CHAPTER IX
SUMMARY AND CONCLUSIONS AND POLICY IMPERATIVES

This chapter summarizes the major findings of the study undertaken through field work in the hill region of Uttarakhand focusing mainly on rural non-farm employment and its implication on employment and incomes. Based on theoretical postulations and the empirical evidences thrown by the field enquiry some policy options have been put forward that might be helpful in drawing an appropriate development strategy which would eventually take the economy in to higher trajectory of growth.

I. Diversity in Mountain Economies
The mountain habitat shares certain similar bio-climatic features and concerns across the world whether these are the Alps mountain regions of European countries or Andean mountain ranges in the South America or Hindu Kush Himalayan (HKH) region in the South Asia. These countries are characterised by certain common features or specificities. The important specificities are inaccessibility, fragility, marginality, diversity or heterogeneity and niche and human adaptive mechanisms. These specificities may differ across different situations and locations or countries and also may have different implications (positive as well as negative) on the resources and activities.

These concerns relate primarily to the changing mountain environment due to degradation of resources as a result of excessive exploitation. This has resulted in reduction in biomass production, marginalisation and low human welfare. Many of these mountain regions are prone to natural hazards (land slides, earthquakes, avalanches, diseases etc) and human conflict and wars also concentrated in many of the poor regions making the mountain people more vulnerable. The minority inhabitants in certain mountain regions suffered not only from the resources exploitation but also from ethnic conflict, violence and wars. But then there are major differences in the mountain economies of the developed countries of Europe and that of Andean regions and HKH regions in respect of their development trajectories.
European mountain regions developed fast primarily because of their strong external linkages with the developed regions, experiencing industrial revolution and in this process mountain regions benefited significantly from this strong linkage effect. For instance, the major growth drivers of industrialization in Alps has been hydropower based industries and tourism. This was possible to a significant extent by the state protection and institutional mechanisms in place with considerable political will that helped ameliorate the in-built inequalities in the mountain economies.

In the least developed mountain regions, the most common economic activities include subsistence land-based activities (crop production combined with animal husbandry, horticulture, forestry), traditional enterprises drawing upon local raw material, resources, using rudimentary technology, limited use of external inputs and resources. Low productivity of resources including land, human drudgery, infrastructural bottlenecks and emigration are the other features of such economies. This system exhibited a closed system that resulted in limited trade, exchange and surplus. By and large such a subsistence nature of economic activities provided the base for sustenance of the people.

Despite the increasing interventions brought about in the mountain regions through various programme and project approaches by the national Governments, the donor agencies and increasing environmental and sustainability concerns expressed by the international agencies, the mountain regions have, by and large, remained at the lowest ebb of development trajectory, barring a few stray cases. The primary reasons for this failure has been attributed to inappropriate development strategy in which the mountain perspectives was entirely missing and most often development has been undertaken from the outside flatlanders or mainstream institutions. The problems of sustainable development in the poor countries are much more severe than the mountain regions of industrialised countries. The major challenges and concerns in the former countries have been subsistence agriculture and food deficits, persistent human poverty, adverse terms of trade and exploitative linkage relations, gender inequity, drudgery and environmental degradation.

The Himalayan region of India covers 10 states namely Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya and Darjeeling district of West Bengal and Karbi Anglong and North Cachar districts of Assam. In spite of similar biophysical attributes, the
development patterns vary across the hill states in terms of various development indicators.

Among all the hill states, Himachal Pradesh is one of the fastest growing and socially progressive hill states in the country. The case of Himachal Pradesh provides unique example among all the hill states, the transformation from subsistence agriculture to one of the lead horticulture-producing region is worth emulating. The development strategy gave primacy to development of transport network (mainly, roads), communication and hydroelectric projects. Government provided institutional support for diversifying from the traditional cereal crops to horticulture crops along with dairy development. State also adopted an appropriate land use pattern with a view to optimising the returns. This has significantly improved livelihood options and the income levels of the people.

Most of the Northeastern states hill states have low economic performance, high unemployment and rural poverty is also reported to be high. Primary sector still constitutes the bulk of the labour force in all the hill states of the region and the secondary sector has remained stagnant. In some cases, the hill economies are experiencing some sort of de-industrialization. The Sikkim, despite its impressive performance in economic and social indicators, poverty levels and unemployment rates continue to be significantly higher.

Jammu & Kashmir state has recorded relatively higher decadal population growth and lowest overall and female literacy rates and highest gender disparity among all the hill states. Though the poverty level is the lowest in the state yet per capita NSDP is low, lower than national average. The infant mortality rate (IMR) is estimated to be high. In spite of a large natural and human resource base, state lags behind in industrial development.

Uttarakhand has achieved impressive literacy rates with relatively lower gender gap but poverty has been highest among all the hill states. In terms of NSDP growth it has recorded very low growth compared to All India. Employment growth is abysmally low in the state and rural areas in particular recorded negative growth rate during 1993-94 to 1999-00. Recent results (2004-05) however show impressive performance in employment growth both in rural and urban areas in the state yet the long term trends (1983 to 2004-05) show much lower growth of employment in the rural area compared to All-India. In spite of perceptible performance in GSDP growth in the
state during 2004-05 per worker GSDP (absolute terms) in primary and tertiary sectors and per capita income has been far lower throughout during 1993-94 to 2004-05 compared to All-India.

Most of the hill states supposedly to have advantage in terms of hydro-electricity, forest resources, horticulture, tourism & amenities and other hill specific products. However, many of these activities could not be developed primarily due to lack of appropriate development strategy. In spite of reportedly good resource base, most of the hill states have low industrial development and very high dependence on central assistance and little efforts have gone in to mobilization their own resources and accelerate the pace of capital formation.

II. Uttarakhand Hill Region--A Case of Underdeveloped Region

(i) Employment, labour market features and economy

Uttarakhand hill region is characterised by the subsistence agriculture and any drastic transformation within cereal-based agriculture on terraced type cultivation has obvious limitations to expand its land based activities. The industrial base, in any case, is precariously small and large-scale industrial activity is neither possible nor desirable in view of ecological and environmental considerations. From long term perspective, traditional agriculture with its low productive base and rudimentary industrial activities does not seem to be viable and sustainable option for providing employment and livelihood to provide employment and income opportunities to the burgeoning labour force. This precisely makes the strong case for diversification within agriculture sector according to its potential land capability and also promoting other non-farm pursuits.

One of the noticeable features of LFPR in the rural areas is a very high LFPR among females. The main reason for such a high LFPR among females is subsistence nature of agriculture economy that provides the only source of employment and there are limited opportunities of employment outside agriculture.

Labour force participation rates (LFPR) for rural males and rural females in the state has been 53 and 47 per cent respectively in 2004-05. The corresponding figures at All-India have been 55 and 33 per cent.

Long term trends of movement of LFPR in the state have marginally increased for rural males (1.0 per cent points) but registered huge fall for female (6.3 per cent points) during 1983 to 2004-05. The corresponding changes at All-India level have
been negligible. It remained almost stable. Generally, LFPR has shown increasing trend from 1983 to 1993-94 both in rural and urban areas then it dipped in 1999-00 and thereafter a clear up trend is noticed in 2004-05.

Worker population ratio (WPR) in rural areas declined in the state as well as at All-India for both males and females from 1983 to 1999-00; however 2004-05 saw a trend reversal and registered significant increase. Male WPR in the state registered substantive increase (8.3 per centage points) and female WPR increased by 5.8 per centage points. While at All-India, male and female WPR increased by about 2 and 2.7 percentage points respectively.

While at All India level employment grew at about 0.98 per cent, in Uttarakhand there has been catastrophic fall in employment as it recorded negative growth (-1.44 per cent) and the fall was even more pronounced among females than males during 1994-00. Long-term rural employment growth during 1980s and 1990s (1999-2000 over 1983) in the state is very low (0.70 per cent per annum) as against 1.61 per cent per annum in all India. Rural area in particular had recorded abysmally low employment growth. Recent results (2004-05) however show impressive performance in employment growth both in rural and urban areas in the state yet the long term trends (1983 to 2004-05) show much lower growth of employment for males and females in the rural area compared to All-India. Even in urban area the growth for male employment has been lower than All-India.

Sectoral share of employment by and large correspond to the all India pattern but there are huge dissimilarities in rural area. The relative gap between all India and the state is largest and weakest too for females as there has been hardly any significant occupational diversification for females in the state. Their share in primary sector is disproportionately much higher (at 96 per cent) while in secondary and tertiary sector is pitifully lower (1.9 and 2.1 per cent respectively) compared to corresponding share of rural India in 2004-05. Such a structure of employment has serious implications for sectoral productivity.

The long-term shift in the structure of employment in rural areas shows that the self-employment base has eroded systematically both for males and females in the state. Casualisation among rural females has become most conspicuous phenomenon in terms of growth while regular employment shows improvement, more so among females.
Self-employment has been the principal mode of livelihoods for males as well as for females but for rural females it is indeed the sole source of employment as an overwhelmingly a large majority of workforce (94 per cent) is engaged in it, primarily in cultivation activities. Self-employment opportunities in the rural area showing improvement in 2004-05 over 1999-00, yet such opportunities have generally shrunk compared to pre-1999-00 period both for males and females. Regular employment for males as well as for females have generally declined, albeit marginally, during 1999-00 to 2004-05. Share of casual employment also declined for males and females but decline is sharper for females compared to that of males. It clearly appears that restructuring process has halted and those who have moved on to non-agriculture sector earlier seems to have been reverted back to agriculture sector.

Another distinct feature noted is that an overwhelmingly a large majority of rural females are working as subsidiary capacity (11.9 per cent in 2004-05) indicating their marginalization and vulnerability. The gap between the share of UPS and UPSS workers has increased from about 2.6 per cent in 1983 to about 6.1 per cent in 2004-05, while at all India level this gap declined from 4.6 to 4.1 per cent.

There has been huge increase in rural subsidiary workers (4.49 lakh) of which female accounted for about 81 per cent in 2004-05. Agriculture is the most pre-dominant activity for subsidiary employment both for males and females. For females, such a huge increase in subsidiary capacity employment was solely due to low productive sectors that are regarded lender of the last resort.

Work structure is highly gender biased in the rural areas of the state as women overwhelmingly work in agriculture related occupations (96 per cent) while their male counterparts work in non-farm occupations (37 per cent). Such a low share of female employment in non-agriculture sector (4 per cent) shows complete dichotomy and segmentation of work activity due to various socio-economic factors that inhibit females to participate in the labour market outside cultivation despite the fact that their literacy levels has improved considerably over the years. Barring manufacturing, construction and public services their share is virtually nil in other segments of non-farm sector.

Growing majority of the sub-sectors in the rural economy consistently achieved lower performance both in terms of employment growth and gross value added (GVA) per
worker compared to the overall performance in the state. Even in certain sub-sectors where higher rate of employment growth was registered in rural area (namely, manufacture of cotton textile and land transport), the GVA per worker was lower than state average indicating proliferation of low productivity employment growth.

In rural Uttarakhand, maximum share of enterprises are in the trade segment followed by manufacturing and construction but the productivity in these segments is lower and in fact manufacturing has the lowest productivity among all the segments in the unorganised sector.

Sectoral GSDP growth in the state is consistently lower in every sector compared all India during 1994-00. Overall GSDP growth is just half in the state than that of all India. This pattern of productivity change in the state stands in marked contrast to the all-India in major segments of economy. Even per capita income in the state is lower by 28 per cent compared to all India in 1999-00. All this indicates a low level of development in the state.

However, there has been perceptible improvement in sectoral growth in terms of per worker GSDP in the state during 2000-05. Barring primary sector every segment of economic activities saw substantive improvement in sectoral performance compared to All-India. Secondary sector has shown dramatic improvement in productivity and registered whopping growth in per worker GSDP (16 per cent per annum). In fact every segment of secondary sector showed impressive performance. Sectoral performance in terms of per worker GSDP growth in the state has been far better than All-India. Overall GSDP growth per worker, per capita income and GDP growth in the state has doubled compared to All-India during the later period.

In spite of perceptible performance in the state during 2004-05 per worker GSDP (absolute terms) in primary and tertiary sectors and per capita income has been far lower throughout during 1993-94 to 2004-05 compared to All-India.

In the state, educational attainment has been highly facilitating factor for occupational shift towards non-farm activities, more so in the case of males. Gender, castes, land size and infrastructure seem to have been playing an important role in determining the growth of rural non-farm sector. It is important from the long-term policy perspectives to widen marketable skills base and strengthen infrastructure that have always had positive influence to the growth of non-farm sector, in which state even lacks basic social and economic infrastructure.
Our review has shown that the context of analysis in most of studies on rural non-farm has been restricted to the non-hill economy. The constraints posed by the terraced type cultivation do not lend much support to the Mellorian type of linkages for the growth of non-farm sector. Not only this, lack of development in general raises the issues of the productivity and income of numerous types of non-farm activities mushrooming with little linkages to local economy. It is therefore argued that non-farm based activities and enterprises ought to be promoted particularly in activities in which the region enjoys certain comparative advantages.

In this context, enterprise based activity needs to be construed in a much wider sense and it can take different forms -- diversification from cereal based products to high value horticultural products to simple processing, and other enterprise based activities such as based on livestock, forest (non-timber), artisan and tourism and amenity services.

(ii) Household characteristics – field enquiry

Our field enquiry based on household survey shows that the agriculture and allied activities are dominant activities of livelihood in the region. Subsistence agriculture with overwhelmingly large number of marginal holdings has made cultivation highly uneconomical and un-remunerative. Added to this, lack of development in general in rural areas has forced a significant proportion of households to out-migrate outside the state for earning livelihood. Nearly 23 per cent households report women headed households and 15 per cent households reporting casual workers and most of them belong to ‘other caste’ and SCs, who are poor and from lower social class and maximum number of casual work reporting households belongs to landless category. Less developed blocks showing higher intensity of female headed households and casual work households than developed ones. Literacy rate in the sample population accounts for about 79 per cent (5 years and above), male literacy constituting 91 per cent and female literacy is 65 per cent. Generally, less developed blocks have higher gender gap in literacy than the relatively developed ones. Social group wise literacy among the households shows that upper caste households possess higher literacy both for males and females than the social groups.

Significant improvement in literacy over the years has not helped to make room for more employment rather accentuated process of out-migration. Male specific out-
migration has put enormous burden to hill women both in cultivation and other household chores.

Migrant population constitutes 10 per cent (excluding permanent migrants) and nearly 38 per cent households report at least one migrant indicating the extent of out-migration.

An overwhelming large majority of sample households (87 per cent) belong to marginal land holding and about one tenth household belong to the small and medium land holding and none of the households having large land holding size. The most disturbing phenomenon is fast fragmentation of already tiny sizes of holdings, which has not become highly uneconomical but leading to near landlessness situation for a large majority of households in sub-marginal and marginal land holding size classes.

Value of farm assets is very low in hill agriculture and most of these implements are traditional and modern implements are hardly used for cultivation. Value of farm assets is positively co-related to land size owned per household and land size class and farm asset value is reported lowest among SCs and STs and among landless households.

Households and per capita income for majority of households is low with marked inequity across castes and land classes. Overall per capita income of the sample population (resident) comes out Rs. 10,656. The lower social groups particularly SCs, and ‘other caste’ has very low per capita income. Also, landless and marginal households have lower per capita income than the average household income exhibiting significant income differentials across land size classes. The low income obviously results in low asset holding capacity of the households with significant differential across castes and land classes.

Overall, 36 per cent households have monthly per capita income less than Rs. 500, which is closer to the poverty line threshold. An overwhelmingly large majority (75 per cent) of ‘other caste’ households and over half (56 per cent) of the scheduled caste households have monthly per capita income less than Rs. 500. The scheduled tribes and Brahmins, on the other hand, have high concentration in the higher income groups (Rs. 1000-2500 and Rs.2500 and above). The principal reasons for variations of income across the castes are linked closely to the asset base of the households and also educational and skill levels that have overarching influence on income generating capacity. It can be observed that the relatively developed blocks showing
low proportion of their population in the low income groups and less developed blocks showing relatively higher proportion of population in the lower income groups.

(iii) Employment, unemployment and earnings

Typically the hill economy of Uttarakhand show higher female LFPR than males. This has distinctly come out from the field data and also corroborates with the Census and NSS data. Survey data also shows that there is highly gender biased work structure in the rural areas of the state as women overwhelmingly work in agriculture-related occupations while their male counterparts work in non-farm occupations. This is primarily because the subsistence farming economy with precarious industrial base. Agriculture assumes the predominant sector for employment for large majority of labour force with little surplus generating capacity and by and large this sector acts as labour sponge, in particular for the females. Non-farm activities constituting petty trade and business, wage/salaried employment and casual employment particularly in construction activities have been by and large male dominated activities and female have a very low share in these activities. Generally, developed blocks showing higher share in non-farm activities than the less developed ones primarily because of diversification from cereal crops to horticulture crops and better infrastructure and proximity to block and district headquarters.
Agriculture is increasingly becoming an uneconomic family enterprise, and employment opportunities outside agriculture are extremely limited. Within farm sector there is huge incidence of underemployment in terms of unutilised labour time and majority of rural households are forced to diversify their activities as a part of their survival strategy to cope seasonality and uncertainty of production. Unemployment rate turns out to be 11.5 per cent in aggregate terms, which is indeed very high. Male unemployment rate, in particular, is alarmingly high at 19 per cent while the female unemployment rate is comparatively much lower at 3 per cent. The survey results clearly show that the problem of unemployment is huge one in the hill districts of the state and it is more pronounced among relatively less developed blocks than the relatively developed blocks. Unemployment is concentrated more among lower social classes and among landless class. Intensity of unemployment is visible among the higher educated categories.
Females are disproportionately represented in the agriculture and allied activities (90 per cent) with low levels of education and a very high proportion of them are illiterates. Generally low levels of education of a large majority of workers in rural areas of Uttarakhand, particularly of females, have implications from the policy perspective for their employability outside the agriculture. Their low educational levels can hardly help them to secure employment, outside agriculture.

Average annual days of employment available in agriculture and allied activities are indeed very low in the hill areas. Although, people seem to be working very hard in agriculture activities yet it does not provide employment beyond few months in a year. On an average agriculture and allied activities provide employment to about 56 days in a year for males while for females it provides for about 106 days employment. However, it can be observed that the relatively developed blocks have generally higher person day’s employment compared to less developed blocks. The reasons for higher days of employment in the relatively developed blocks is due to more areas under horticulture crops leading to commercialisation of agriculture (vegetables, fruits and other non-food crops) compared to relatively less developed blocks. More area under horticulture also fetches higher share of income from agriculture compared to relatively less developed blocks. This also supports our hypothesis that diversification in to high value crops promotes more employment and incomes.

Availability of casual employment is less than two months (50 days) in a year, providing on an average 51 days employment for males and 43 days for females.

Multiple economic activities are most pervasive and widespread among different groups of population in the survey areas in Uttarakhand, manifesting symptoms of backward economy. About 26 per cent among all the workers have single or sole activity while a large majority of them (74 per cent) resort to more than one activities. Even the dependence of highest income group in more than one activity is 51 per cent. Clearly, two different processes seem to be at work. First, deliberate household strategy to enhance income as an involuntary response to crisis situation and second, to seize opportunities as a means of accumulation.

The finding of present study dispel the commonly derived hypothesis that poor households derive their income from multiple sources as part of their survival strategy while the relatively better off households and individuals depend on few and stable
sources of incomes. It can be argued that in relatively less developed regions, lack of opportunities constrict the people to enter in the labour market while in the relatively developed region people seize the existing opportunities for better remunerated activities.

Mean earnings per day varies widely across blocks and occupations. Returns to labour input for rural households are very low in agriculture and allied activities as can be observed that the mean earnings per day from this activity is Rs. 56, which is the lowest while for non-farm activities is the highest at Rs. 145 per day which is higher by over two and half times as compared to those engaged in agriculture and allied activities. Even per person day earnings are much higher for labour input engaged in casual wage works (Rs.76 per day) compared to agriculture and allied activities.

(iv) Non-farm employment and rural enterprises

Dependence on the non-farm sources of employment and income is pervasive at the household level. A significant part of household income constitutes from non-farm sources (68 per cent). The better off and more educated lot takes advantages of more remunerative opportunities (regular/salaried employment) in the non-farm sector, while poor depends more on unskilled wage employment and transfer incomes (remittance). Field level data amply show highly gender biased work structure in the rural areas of the state as women overwhelmingly work in agriculture-related occupations while their male counterparts work in non-farm occupations. There exits wide diversity of occupational groups across different spatial units, caste and land size classes. Such diversity exists not only in terms of share of employment but also in terms of sources of income.

In order to know the determinants of household income, regression model has been fitted with a view to understanding the relationships between predictor variables and dependent variable (MPCI). The results show that (i) Most of the variables are significant, (ii) Proportion of non-farm employment and per capita land owned are most important variables in explaining the regressand, (iii) Percentage area under horticulture, development index of villages and education levels of households (higher secondary and above) affect positively to the household monthly per capita income.

Field data helps to understand the diversities across different occupational groups within non-farm segments --- the casual wage earners, the regular/salaried workers
and the non-agricultural rural enterprises. Within each segment there are divergent activities and occupational groups with considerable heterogeneity and inequities across different segments of non-farm sector in terms of days of work, average earnings and capital requirements etc. Majority of casual workers belong to sub-marginal and marginal land holding size classes. Most of the casual workers belong to illiterate category and those who have completed middle level schooling. Most of the casual workers are driven desperately from the lower income groups and such intensity gets attenuated in higher income groups. Clearly, the less developed blocks show greater demand for such sporadic nature of employment than the developed ones. On an average casual works provide employment less than 2 months in a year. Males get most of employment in non-agriculture activities while female have limited access to such opportunities. Female get almost one-third lower wages than their male counterparts. Those who possess higher level of education have also better prospects of getting regular/salaried employment. Improving the levels of education is, therefore, necessary in order to promote better-paid regular/salaried employment. Land size classes, educational levels and per capita income groups are positively correlated to the levels of earnings.

In order to ascertain the factors that affect the probability of a person seeking non-farm employment, logistic regression model is run. What clearly emerges strongly from the logistic regression model is that improvement in educational levels has a significant positive impact on their diversification from farm to non-farm occupations. Similarly, enhancement of skill level has considerable positive impact of workforce from farm to non-farm sector activities. This has clear policy message. Improving educational and skill level of workforce would significantly improve chances of employability in the non-farm sector with better income opportunities. This becomes clear from the values of odds ratios.

Majority of enterprises appear to be dominated by service and manufacturing activities with narrow profile of activities. This kind of enterprise-based activities had, however limited product lines, carried out on a small scale with little surplus for reinvestment. Entrepreneurial activities, however, continued within numerous internal and external constraints. But over the years these enterprises are languishing and operating at a low equilibrium trap with little product diversification and surplus. The
major reasons for sickness of these enterprises can be attributed to both the supply and demand side aspects. Education levels of entrepreneurs are low and nearly one fourth is illiterates and nearly half of the entrepreneurs have schooling up to high school level only. Those who are in the highest and lowest income groups scarcely participate in such activities. Family labour is more prominent in the rural enterprises, nearly three fourth employment constitutes family labour and one-fourth hired labour. On an average these enterprise provide employment for about 4 months in a year. Access to credit, technology and market is low and most of the output of these enterprises is meant for the local markets. Input linkages are extremely weak to the local economy and generate little or no value addition to the enterprises. Mean earnings per man day works out to be Rs.145 with large variations across the enterprises. The lowest mean earning is noted for the weavers, which provides highest man-days family employment but earnings are observed to be below than casual wage earners. It is necessary to rejuvenate weaving as a home-based enterprise through variety of promotional measures that has potential to generate strong forward and backward linkages to the local economy. About 27 per cent non-farm workers are illiterates (male accounting for 12 per cent and female 39 per cent) and about 1 per cent posses technical education (none female). Educational status is lower for females in each level of education compared to males. Most of the illiterates are concentrated in weavers, laboureres, shopkeepers, service workers. This has resulted in entry barrier of females in non-farm sector. This findings also supports our hypothesis that low level of education among females has created disparities in employment opportunities in the non-farm sector as their share in non-farm sector is about 11 per cent while share of males accounts for about 41 per cent.

(v) Migration patterns and linkages

Migration has been the common phenomenon in the hill region of Uttarakhand and closely related to the economic backwardness of the region. In fact, out-migration and economic underdevelopment reinforces one another and produces a vicious circle that further accentuates the process of underdevelopment. Out-migration is not an unusual event but constant response to uneconomical agriculture enterprise, fragile resource base (land and forest), environmental
degradation, limited employment opportunities and hence livelihood insecurity. Micro-level studies indicate that male-specific out-migration from the region is huge and has been increasing over the years.

Our survey results also shows that almost half of the surveyed households report out-migration (out-migrating at least one family member) and 23 per cent of sample population is recorded as migrants who out-migrate for different durations according to types of migration. Migration is most widespread among all the social groups and land classes and there is significant diversity in migration streams both in terms of incidence and intensity across social category, land size classes and across region and within the regions.

Long-term migration from the hill region has been the long tradition primarily to eke out their living in towns and cities but of late permanent migration has emerged an important phenomenon with a view to bettering life and investing on children’s education. Our enquiry has revealed this phenomenon clearly.

Permanent migrants are observed to be better off lot than the long-term out-migrants in terms of educational profile, employment and income levels. Remittance forms important source of income particularly for poorer households that depend considerably on such transfer income. Average remittance from the long-term migrants constitutes about 22 per cent and 2.5 per cent from permanent migrants of their annual income respectively. Low incomes and unemployment emerged as the principal reason exerting the decision to out-migrate and push factors dominated over the pull factors.

Implication of remittances to the source area in terms of promoting and accelerating development have been negligible, however it has helped supplement the consumption requirements of people. It has been noted that migrants do maintain strong linkages to the source area through employment, remittance and regular visits.

The survey results support our hypothesis that if horticulture base, in which the region has comparative advantage, is developed it can productively engage its work force in horticulture and eventually help restrict out-migration. Logistic regression results clearly lend credence to our postulations that a large proportion of out-migrants are primarily motivated by push factors. Such outflow of people is concentrated more among disadvantaged social groups and from among casual labour households. Relatively less developed blocks showing higher intensity of out-migration than the
developed blocks. An overwhelmingly large number of the long term migrant workers are without requisite education levels and marketable skills resulting in low incomes and add vulnerability at the place of destination. Lack of opportunities in the local economy pushes them out to find jobs under duress conditions.

III. Policy Implications

Present study brings out the following major issues that have wider ramifications for policy formulation and implementation with a view to improving livelihoods in the region. Some of the results have direct implications for policy and programmes based on evidences drawn from household survey that have great underpinning to evolve long term policy for sustainable livelihood security and raising living standards.

(i) Diversification strategy

Traditional hill agricultural practices have become increasingly uneconomical and therefore there is need for diversifications from field crops to horticulture and non-food crops that have enormous potential for improvement in livelihoods and income generation. FGD results clearly bring out area wise potential of resources. Regression results corroborate the findings that horticulture base has profound positive impact on household incomes. Area studies have also indicated that there has been substantial transfer of area from cereal production to vegetable production with greater advantages to the farmers in terms of income and employment (Badhani, 1998). From the long-term perspective this shift from low value field crops to high value added horticultural crops seems to be most obvious and strategic option in the region. However, lack of proper institutional mechanism such as credit, processing, storage, post-harvesting technologies and marketing network has severely hampered the systemic growth of this sector in Uttarakhand. If all these services are efficiently organised with necessary institutional back up, horticulture can generate significant employment and earning opportunities in the region. In certain parts of the region, in particular lower and middle Himalayas, it offers significant scope for development and even could become lead sector. Establishment of linkages from growers to local processing and to large plants (within and outside region) is most crucial for sustainable growth of the horticulture. Enterprise based activities, based on local resources, is critical for sustainable employment generation and enhancing income levels, which in turn can help improving the living standard of people. With appropriate policy interventions it is possible to develop enterprise-based activities...
that would provide higher income through processing and value addition and help develop upstream and down stream linkages necessary to generate internal momentum of growth. Such enterprise-based activities have been developed in certain parts of hilly region in the HKH region based on niche products. Experience of Himachal Pradesh is worth emulating for development of horticulture. Our findings also support the hypothesis that higher area under horticulture helps restrict out-migration. It is therefore important from policy point of view to promote this segment with adequate support system.

Improving the asset base of the poor is crucial. Present research evidence has shown that poor farm households often lack the assets (such as land, education and skill) that serve as important capacity variables for participating in RNF activities. However, in view of limited availability of cultivable land it becomes extremely difficult policy option to redistribute or distribute land to those who are land less or fall in sub-marginal category. Developing appropriate education and marketable skills are therefore other important policy options for accessing employment in the skilled labour market.

Focus group discussion (FGD) technique was used to generate profile of people's perceptions in selected villages with a view to identifying potentials and constraints of such livelihood opportunities. The discussions were designed to elicit responses pertaining to the villagers perceptions of livelihood issues—the assets, vulnerability, peoples' perceptions for improvement in access to livelihoods and employment opportunities available (Annexure IX.1). Results have shown the availability of location-specific resources that have potential for providing sustainable employment and income opportunities. Policy interventions must be tempered with an understanding of assessing location specific resources and generating livelihood options through optimum exploitation of these resources. Also, voice of poor has been captured through employing participatory rural appraisal (PRA) technique in two villages with a view to incorporating the knowledge and opinions of rural people in the planning and management of development projects and programmes (Annexure IX.2).

(ii) Migration—livelihood option

Out-migration is an important livelihood option in the region, even improved educational levels has not helped to restrict out-migration rather it has accentuated the
process owing to limited opportunities for educated lots. Out-migration, which is indeed huge, has provided a much-needed outlet for excess labour and manpower. But this has obvious implications to household and local economy. High rates of out-migration have led to a significant change in gender roles with women increasingly having to undertake added responsibilities both farm and household works that has tremendously increased their workloads and drudgery. Another related consequence is that there has been a significant increase in the number of female-headed households in the regions. Also, it has implications to the local labour market in the source area in terms of high sex ratio, tightening local labour market thus raising the floor level wages, high female drudgery, involvement of children in cultivation and livestock rearing, long separation from family and family insecurity etc. However, such huge outflow of human resource has limited impact on the local economy in terms of promoting and accelerating development. Regression results show that long term out-migration does not affect household income positively. It is important from policy point of view to enhance the productive base of economy through diversification, industrialisation and focusing on the areas in which it has comparative advantages (e.g., horticulture, micro hydel plants, tourism and other amenity services, for example).

(iii) Development of appropriate educational and skill structure

In spite of relatively distinct resource base and potential for the development of numerous non-farm activities and enterprises in the state, its potential has not been fully exploited to the extent its resource base permit within the constraints of fragile environment. There is a need for converting these physical resources in to outcomes in terms of enterprises with value addition activities, capacity building and human resource development. Results of the present research clearly bring out at fore that technical skill among the workforce is abysmally low (about 1 per cent) and almost half of the women workforce is illiterate. Transformation from the physical in to real resource base would generate demand for numerous types of new skills and competencies, which would ultimately create employment and incomes in the productive activities. For this, the education system has to be made relevant and this would require revamping existing educational system towards meeting the requirements of the emerging skill structure. Relevance implies a correspondence
between the nature of skills required by the enterprises and the type of skills provided by the educational and training institutions.

In this context, vocationalisation of education is of paramount importance with a focus on emerging and market driven oriented trades. It is critical and so central in a rapidly changing economic environment that has profound impact on the production process, the demand pattern and the skill requirements. Such a change in economic structure requires not only huge capital investment but also a workforce that has the flexibility to acquire new skills for new jobs as the structure of economy and occupation changes.

Vocational education is not only grossly inadequate in the state but seems to be less relevant to the needs of economy. In technical courses like ITIs and Polytechnics suffer from declining intake, obsolete trades, poor infrastructure and weak industry-education linkages. Many professional courses are mushrooming, albeit in recent years, but then without corresponding to the emerging demand of economy in terms of skill and competency levels they remain qualitatively at sub-optimal levels. Without any evaluation and impact assessment on regular basis its efficacy to respond the needs of changing economic environment remains largely unknown. Such a situation might result in low returns, which would not be viable form of investment in the long run, and this kind of situation needs to be corrected by setting some standards and benchmarking with a view to improving the quality of these institutions.

Mismatch is largely due to lack of relevance of course curriculum and inflexibility in education system that does not respond to changing economic environment. Unless these technical and vocational courses are qualitatively improved to make them marketable, these would continue to become less relevant to the needs of market.

The policy message seems fairly straightforward. Efforts to improve relevant marketable skills are important in an effort to promote employment into high income and the importance of enhanced rural skill base for development of the RNF sector is incontrovertible. Our regression results clearly reveal that education and skill are strong determinants for enhancing household income.

(iv) Micro-enterprises and its linkages

A substantively large majority of enterprises surveyed appear to be dominated by trade and household manufacturing activities with narrow profile of activities. This
kind of enterprise-based activities have limited product lines, carried out on a small scale with little surplus for reinvestment. There are sizeable constraints in terms of scale and efficiency that results in weak linkage effects. Entrepreneurial activities suffer from numerous internal and external constraints. But over the years these enterprises are languishing and operating at a low equilibrium trap with little product diversification and surplus. The major reasons for sickness of these enterprises can be attributed to both the supply and demand side aspects.

Rural areas appear to be poorly equipped in terms of economic (roads, electricity, communication etc.) and social infrastructures (vocational and training institutions, market information, access to credit institutions etc). Some of these constraints are typically associated with hill specificities (inaccessibility and fragility, for example) that pose constrain to spur entrepreneurial activities. As the survey results show that education levels of entrepreneurs are low and nearly one fourth is illiterates and nearly half of the entrepreneurs have schooling up to high school level only. Also, those who are in the highest and lowest income groups scarcely participate in such activities.

Family labour is more prominent in the rural enterprises, nearly three fourth employment constitutes family labour and one-fourth hired labour. Access to various supply side inputs (e.g. credit, technology and market) is low and most of the output of these enterprises is meant for the local markets. Demand is low primarily because of extremely low incomes and purchasing power of those who work and demand of goods and services. In any case this is an inadequate base for growth. But if demand for its output is to grow significantly, it is necessary to strengthen market linkages. Input linkages are extremely weak to the local economy that generate little or no value addition to the enterprises. Mean earnings per man day works out to be low with large variations across the enterprises. The lowest mean earning is noted for the weavers, which provides highest man-days family employment but earnings are observed to be below than casual wage earners. It is necessary to rejuvenate weaving home-based enterprise through variety of promotional measures that has potential to generate strong forward and backward linkages to the local economy.

It is argued here that mountain areas should primarily focus on niche products in which the region has comparative advantage rather than producing those products that does not have distinct advantage in terms of product and price competitiveness.
However, there is need for evolving special policies and support mechanisms to promote the micro and small enterprises taking into account the diversity and constraints in the regions.

Government of Uttarakhand has initiated several policy measures to promote industrialisation since its formation in November 9, 2000. The first industrial policy of the state was prepared in 2001 and later New Industrial Policy was announced in June 2003. The New Industrial Policy provides various incentives for setting up industries in the state. The thrust industries identified in the state include floriculture, processing of medicinal and herbs, honey horticulture and agro-based industries. The State government on its own has set up many development boards.

Integrated Industrial Policy was launched in February 2008 with a view to accelerating industrial development in the hilly and remote areas through developing industrial infrastructure, encourage entrepreneurship development through variety of promotional measures. The policy focuses on industries in manufacturing and services sectors. These initiatives are in addition to the Industrial Policy, 2003, which aimed at providing comprehensive framework for industrial development in the state.

Formation of independent state has focused the developmental problems in this region and some positive results are visible in terms of increased accessibility, communication and other development works but unless the developmental issues are dovetailed within the hill perspective most of the real issues will remain distant objectives. Employment has been one of the serious problems in the region and the long term employment growth has been abysmally low. Adequate employment opportunities can not be generated unless productive base of economy is enhanced. This would require sector specific development strategies integrating environmental, economic and social components of sustainable mountain development. For this, detailed panning is prerequisite in the region and within regions due to enormous diversity in terms of suitability of land and other resources. In fact, land capability differs considerably according to altitude and slope of the hills therefore there is a need for appropriate land use patterns across regions and sub-regions.