, Nepal.

Mehta, G.S. (1997), *Impact of Tourism in the Development of Uttarakhand : A Study*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1997), Employment Potential of Handicraft Activities in Uttarakhand, *Manpower Journal*, 33(2).

Mehta, G.S. (1997), *Participation of Women in Panchayati Raj System in Uttarakhand : The Issues of Women Empowerment*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1998), *Alternative Planning Approach for Uttarakhand,* Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1998), *Industrial Development in Uttarakhand : A Micro-Level Analysis*, Giri Institute of Development Studies, Lucknow.

Mehta, G.S. (1998), *Utilization of Primary Education : Inequality Among General Castes and Scheduled Castes/Tribes in Uttarakhand*, Giri Institute of Development Studies, Lucknow.

Miller, S.M. (1960), Cooperative Social Mobility, *Current Sociology*, No. 9.

Narula, D.D. (1983), Strategy for Development of Hill Region and Investment in Infrastructure, In : Papola, T.S. and Joshi, B.K. (eds.), *Development of Hill Areas : Issues and Approaches,* Himalaya Publishing House, Bombay.

Negi, S.S. (1993), *Kumaun, the Land and People*, Indus Publishing Company, New Delhi.

Papola, T.S. (1980), *A Study of Woollen Carpet Industry in Kumaun and Garhwal Region*, Giri Institute of Development Studies, Lucknow.

Papola, T.S. and Sinha, R.C. (1981), *Road Transport and Economic Development*, Giri Institute of Development Studies, Lucknow.

Papola, T.S. (1982), *Women Workers in an Urban Labour Market : A Study of Segregation and Discrimination*, Giri Institute of Development Studies, Lucknow.

Papola, T.S. and Joshi, B.K. (1983), *Development of Hill Areas : Issues and Approaches*, Himalaya Publishing House, Bombay.

Papola, T.S. and Joshi, B.K. (1984), *Demography, Economy and Environment in the Development of Hills*, Giri Institute of Development Studies, Lucknow.

Papola, T.S. (1996), *Integrated Environment and Economic Development Planning for Mountain Areas*, ICIMOD, Kathmandu, Nepal.

Papola, T.S. (1997), *Development of Micro-Enterprises in Mountain Areas*, ICIMOD, Kathmandu, Nepal.

Pande, G.C. (1977), *Economy of Uttarakhand*, Current Publications, Nainital.

Pande, G.C. (1986), *Concurrent Evaluation Report on IRDP, NRDP, RLEGP TRYSEM and ITDP*, Department of Economics, Kumaun University, Nainital.

Pande, G.C. (1989), *Strategies for Rural Development in India*, Anmole Publications, New Delhi.

Pande, P.N. (1984), Migration only Alternative : A Study of Rural Areas in U.P. Hills, *Rural Development*, April-May.

Pande, P.N. and Papola, T.S. (1985), *Women Khadi Workers : A Study of Economic Condition and Status of Women Spinners in U.P.*, Giri Institute of Development Studies, Lucknow.

Pande, P.N. (1997), *Tourism in Uttarakhand, Problems and Prospects*, Giri Institute of Development Studies, Lucknow.

Pande, P.N. (1997), *Drudgery of the Hill Women*, Indus Publishing Co., New Delhi.

Purhoit, A.N. (1988), Science and Technology based Programmes for Environmentally Sound Development of Special Areas : A Study Report for Eighth Plan, HNB University, Srinagar, Garhwal.

Radha Bahen (1984), Seventh Five Year Plan for Hill Areas, Nature of Provisions, *Himalaya Man and Nature*, 7(2).

Rijal Kamal (1996), Developing Energy Options for the Hindu Kush Himalayas : Rethinking the Mountain Energy Development Paradigm, MEI 96/1 ICIMOD, Kathmandu, Nepal.

Saxena, N.C. (1987), *Cannons, Trees and the Poor in the Uttar Pradesh Hills*, Overseas Development Institute, London.

Seth, J.N. (1993), Horticulture Development in U.P. Hills, In : Teaotia, S.S. (ed.), *Horticulture Development in the Hindu-Kush Himalayan Region*, Oxford and IBH Publications, Delhi.

Shah, S.L. (1979), Summary of Group Discussions on Farming System in Hill Areas, *Indian Journal of Agricultural Economcis*, 34(1).

Shah, S.L. (1986), *Planning and Management of Nature and Human Resources in the Mountains*, Yatan Publications, New Delhi.

Shah, S.L. (1996), Issues Related to Sustainable Land Use Planning in Uttarakhand : Learning Lessons of Multi-

Disciplinary Action Research in Land Use Planning, In : Kireet, K., Dhyani, P.P. and Palani, L.M.S. (eds.), *Land Utilization in the Central Himalayas : Problems and Management Options,* Indus Publishing Co., New Delhi.

Sharma, P. (1995), A Framework for Tourism Capacity Analysis; Discussion Paper Series MEI-95/1 ICIMOD, Kathmandu Nepal.

Sharma, P. (1995), Tourism for Local Community Development in Mountain Areas : Perspectives, Issues and Guidelines, ICIMOD, Kathmandu, Nepal.

Shastry, C. (1994), Assessment of Horticultural Research in U.P. Hills, In : Joshi, S.C. (ed.), *Rural Development in the Himalayas : Problems and Prospects,* Gyanodaya Prakashan, Nainital.

Shengji, P. (1993), Natural Resource Management in the Mountains, ICIMOD, Kathmandu, Nepal.

Singh, A.K. (1996), Some Aspects of Land Use Planning for U.P. Hills, In : Kireet K, Dhyani, P.P. and Palani, L.M.S. (eds.), *Land Utilization in the Central Himalaya : Problems and Management Options,* Indus Publishing Co., New Delhi.

Singh S.P. (1996), Forest Wealth of Uttarakhand, In : Valdia, K.S. (ed.), *Uttarakhand Today,* Almora Book Depot, Almora.

Singh, T.V. (1977), Opening Garhwal for Tourism : Towards Research Based Planning Development, *The Himalaya,* Vol. I, The Institute of Himalayan Studies, Srinagar, Garhwal.

Singh, T.V. (1980), *Tourism and Tourist Industry in U.P.*, Heights, Pub., Delhi.

Singh, T.V. and Karu, J. (1982), Role of Tourism in the Regional Development of the Himalayas : A Case of Uttarakhand, In : Papola, T.S. and Josh, B.K. (eds.), *Development of Hill Areas; Issues and Approaches,* Himalaya publishing House, Bombay.

Tewari, R.T. and Sinha, R.C. (1988), *Rural Development in India,* APH, New Delhi.

Swaroop, R. (1991), *Agricultural Economy of Himalayan Region, with Special Reference to Kumaun,* Gyanodaya Prakashan, Nainital.

Valida, K.S. (1996), *Uttarakhand Today*, Almora Book Depot, Almora.

Verma S.S. (1992), Potential and Development of Water Resources in the U.P. Himalayas, Raina, J.L. (ed.), *Himalayan Environment; Man and Economic Activities*, Pointer Publication, Jaipur.

Index