
# Pattern and Context of Rural Livelihoods in Himachal Pradesh

**Planning Department**
**Government of Himachal Pradesh**
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# C O N T E N T S

# P R E F A C E

Some of the livelihood strategies adopted by the people living in varied geo-climatic conditions prevailing in Himachal Pradesh are highly vulnerable to external shocks and internal constraints resulting from tough topography and severe climatic conditions. Livelihoods are further affected adversely by comparatively poor means of communication because of high costs involved in both – creation of physical infrastructure and maintenance of already created physical infrastructure in the tough terrain of the State. Limited scope of expansion of irrigation facilities due to existence of steep slopes and prohibitive magnitude of investment required for lifting irrigation water to higher altitudes as also very high O&M costs of such projects make farm based livelihood options more vulnerable. Relatively poor network of road transport and other means of communication and frequent disruption of vehicular traffic and movement of people due to vagaries of nature make access to market difficult and an costly affair especially, in regard to the interior areas of the high hills of the State. All these factors combined together have forced rural population of the State to adopt supplementary livelihood strategies. The farm sector livelihoods have also diversified to the cultivation of high value commercial crops. This study attempts to map the pattern of livelihood strategies adopted by the people of Himachal Pradesh which are largely determined by the assets and capabilities possessed by them and the environment determined by the social, cultural and political structures and processes. The factors causing vulnerability to the livelihood strategies both in farm and non-farm sector have also been analysed separately. The study, based on the information collected through an extensive survey conducted in the non-tribal areas of the State, information available from the secondary sources and based on the observations made during the fields visits; attempts to draw some inferences and make suggestions and recommendations to ensure long term sustainability of the livelihood strategies of the rural people of the State.

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# EXECUTIVE SUMMARY

With a population of about 60 lakh people (2001 Census)spread across an area of 55,673 square kilometers, Himachal Pradesh became the eighteenth State of Union of India in 1971. In a period of about thirty seven years, Himachal Pradesh has emerged as one of the most progressive States in the country. Levels of development especially in the fields of education, health and physical infrastructure achieved during these years by the State have been praised at different platforms and the development strategy followed to achieve these heights is worth being qualified as model development strategy for hill economies. Himachal Pradesh enjoys the status of being a "Special Category State" along with other hill States of India. Being a Special Category State, it enjoys relatively liberal central assistance for furthering development efforts. Administratively, Himachal Pradesh comprises of twelve districts, two of which are entirely tribal and two Sub-Divisions of another district are also scheduled tribal areas. About 90 percent of its population lives in rural areas and about two thirds of its population is still dependent on agriculture for earning their livelihoods. Most of the area in the State comprises of hills of varying altitude ranging from 1500 mtrs to 6000 mtrs above mean sea level. The climatic conditions prevailing in the State range from sub tropical to sub- arctic cold desert like conditions at higher reaches through warm temperate and temperate conditions. Based on the geographical and climatic conditions prevailing in the State, entire area has been divided into three distinct regions namely; Northern High Hills, Low Hills and Valleys and Plains as elaborated in the first section of the paper.

The livelihood strategies being followed by the people of the State are highly vulnerable to the suffering resulting from tough mountainous terrain, highly fragile environment and erratic behaviour of the weather, especially in high hills. Difficult climatic conditions, geographical conditions and small market size make large scale application of production technology difficult. High cost of creating and maintaining physical infrastructure act as constraints which result in high transportation costs and prolonged transit period in movement of various goods. However, availability of a wide variety of resources locally gives an inherent advantage in producing local resource based commodities. Locally available resources can be utilized through appropriate interventions aimed at application of large scale production technology and providing appropriate market linkages. Although, Himachal Pradesh has emerged as one of the fast developing States of the country, the distribution pattern has been skewed against the rural population inhabiting the interior areas of the State. It is in this context, that the present paper

attempts mapping the livelihood strategies being followed by the people of the State using the assets- physical, human, social and cultural in their possession.

Most of the recommendations made in the first State Human Development Report brought out in 2003, have been accepted by the State Government as is evident from the Annual Plan documents of the State Government and also from the Approach Paper to the Eleventh Five Year Plan of the State. The present paper attempts to incorporate findings and strategy as contained in various government and non government documents, besides information gathered through field survey, and consume these to draw inferences related to livelihoods in the State and make suggestions to make them sustainable.

In the beginning of the paper the structural changes and occupational pattern as they exist today and how they have changed over time have been attempted. An entire section has been dedicated to the assets possessed by the rural population of the State, which it uses in following various livelihood strategies. One section each deals with the livelihoods in farm and non-farm sector, separately. Vulnerability issues and suggestions to improve livelihoods have been dealt with in a separate section. The last section draws conclusions regarding the prevailing pattern of livelihoods in the State and their improvement for long term sustainability.

## CHAPTER-I

## CONCEPTUAL FRAMEWORK AND DESIGN OF THE STUDY

The present study attempts to explore the pattern of livelihood strategies of rural population of Himachal Pradesh in context with the social, political, demographic, climatic and cultural structures and processes. It also makes an attempt to go into the issue of vulnerability of livelihoods of the rural population. A "livelihood" has been taken as the means of earning bread and hence monetary outcome of the livelihood strategies has not been touched in the present study. Similarly, identification of the poor or estimating poverty have been left out of the purview of the study implying that no attempt has been made to assess the number of people who are able to earn their bread or alternatively, not. The study only attempts to go into the issues related to livelihood strategies in Himachal Pradesh and factors responsible for their success or failure in context with the environment in which such strategies are adopted. The word 'environment' has been examined in its broader sense and refers to a complex system of interaction of social, cultural, economic and natural processes and structures. Livelihood strategies have been attempted to be examined as the capabilities, assets and activities required to earn bread. Livelihoods of the urban people have not been taken up deliberately as about 90 per cent of the total population of Himachal Pradesh still lives in rural areas on the one hand, and on account of the fact that urban livelihoods largely imply either public or corporate sector employment and supportive trade and services activities, on the other. The study undertakes an in depth analysis of the access to opportunities and asset ownerships of various categories of rural population which together lead to adoption of a livelihood strategy commensurate with the level of capabilities.

Livelihoods in the present study have been viewed as "Strategic" means of earning bread adopted by an individual or a group of individuals. The term "Strategic" has been used here because any livelihood strategy is a result of the dynamic interaction between capabilities built during the process; assets – physical, monetary and socio-cultural; political, ecological and demographic processes; and already possessed or inherent capabilities. Any change in capabilities, asset ownership or processes may lead to adoption of a considerable change in the livelihood strategy. An individual may not be the best judge to decide about the livelihood strategy to be adopted. However, ultimately it is the individual who takes a final decision after making an assessment – limited by one's capabilities, assets and the processes occurring around. As one has to use all the prudence while adopting a livelihood strategy, any wrong assessment may lead to disastrous results in so far as the issue of outcome of livelihood strategies is concerned. It is in this context that the term

'means of earning bread' has been qualified with the adjective 'Strategic'. It is precisely what has been stated in preceding lines in the context of which the present study attempts an analysis of the pattern of rural livelihoods in Himachal Pradesh and is not intended either to determine household/individual's income or frame poverty estimates.

It is in context with the social, cultural, ecological, political and demographic processes occurring around, and existing institutional framework that the pattern of 'strategic means to earn bread' has been attempted to be studied and analysed. No attempt has been made to determine the proportion of population which is either able to or is not able to succeed in meeting desired ends to these 'strategic means'. The study only maps the pattern of these 'strategic means' and attempts to explore into the factors responsible for adoption of such strategies and the related vulnerability issues. The issue of sustainability of livelihoods has been examined in context with the vulnerability of strategies to trends, seasonality and external shocks. A combination of a basket of assets and the resultant of interplay of the dynamic processes determine a strategy to earn one's bread. The livelihood assets or resources include:

(i) Natural Assets - land, water, genetic resources;

(ii) Financial Assets – cash in hand, savings, production tools;

(iii) Human Assets – knowledge, skills, physical well being;

(iv) Social Assets – affiliations, associations, social networking; and

(v) Political Assets – awareness, participation and networks.

The processes which occur and impact the livelihood strategies can be classified as social, cultural, ecological, political, institutional and demographic. The livelihood strategies are vulnerable not only to trends, seasonality or external shocks but also to the changes in asset ownership or processes which are endogenous in the sense that these changes are either a result of outcomes of the livelihood strategies or result in changes in these. The analysis in the above framework has been attempted cutting across the topographic and climatic regions; sectors bunched into farm and non-farm sectors and issues related to gender.

## Study Design

A comprehensive survey was undertaken to collect relevant information from the Households. Two separate schedules were used to collect information at village level and at household level. Information from the secondary sources has also been used where ever required. One limitation of the study has been that census data for the villages of Kullu district could not be retrieved as villages in Kullu district are still demarcated based on the local system called 'Phati' in local dialect. Any inferences drawn from the census data are not based on the census data pertaining to villages in Kullu district as there is no congruency between census villages and 'Phati' villages. However, data pertaining to all other aspects not based on the census data pertaining to these villages of Kullu district have also been taken into consideration while drawing inferences.

## Research Site

All the districts of Himachal Pradesh except for tribal districts of Kinnaur and Lahaul & Spiti and tribal blocks of Bharmour and Pangi of Chamba district which also constitute the "scheduled areas" have been covered under the present study. Tribal areas of the State have been excluded from the ambit of the study because of extremely hard topographic and climatic conditions prevailing in these areas and diametrically varied livelihood strategies adopted by the people living in these areas. Also, the intervention levels in tribal areas are much higher than those in non-tribal areas. Sixteen Development Blocks were selected in the remaining ten districts of the State for conduct of the survey, out of a total of 68 development blocks spread across 9 complete districts and the "non-scheduled area" of Chamba district.

## Sampling

Multiple stage sampling was done to obtain the sample size of 2341 households. First stage sampling was aimed at obtaining the number of sample districts. For the reasons elaborated in the preceding text, only nine full districts and Chamba district minus its Pangi and Bharmour sub divisions were short listed as first stage sampling units. Second stage sampling units were development blocks and were selected from all the development blocks from the districts short listed as the first stage sampling units. Sample development blocks were selected using random number tables. Third stage sampling units i.e. village Panchayats were again short-listed from all the Panchayats of the sample development blocks using random number tables. Choice of villages as the fourth stage sampling units was left to the field investigators with the specific instructions that no two villages had to be adjoining

if the number of villages in a sample Panchayat is more than two. Similarly the selection of household as the last stage sampling units form the sample villages was left to the field investigators.

The survey was conducted in 94 sample villages selected from 47 Panchayats shortlisted from 16 sample development blocks of 10 districts of the State. Three Panchayats from each of the Development Block were short listed using simple random sampling. Selection of two villages from each sample Panchayat was left to the field investigators with the rider that no two sample villages should have contiguous boundaries if the number of villages in a Panchayat is more than one. A total of 25 households from each of the sample villages were interviewed. Going by the above mentioned criteria, sample size should have comprised of 2400 households from 96 villages of 48 Panchayats , but because sample was finalized based on the random sampling technique, two of the sample Panchayats had one village each and one of the villages had only 16 households, the sample size was reduced to 2341 households. This also reduced number of sample villages to 94.

The advantage with such a big sample which came to the fore while drawing inferences and also during conducting survey was that the sample blocks represented characteristics of three distinctively definable zones based on altitude above the mean sea level, geo-morphology and climate. This zonation is also extremely important in sizing up and comprehending the distinct pattern of livelihoods in these areas in the sense that the environment in which livelihood pursuits are being carried out has a strong bearing on the livelihood outcomes. These three geo-climatic regions are:-

**(i) Northern High Hills**

The altitude in this region is in the proximity of 2000 metres above the mean sea level and above. This region mostly comprises of high hills with steep slopes. The climatic conditions vary from cold temperate to alpine with extreme cold with heavy snow fall during winters and pleasant summers. The region experiences adequate rains during normal monsoons with occasional local rains evenly spread throughout the year. Extreme slopes not only make irrigation impractical to a large extent but also has prohibitory high initial costs and hence incidence of irrigation facilities a rarity. Whatever irrigation facilities are available are in the nature of flow irrigation, otherwise agriculture is largely dependent on natural precipitation. Extreme climatic conditions during winters restrict the number of harvests in a year to two in most of the region and even to one in a few pockets.

The region comprises of sample block of Salooni of Chamba district; Ani and Nirmand blocks of Kullu district; Drang block of Mandi district; and Chauhara and Narkanda blocks of Shimla district. Out of the total 94 sample villages, 18 villages are from this region comprising of 14 villages from either backward blocks or backward Panchayats notified as such by the State Government for purposes of development and 4 villages from the non-backward areas. The blocks and Panchayats in the State have been declared as backward on the basis of a set of objective criteria in terms of connectivity, availability of basic amenities and other infrastructure.

**(ii) Low Hills**

The region has areas with altitude ranging between 1000 metres to 2000 metres above the mean sea level. The region comprises of hills with relatively lower height having slopes ranging from gentle to steep. Climate ranges from cold temperate to warm temperate. Winters are cold and summers are moderately hot. Most parts of the region experience snow fall in varying quantum during the winters though heavy snow fall is rare. Rainfall is mostly received during monsoons but is received in plenty. Annual rainfall received by the Kangra valley in this region is among the highest in the world. Although hills are not very high and slopes are not extreme, yet high costs involved in lifting water restrict availability of irrigation facilities only to a few pockets of the low lying areas leaving the agricultural output largely dependent on monsoons except the areas which have sustainable irrigation systems in place in the nature of gravity channels ***(Kuhls)***.

Of the total sample, 41 villages fall in this region and only eleven out of the sample villages form a part of either notified backward blocks or notified backward Panchayats. Bhatiyat block of Chamba district; Panchrukhi block of Kangra district; parts of Nirmand block of Kullu district; Sangrah block of Sirmaur district; and parts of Kunihar block of Solan district are the sample blocks from this region.

**(iii) Valleys and Plains**

Out of a sample of 35 villages from this region, only 4 belong to notified backward Panchayats. The altitude is less than 1000 metres above mean sea level and the climatic conditions range from warm temperate in a larger part to subtropical in a few pockets. Winters are cold without any snowfall and summers are hot. Majority of the precipitation is received during monsoons. Although the region has better availability of irrigation facilities as compared to those in the high hills and low hills, yet a large proportion of farmers still depend on the natural precipitation for cultivation. Large cost involved in carrying water from far off sources is again a major obstacle in providing the irrigation facilities to all in the region.

Ghumarwin block of Bilaspur district; Bijhri block of Hamirpur district; Lambagaon block of Kangra district, parts of Nahan block of Sirmaur district; parts of Kunihar block of Solan district, Bangana block of Una district; and Mandi Sadar block of Mandi district are the sample blocks drawn from this region.

Above mentioned three distinct zones of Himachal Pradesh have diverse geo-climatic characteristics which surely affect the livelihood strategies of the people living in these zones. Similarly, social and cultural structures in these three zones vary from one another. The obvious inference based on the severity of the prevailing geographical and socio-cultural structure in a region is that the development level and the sustainability of livelihoods of the people living in that region have direct relation with these structures. Tough geo-climatic conditions in Northern High Hills make sustainability of livelihoods tougher as compared to those in other regions were geo-climatic conditions are not so severe. Society in a region where there is limited season for undertaking agriculture related activities during a year because of extremely cold conditions, as they exist in the high altitude habitations of districts of Shimla, Chamba and Kullu, does not have much of interaction with the rest of the world for a better period of the year. The livelihood strategies in these areas are entirely different from those being followed by the people living in the Low Hills and Valleys and Plains where people have exposure to the dynamics of the market forces as they frequently happen to interact with the people from other States which are relatively industrially developed. The market size within the State, catering to the needs of a population of only about sixty lakh people, is too small that most of the people have to be dependent upon the markets in the neighbouring States for disposing off marketable surplus. Finding a market for the cultivators living in Northern High Hills is rather a tough proposition. The livelihoods in these three regions are predominantly based on agriculture but the strategies vary across the regions.

**Village Information**

Village information was collected at two levels; first, a village schedule was designed to collect basic information about the village which is representative of every household of village. Physical and social infrastructure available within the village was also assessed through this schedule. All possible information about social, cultural, political, ecological and institutional processes was also attempted to be collected through this schedule. Intention was to have an assessment of the livelihood assets and processes representative of the village and then classifying the research site into distinct zones representing a set of similar characteristics based on the information collected hence.

Second, a comprehensive schedule was designed to interview twenty five households from each of the sample villages with an objective to obtain information about livelihood assets of and strategies adopted by the households. The households from a sample village were selected for interview randomly thereby providing equal probability to every household of getting including into the sample.

**The Analytical Tools**

As the title of the study suggests that main objective is to make a statement about existing pattern of rural livelihoods in Himachal Pradesh and also to assess the context in which the livelihood strategies have been adopted by the rural population of Himachal Pradesh, no attempt has been made either to determine **household incomes** or to make **poverty estimates**. Although both these attributes in a way impact the manifestation of livelihood strategies, yet these have been ignored and more direct and bold indicators like land ownership, production tools ownership, level of skills and knowledge acquired, level of physical well being and degree of social cohesiveness have been used. These indicators may not quantify the level of economic well being or deprivation in exact terms, however these can be extremely useful in making an assessment of the capabilities, and assets of the people and various processes occurring around which are instrumental in deciding about the pattern of livelihood strategies as has been highlighted in the subsequent sections. Household income and number of poor households have been excluded as indicators of livelihoods from the present study mainly because of the fact that these are merely manifestations of outcome of the livelihood strategies adopted and determination of which, is not one of the objectives of the present study and partially because of non-availability of precise techniques to have accurate estimates of economic well being.

Occupational status has been used as an indicator of the economic activity that an individual was engaged in throughout the year. These economic activities have been classified as main livelihood activities and supplementary livelihood activities as it is a common practice to adopt more than one livelihood strategies for a variety of reasons, especially in the mountainous regions. Main livelihood strategy is the economic activity which an individual undertakes for most of the year i.e. for more than 183 days a year. Supplementary livelihood strategy represents the economic activity undertaken by an individual for a shorter period during a year. Definitions of the occupational status and of occupational categories have been used in the same context as have been used in various census compilations.

An attempt has been made to identify traditional skill based economic activities and their present status. It has been attempted to know if these traditional skill based activities have flourished or are in the process of extinction over the years.

It has also been endeavoured to explore into the factors which have led to the extinction of certain traditional skill based economic activities.

The present study, hence, is an endeavour to comprehensively map the capabilities and entitlements of the rural people of Himachal Pradesh, which in conjunction with the dynamic interplay of various processes, determine the strategic means of earning bread. The study is at variance with the convention of determining household incomes and the number of poor. Study also attempts identifying barriers to the sustainability of livelihood and ends up making prescription for not only making rural livelihoods in Himachal Pradesh sustainable but also for improving resource availability and utilization by adopting to the changes occurring in the market oriented and fast changing economy.

The analysis of various aspects of livelihoods in the three regions of Himachal Pradesh in the present study is largely based on the information collected through field survey. The information collected and exhibited in various tables in different sections may not necessarily be identical with that published in various census reports and other reports and documents by the Government and other organizations. However, the similarity in inferences drawn from these two sets of information is strikingly noticeable. An abnormally large variation between two sets of information, if any, has been explained in the concerned section itself. Tables containing information not compiled from the information collected through field survey are accompanied by the source of data at the foot of the table.

## CHAPTER-II

## STRUCTURAL CHANGES AND OCCUPATIONAL PATTERN OVER THE YEARS

It will be of relevance to look into the structural changes that the economy of Himachal Pradesh has undergone over the years. The chapter also discusses how occupational structure has moved since 1971. Due to the limitations in terms of definitional changes in different census data and non-availability of census data for all the nine categories of workers for the year 2001 and also in order to make the comparison between different census data easy to understand, the comparison has been made only of selected categories. The section makes an attempt to see if the structural changes in the economy of Himachal Pradesh have caused the occupational structure to move in the same direction and if there has been any change in the productivity of workers in a particular sector. The section also takes into account the increasing number of Government employees in Himachal Pradesh and how this number has grown over the years. The section concludes by making some inferences based on the discussion highlighted in this section.

The morphological and climatic conditions prevalent in Himachal Pradesh have natural advantage in taking up agriculture based livelihoods as primary means of earning bread. A wide degree of variation in the climatic conditions within the State also allows diversifying the agriculture based livelihoods. In the late 1940s when Himachal Pradesh came into existence as part 'C' State, the agricultural production was largely confined to the traditional Rabi and Kharif crops and stray cultivation of apple and some stone fruits in the name of horticultural produce. A large scale diversification, both in agriculture and horticulture, has occurred since then. People of Himachal Pradesh have diversified into production of cash crops like ginger, potato, off-season vegetables, kiwi, cherries, hops and have ventured into fields like apiculture and mushroom production. It is observed that even today about two third of the total population of Himachal Pradesh still depends on agriculture in the pursuit of their livelihoods. Although the contribution of primary sector to the Gross State Domestic Product has declined over the years, yet the proportion of total population engaged in agriculture based activities has remained more or less unchanged. There is an imminent need to explore on a separate front if this inference can be attributed to inaccurate recording of the facts. Table 2.1 exhibits how the contribution of three

sectors of the economy of Himachal Pradesh to the Gross State Domestic Product has changed over the years.

***Table 2.1: Sectoral contribution to Gross State Domestic Product***

**(%age of GSDP)**

| Year | Primary | Secondary | Tertiary |
|---|---|---|---|
| 1950-51 | 71.01 | 9.50 | 19.49 |
| 1960-61 | 63.14 | 9.71 | 27.15 |
| 1970-71 | 58.56 | 16.73 | 24.71 |
| 1980-81 | 50.35 | 18.69 | 30.96 |
| 1990-91 | 37.82 | 25.03 | 37.15 |
| 1992-93 | 38.65 | 24.81 | 36.54 |
| 1996-97 | 32.65 | 24.81 | 36.54 |
| 1996-97 | 32.65 | 30.17 | 37.21 |
| 1997-98 | 31.92 | 30.40 | 37.68 |
| 1998-99 | 27.58 | 32.34 | 40.08 |
| 1999-2000 | 26.41 | 33.01 | 40.58 |
| 2000-2001 | 25.87 | 34.62 | 39.51 |
| 2001-2002 | 27.00 | 33.31 | 39.69 |
| 2002-2003 | 25.42 | 33.44 | 41.14 |

Source: DES, Himachal Pradesh

The decade of 1950s witnessed very large contribution from the primary sector to the Gross State Domestic Product. It contributed 71.01 per cent of the total GSDP. The services sector (the terms 'services sector' and 'tertiary sector' have been used interchangeably in the present context) contributed next to the primary sector and the presence of secondary sector in the economy of Himachal Pradesh was small during the decade of fifties. Since then the share of primary sector in the GSDP has declined gradually and came down to 25.42 per cent in the year 2002-03. This is an indication to the fact that the State's economy has diversified from the traditional agrarian society to an economy which has also started getting considerable contribution from the services and manufacturing sectors in its GSDP. The services sector has grown at a faster rate than the secondary sector. This fact needs to be assimilated into analytical framework with great care. The share of services sector has grown rapidly as compared to other aggregates on account of the fact that government spending on revenue account has been growing at a very fast rate due to increase in the number of government employees on the one hand, and increases in the salary outgo per capita, on the other. Not only has the economy itself diversified into non-farm sector activities but livelihood strategies in the primary sector have also diversified into more lucrative production activities which have ready market available with handsome returns. A recent phenomenon observed during the decade of 1990s

is that a very large number of farmers have realized the potential of growing and marketing off-season vegetables, especially when they find place in the markets of neighbouring States at a time when the stock of locally grown vegetables is extinguished. However, production of off-season vegetables is only confined to the areas where irrigation facilities are available in good measure as production of these vegetables requires large quantity of water for irrigation.

The analysis of shift in structure of economy is of little relevance if the changes in occupational pattern of working population are not taken into account and analysed simultaneously. Table 2.2 tries to capture the shift in occupational pattern of working population of Himachal Pradesh over the years. As stated earlier, limitations in terms of incomparable figures available for different census years, only a few categories have been selected for comparison. Moreover, the purpose is to see if the shift of structure of economy from being a traditional agrarian economy to a diversified economy with more weightage to service and manufacturing sector has also resulted in a corresponding movement of working population from the agricultural sector to secondary and tertiary sectors.

***Table 2.2: Changes in occupational structure***

***(%age of total population)***

| ***Category*** | ***1971*** | ***1981*** | ***1991*** | ***2001*** |
|---|---|---|---|---|
| Total workers | 36.80 | 42.38 | 42.82 | 49.24 |
| out of which | | | | |
| i) Cultivators and agricultural labour | 75.82 | 57.46 | 53.48 | 68.65 |
| ii) All other occupations | 24.18 | 42.54 | 46.52 | 31.35 |
| Non workers | 63.20 | 57.62 | 57.18 | 50.76 |

Source: Census Data

It can be seen from the above table that the proportion of working population engaged in cultivation and as agriculture labour has declined from 1971 to 1991. This indicates that the workers released from the agriculture sector have been able to find jobs in the secondary and tertiary sectors. However, an increase in the proportion of workers in the agriculture sector has been observed during the decade of 1990s. There are three possible reasons for this shift in occupational structure of working population. First, the success of the population earning handsome returns engaged in the production of off-season vegetables at large and fruits to some extent may have acted as a motivation for more and more people to adopt this activity as the means of earning their livelihoods. Second, most of the industrial activity in Himachal Pradesh is concentrated in the industrial belts which have their boundaries with the neighbouring States of Punjab, Haryana and Uttarakhand. Most of the entrepreneurs

in these areas are from outside the State and prefer to employ people with necessary skills. As a little proportion of working population of Himachal Pradesh possesses these skills, these entrepreneurs have no alternative but to employ people from neighbouring States with necessary skills. This could possibly direct the working population of Himachal Pradesh to look back to agricultural sector for any gainful employment. This results in underemployment in agriculture sector and consequently in low productivity per worker engaged in farm sector. Third, the fact that people of Himachal Pradesh lack necessary technical skills brings in an inherent bias against the people of Himachal Pradesh when it comes to the question of employing local population in secondary and tertiary sectors. This again leaves the working population of Himachal Pradesh with no other alternative but to look for employment opportunities in agriculture sector. All the three factors listed above may have caused an increase in the proportion of working population engaged in agriculture during the decade of 1990s. At the empirical level, it needs to be taken note of that the share of primary sector declined from 58.56 per cent in 1970-71 to 27 per cent in 2001, the share of workers engaged in agriculture declined from 75.82 per cent to 68.65 per cent for the corresponding years; clearly implying a fall in per worker productivity in the primary sector. This situation inevitably leads to pursuit of multiple livelihood strategies in the context of Himachal Pradesh.

**Table 2.3: Proportion of Workers to the Total Population**

| | Main Workers | | | Marginal Workers (Excluding Seekers) | | | Total Workers | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| Chamba | 27.87 | 40.27 | 14.95 | 17.91 | 8.03 | 28.22 | 45.78 | 48.30 | 43.16 |
| Kangra | 25.14 | 36.63 | 13.93 | 14.90 | 8.75 | 20.90 | 40.04 | 45.38 | 34.83 |
| L&S | 57.82 | 63.96 | 50.15 | 4.30 | 3.05 | 5.85 | 62.11 | 67.01 | 56.00 |
| Kullu | 43.69 | 50.57 | 36.27 | 11.17 | 7.54 | 15.08 | 54.86 | 58.11 | 51.35 |
| Mandi | 29.85 | 39.44 | 20.39 | 15.94 | 7.49 | 24.28 | 45.79 | 46.93 | 44.67 |
| Hamirpur | 29.05 | 35.35 | 23.31 | 17.40 | 10.90 | 23.31 | 46.44 | 46.25 | 46.62 |
| Una | 26.56 | 41.07 | 11.99 | 15.38 | 7.67 | 23.12 | 41.94 | 48.74 | 35.12 |
| Bilaspur | 32.46 | 40.50 | 24.35 | 12.91 | 6.92 | 18.96 | 45.37 | 47.42 | 43.31 |
| Solan | 34.42 | 50.76 | 15.23 | 15.01 | 6.60 | 24.88 | 49.42 | 57.36 | 40.10 |
| Sirmaur | 38.36 | 48.84 | 26.73 | 9.32 | 5.49 | 13.58 | 47.68 | 54.32 | 40.31 |
| Shimla | 42.31 | 51.63 | 31.92 | 7.23 | 3.86 | 10.98 | 49.54 | 55.49 | 42.90 |
| Kinnaur | 51.46 | 59.36 | 42.26 | 8.32 | 5.64 | 11.43 | 59.78 | 65.00 | 53.69 |
| HP | 32.31 | 43.18 | 21.09 | 13.68 | 7.27 | 20.29 | 45.99 | 50.45 | 41.38 |

Source: Based on Census 2001

The Census data of 2001 show that 50.76 per cent of the total population is non-worker in the State. Out of the total non-workers, 56.33 percent are females. Only 43.67 percent of total workers are females. The proportion of total female marginal workers to female population is 22.58 percent whereas; this proportion of males is

only 11.44 per cent. Proportion of main workers to total population is also much less for females as compared to that for males. These figures are adequate indication to infer that the females experience discrimination when it comes to their economic empowerment. The worrying fact is that out of total female workers, only 50.96 percent are main workers whereas 85.59 percent of the total main workers are male workers. (Tables 2.3 and 2.4). This means that the sustainability of livelihoods of females in the State is more vulnerable to various factors than those of the males. The situation is worst in Una followed by Chamba, Solan and Kangra districts. In these districts about three fifths of the total female workers are marginally employed.

**Table 2.4: Proportion of Main and Marginal Workers out of Total Workers**

| | Main Workers | | | Marginal Workers (Excluding Seekers) | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| Chamba | 60.87 | 83.37 | 34.63 | 39.13 | 16.63 | 65.37 |
| Kangra | 62.79 | 80.72 | 39.99 | 37.21 | 19.28 | 60.01 |
| L&S | 93.08 | 95.44 | 89.55 | 6.92 | 4.56 | 10.45 |
| Kullu | 79.64 | 87.03 | 70.63 | 20.36 | 12.97 | 29.37 |
| Mandi | 65.19 | 84.04 | 45.64 | 34.81 | 15.96 | 54.36 |
| Hamirpur | 62.54 | 76.44 | 50.00 | 37.46 | 23.56 | 50.00 |
| Una | 63.32 | 84.27 | 34.16 | 36.68 | 15.73 | 65.84 |
| Bilaspur | 71.54 | 85.40 | 56.22 | 28.46 | 14.60 | 43.78 |
| Solan | 69.63 | 88.49 | 37.97 | 30.37 | 11.51 | 62.03 |
| Sirmaur | 80.45 | 89.90 | 66.30 | 19.55 | 10.10 | 33.70 |
| Shimla | 85.41 | 93.04 | 74.40 | 14.59 | 6.96 | 25.60 |
| Kinnaur | 86.09 | 91.32 | 78.71 | 13.91 | 8.68 | 21.29 |
| HP | 70.26 | 85.59 | 50.96 | 29.74 | 14.41 | 49.04 |

Source : Based on Census 2001

An important source of employment in Himachal Pradesh has been the employment in Government sector. There has been a general tendency among the people of Himachal Pradesh to look forward to the Government for providing employment because of the lack of employment opportunities in the manufacturing sector as also poor presence of private sector at large. Over the years the Government has also provided employment to a very large number of people in Himachal Pradesh. In fact, the proportion of Government employees per hundred of population is among the highest in the country. Although very severe topographic and climatic conditions may support the idea that a large number of Government employees are a necessary prerequisite to ensure a successful implementation of the Government programmes, yet, the employment of a large number of people in Government has started adversely impacting and further aggravating the already delicate fiscal balance of the State Government. Table 2.5 gives an idea as to how the number of Government employees has increased over the years in Himachal Pradesh. The table gives the growth in the number of Government employees since

1970 i.e. a year before Himachal Pradesh became a full fledged State. The proportion of Government employees per hundred of population of the State is still at relatively higher level in the year 2003.

***Table 2.5: Number of Government Employees in Himachal Pradesh***

| *Year* | *Number of Government Employees (All)* | *Government Employees per hundred of population* | *Number of Government Employees (only regular + work charged)* | *Number of Government Employees(Regular)* | |
|---|---|---|---|---|---|
| | | | | *Total* | *Female** |
| 1970 | 120844 | 3.49 | 69136 | NA | NA |
| 1979 | 219633 | 5.14 | 82854 | NA | NA |
| 1980 | 205499 | 4.80 | 86122 | NA | NA |
| 1981 | 228243 | 5.22 | 90610 | NA | NA |
| 1987 | 200640 | 4.06 | 107916 | 101395 | 15878(15.7) |
| 1988 | 200379 | 3.97 | 108918 | 103211 | 16591(16.1) |
| 1991 | 184640 | 4.06 | 119285 | 113851 | 19794(17.4) |
| 1995 | 198698 | 3.52 | 127516 | 115493 | 21241(18.4) |
| 1996 | 208335 | 3.63 | 135660 | 117944 | 22150(18.8) |
| 1997 | 211918 | 3.63 | 139997 | 120703 | 23290(19.3) |
| 1998 | 213980 | 3.60 | 144665 | 123626 | 24905(20.1) |
| 1999 | 222804 | 3.69 | 155697 | 131919 | 27682(21.0) |
| 2000 | 229095 | 3.77 | 163912 | 136085 | 29218(21.5) |
| 2001 | 231153 | 3.74 | 170883 | 139882 | 30422(21.7) |
| 2002 | 230650 | 3.67 | 173099 | 144446 | 31193(21.6) |
| 2003 | 232230 | 3.63 | 176244 | 147039 | 31649(21.5) |
| 2004 | 226972 | 3.48 | 176625 | 146933 | 32001(21.8) |

Source: DES, Himachal Pradesh

* Figures in parenthesis represent the percentage of female regular employees out of total regular employees.

It is easily inferred from the above table that the growth of the Government employees was the highest during the period between 1970 and 1980. A compound annual growth rate of 5.44 per cent in the number of Government employees was observed during this period. The number of Government employees declined gradually after the year 1981 but the proportion of Government employees to per hundred of population at 3.63 in 2003 is still among the highest in the country. Although, after realizing that such large proportion of Government employees consumes a large proportion of total revenue receipts of the State and this consumption further aggravates if pensions are taken in to account, the Government has taken measures to contain total strength of Government employees as also the costs of providing critical services. The proportion of female regular employees to the total regular employees has also grown from 15.7 per cent in 1987 to 21.8 per cent in 2004, which is a positive indicator considering the large initial stock. If the incrementals for the same period are compared, the total number of regular government employees increased by 44.9 per cent, whereas the number of regular female employees increased by 101.5 per cent.

The fact that more and more people are reverting to agriculture for earning their livelihoods despite a considerable decline in the contribution of primary sector to the GSDP stresses upon the need to take necessary steps to raise productivity of workers engaged in farm sector. Depending upon the strategy involving intensification or extensification of farm operations, necessary steps are required to be taken so that appropriate productivity raising inputs are provided where intensification of farm operations is required and to bring more land under cultivation where extensification of farm operations is feasibility. Immediate interventions as stated above are imperative lest growth of farm sector should get arrested due to low productivity per worker in farm sector.

Necessary interventions are also required immediately to ensure that appropriate steps are taken to upgrade the skills of population of the State so that they find a place in the highly competitive market. The skill upgradation programmes need to have an orientation in line with the requirements of rapidly opening up markets. Once workers with adequate skills are available in the domestic market, their chances of getting employment within the State are higher. However, this does not undermine the role of Government in ensuring larger employment of local people in the industrial units set-up by the entrepreneurs from outside the State. The Government also needs to emphatically and explicitly convey a clear message to the people of Himachal Pradesh that the Government sector is not the only opening for the people of the State for getting employment and there are other sectors coming up where the employment with little skill acquisition is easier and more lucrative than the jobs in the government sector. More so, the possibility of expansion in employment in the Government sector will continue to become more and more constrained as the saturation levels are reached in the levels of service outreach and even the future hiring for the existing stock of services assumes a different context. Government also needs to make people aware of the large number of available openings for self employment. However, creation of a favourable environment where people engaged in pursuing various livelihood strategies are able to sustain them is a responsibility of the State. These interventions need synchronization with the structural reform programme of the central government on the one hand and also need to have an in-built mechanism to ensure that the livelihood strategies of the vulnerable sections of the society do not get adversely impacted by any of the interventions, on the other.

**CHAPTER-III**

# ENABLING ENVIRONMENT: ASSETS, CAPABILITIES, POLICY AND PROCESSES AS TOOLS OF LIVELIHOODS

People are the ultimate stakeholders of any livelihood strategy. Any exploration into the livelihoods of rural poor must seek to attain as accurate and realistic an understanding of people's strengths as possible and how the rural poor endeavour to convert assets into the positive livelihood outcomes. This section of the paper is based on the belief that people need to acquire a variety of assets to achieve positive livelihood outcomes. No single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. This is particularly true for the people whose access to any given category of assets tends to be very limited. As a result they have to seek ways of nurturing and combining what assets they do have in innovative ways to ensure survival[1].

This section takes stock of the assets and capabilities people possess and the processes occurring in the surrounding environment, in the context of which, the most suitable combination of assets and capabilities is used to adopt a livelihood strategy. Asset endowment has been categorized into human, which also enhances capabilities more directly, physical and financial. Processes occurring pertain to social, political and institutional categories. Inter-regional comparison of these indicators has been attempted. The following text contains inter regional comparison of some of the indicators representing asset endowment, possession of capabilities and incidence of processes.

## A. DEMOGRAPHIC

### i. Sex Ratio

The sex ratios as observed from the sample bring out a different picture *vis-à-vis* what is reported by the 2001 census data. Table 3.1 gives inter-regional comparison of sex ratios – overall as well as for the population in the age group of 0-6 years. Table also compares sample data with the census data. Sex ratios have been worked out based on the sample data and on the basis of census 2001 data for all the sample villages taken together. Census data has been worked out by taking simple averages of sex ratios in the sample villages. Census data for the age group between

[1] Sustainable Livelihoods Guidance Sheets, Department for International Development, London.

0-6 years presents a grave situation in as much as it depicts a serious decline in the sex ratio as compared to the 1991 census. However, same indicators worked out from the sample data present to an extent entirely different picture. Northern High Hills have an extremely favourable sex ratio whereas in Low Hills it is not so good but nears parity. However, sex ratio observed in the age group of 0-6 years in Plains and Valleys is actually a matter of concern. Low sex ratio in Valleys and Plains has pulled down the sex ratio for all the sample villages considerably.

***Table 3.1 Sex Ratios***

| ***Region*** | ***Sample data*** | | ***Census 2001*** | |
|---|---|---|---|---|
| | ***Overall*** | ***0-6 Years*** | ***Overall*** | ***0-6 Years*** |
| 1. Northern High Hills | 931 | 1067 | 940 | 947 |
| 2. Low Hills | 957 | 984 | 976 | 940 |
| 3. Valleys & Plains | 906 | 791 | 982 | 805 |
| 4. Overall | 932 | 917 | 972 | 888 |

One of the possible reasons for low sex ratio in the age group of 0-6 years in Valleys and Plains can be close proximity of these areas to the neighboring States of Punjab and Haryana where low sex ratio in this age group is being related to mushrooming growth of a large number of private pre-natal sex determining clinics. Other possible reasons for such a low sex ratio in the age group of 0-6 years in Valleys and Plains and also for variation between the sample sex ratios and those based on census 2001 data require an in-depth exploration on a different platform. Sex ratios calculated from the Census 2001 data do not take into account population figures of Ani and Nirmand blocks of Kullu district where sample villages and census villages are not congruent.

**ii. Composition of population by age**

Going by the norm that it is the population in the age group of 15 to 58 years which is economically active, it would be relevant to know age composition of the sample population. Table 3.2 gives an idea about age composition of the sample population in three distinct regions of the State. About three fifth of the total sample population comprises of the economically active group in the age group of 15 to 58 years. This proportion in all the three regions is almost similar with slight variations. Assuming that with a better delivery mechanism of the basic health care services,

***Table 3.2 : Composition of Population by age***

*(As proportion of total population)*

| *Age group* | *Northern High Hills* | *Low Hills* | *Valleys & Plains* | *All villages* |
|---|---|---|---|---|
| 0-6 Years | 11.7 | 15.71 | 12.14 | 13.53 |
| 7-14 Years | 13.92 | 17.31 | 13.69 | 15.27 |
| 15-58 Years | 66.86 | 59.07 | 63.89 | 62.46 |
| 58 Years & above | 7.65 | 7.91 | 10.28 | 8.74 |
| All Groups | 100.00 | 100.00 | 100.00 | 100.00 |

Source : Based on the sample data

crude birth rate and crude death rate decline in the coming years, the proportion of economically active group in total population is likely to decline and population with the age of more than 58 years is likely to increase. This is going to affect the dependency ratios taken as the ratio of economically inactive population (population between the age group of 0-14 years plus population above 59 years) to economically active population (population between 15-59 years of age) adversely. If the population in the age group of 0-14 years does not come down considerably, increased dependency of economically inactive population on the economically active component will have wide range of ramifications in terms of change in livelihood strategies.

It would be relevant here to make a mention of the demographic transition that the State of Himachal Pradesh has undergone over the years. A look at the Crude Birth Rates, Crude Death Rates and Decennial Growth Rates of population since 1971 would reveal that the Himachal Pradesh is already in the second phase of demographic transition i.e. the 'Stage of Population Explosion' and is now approaching the end of second stage. In the decade of 1970s both the birth rate and death rate were high at 37.3 and 15.6, respectively (SRS, Directorate of H&FW, Himachal Pradesh). Decennial growth rate of population during the decade of 1970s was 23.71 per cent as per the census data. Decennial growth rate of population during the decade of 1990s has come down to 17.53 as per the census data. Crude Birth rate for 2001 was 21.2 and the Crude Death Rate for the year 2001 was 7.1. Death rate has come down considerably due to the availability of better health services over the period of thirty years, however, birth rate is too high to consider the State in the third stage of demographic transition where both the Crude Birth Rate and the Crude Death Rate are low and the population grows at a constant but low rate. Although population growth rate of 1.75 per cent per annum together with the Crude Birth Rate of 21.2 bring the State of Himachal Pradesh quite near to qualifying it to be in the third stage of demographic transition yet, these require a considerable downward

movement and hence, the State of Himachal Pradesh can be said to be at the end of the second stage of demographic transition knocking at the door of the third stage. A lot of efforts are still required to get the State into the third stage of demographic transition.

During the second stage of demographic transition, which can be stated to have commenced during the decade of 1960s (decennial growth rate of population being 17.87 per cent as per the census data), the State of Himachal Pradesh has witnessed a rapid growth in population. With the beginning of the process of development, the living standards of the people have improved, education has expanded, medical and basic health services have improved and almost all the contagious diseases have been eradicated by the committed efforts of the government. These developments have brought down the Crude Death Rate in Himachal Pradesh from 15.6 in 1971 to 7.1 in 2001 as per the Sate SRS. However, as the occupational structure of the State's economy primarily being agrarian, and with about one fourth of its population still being illiterate, attitude of the people of Himachal Pradesh towards the size of the family has not changed radically and the Crude Birth Rate has remained high.

### iii. Literacy

Possession of knowledge through a formal arrangement enhances capabilities not only by increasing levels of knowledge but also by knowing the ways to put already acquired knowledge through informal means into practice. Livelihood strategies supported with enhanced capabilities have higher chances of sustaining themselves for a longer period of time. Literacy rates of the sample population by sex have been summarized in the table 3.3. Same table also contains literacy rates taken

***Table 3.3 : Literacy rates of sample population***

| *Region* | *Total* | *Male* | *Female* |
|---|---|---|---|
| **A – Overall** | | | |
| Northern High Hills | 69.69 | 80.39 | 58.19 |
| Low Hills | 71.21 | 79.86 | 62.17 |
| Valleys & Plains | 77.08 | 83.33 | 70.19 |
| **Total** | **73.11** | **81.29** | **64.34** |
| **B. Excluding population in the age group of 0-6 years** | | | |
| Northern High Hills | 76.57 | 87.77 | 59.17 |
| Low Hills | 81.67 | 91.39 | 71.45 |
| Valleys & Plains | 87.46 | 95.37 | 78.89 |
| **Total** | **82.78** | **92.13** | **72.77** |

Source : Based on the sample data

as the proportion of total number of literates to the population minus total population in the age group of 0-6 years. Normally, population in the age group of 0-6 years is not expected to be literate and excluding this age group from the list of population eligible for being literate is more a meaningful indicator of the achievements in terms of literacy. However, for the purpose of ascertaining the quantum of effort to be put in to achieve the target of universal occurrence of literates, literacy ratio worked out by including the population in the age group of 0-6 years is more meaningful.

It is clear from the table 3.3 that Valleys and Plains are better off than the other regions in terms of the literacy attribute. The analysis of census data over 1991-2001 reveals a strong correlation between higher sex ratio and higher literacy in various districts. This pattern does not seem to be holding true in case of Valleys and Plains where sex ratio is the lowest despite having highest literacy rate among all the three regions under consideration.

**iv. Enrolment Ratios**

The proportion of eligible children in an age group going to school is an indicator to the capability enhancement of the future generation who would follow a livelihood strategy on the basis of acquired knowledge, skills and assets. Enrolment ratios for male and female students for primary, middle and secondary levels of education have been worked out by region and are contained in table 3.4. These ratios are again based on the sample and not on the census data. It can be seen that enrolment ratios in the Northern Hill Hills are the lowest for primary classes. A careful

***Table 3.4 : Enrolment Ratios***

| *Region* | *Male* | *Female* | *Total* |
|---|---|---|---|
| A – Northern High Hills | | | |
| I-V | 93.49 | 91.47 | 92.46 |
| VI-VIII | 100 | 95.08 | 97.83 |
| IX-XII | 91.01 | 82.19 | 87.04 |
| B – Low Hills | | | |
| I-V | 98.94 | 99.29 | 99.11 |
| VI-VIII | 98.89 | 97.52 | 98.17 |
| IX-XII | 89.13 | 86.06 | 87.67 |
| C – Valleys &Plains | | | |
| I-V | 95.13 | 96.43 | 95.69 |
| VI-VIII | 97.84 | 97.76 | 97.81 |
| IX-XII | 96.89 | 91.75 | 93.83 |
| D –Overall | | | |
| I-V | 97.42 | 98.22 | 97.79 |
| VI-VIII | 98.44 | 97.13 | 97.79 |
| IX-XII | 91.09 | 76.88 | 89.67 |

Source : Based on the sample data

look at the Table 3.4 would reveal that drop out rates between primary and middle levels of education are either nil or negligible and are very low beyond middle level upto secondary level. This has been a great achievement of the Government having succeeded in retaining a large number of students at least upto secondary level. The Government has also succeeded in achieving high enrolment ratios for females.

Acquiring a certain level of education through the formal system of education is likely to enhance one's capabilities to a larger extent than being a mere literate. Possessing higher attainment in education or acquisition of vocational training can supplement the capabilities an individual already has in choosing a livelihood strategy. Table 3.5 contains proportion of total literates that have already acquired a certain level of formal education. These do not include those who are in the process of improving educational acquisitions but include those who have already acquired a certain level of formal education. The reported level of education in all cases has been the one which has already been achieved and not the one which is in the process of being achieved. The table shows that about one half of total literates in all the regions is either primary pass or has completed formal education below primary level. This proportion of literates is the highest in Low Hills. The proportion of graduates is the highest in the Northern High Hills. The worrying fact remains that the proportion of literates having obtained vocational training is very low ranging from 1.81 per cent to 2.51 per cent of all the literates. An individual with technical skills is more likely to engage in a sustainable livelihood strategy than the one who is just literate and is without technical skills.

***Table 3.5 : Level of education already achieved by sample population***

***(persons with a level as proportion of total literates)***

| | Just literate | Primary | Middle | High School | Sr. Sec. School | Graduate | Post Graduate | Doctors | Engineers | Others | Vocational training |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Northern H. Hills | 19.51 | 23.87 | 15.04 | 22.48 | 8.95 | 5.31 | 1.51 | 0.94 | 0.16 | 0.00 | 1.81 |
| Low Hills | 23.32 | 27.96 | 15.67 | 18.73 | 7.34 | 2.96 | 1.55 | 0.22 | 0.09 | 0.02 | 2.14 |
| Valley & Plains | 16.68 | 20.25 | 17.97 | 27.43 | 9.63 | 3.82 | 1.69 | 0.01 | 0.01 | 0.00 | 2.51 |
| Total | 19.96 | 24.12 | 16.53 | 22.89 | 8.56 | 3.75 | 1.6 | 0.29 | 0.01 | 0.00 | 2.29 |

Source : Based on the sample data

Awareness about the available choices is a pre-condition to exercise a choice. Media has a major role in creating awareness about various aspects of life.

Newspaper is the oldest and most widely known medium of information, performing the function of spreading awareness. Household schedule sought a response from the respondents about newspaper readership. It was found that about one third of total literates only read newspaper at least once in a week. Table 3.6 gives a comparative picture in this aspect in three different regions. The proportion of female literates reading newspaper at least once in a week is less than those for males. However, the differential is not very large except in Valleys and Plains. Here the Government and private players in print media can enter into a partnership where both will gain. The Government will succeed in achieving its objective in making people aware of the choices whereas private players can increase their profits by increasing sales through raising newspaper readership. This partnership will not bring in any extra costs at least to the Government. This does not undermine the role of electronic media in creating awareness, which is increasingly becoming a more prominent vehicle of spreading knowledge and information.

***Table 3.6 : Proportion of literates who read news paper at least once in a week***

| *Region* | *Male* | *Female* | *Total* |
|---|---|---|---|
| Northern High Hills | 37.8 | 32.04 | 35.48 |
| Low Hills | 38.45 | 35.74 | 37.29 |
| Valleys & Plains | 38.55 | 28.91 | 33.62 |
| **Total** | **37.84** | **32.31** | **35.49** |

Source : Based on the sample data

Looking at the correlation between levels of educational attainment as presented in Table 3.5 earlier and newspaper readership data in table 3.6, it is evident that educational attainment above middle school level and newspaper readership has a very strong positive correlation.

## B. ASSETS AND CAPABILITIES IN TERMS OF PHYSICAL WELL BEING

This section attempts to capture the physical well being of the sample population in terms of access to basic health services, incidence of institutional deliveries over the period of last twenty five years, infants who survived beyond one year of age, immunization status of surviving children and pre natal maternal care. This section also goes into the issue of exercising one's choice in opting for a Government or a private institute for seeking basic health care services. Tables 3.7, 3.8 and 3.9 give a brief idea about the mother child health care in three regions of the State under study. Although the proportion of institutional deliveries has increased over time yet a large proportion of total deliveries reported are still non-institutional.

The proportion of male infants and female infants born out of total reported deliveries has achieved parity in the Northern High Hills, however, no correlation between the increase in proportion of females born and pre natal awareness of sex of foetus can be established. Infant Mortality Rate calculated as number of infants died before attaining the age of one year per one thousand deliveries reported both for males and female has varied a lot over the study period of twenty five years. However, it is reasonably low in the Northern High Hills. Proportion of bearing mothers having undergone institutional prenatal health care has also improved considerably over the years in Northern High Hills. Proportion of surviving children fully immunized has also improved over time and is nearing the universalization level. In response to the question as to why the respondent had not opted for institutional delivery, 63 per cent of the bearing mothers who reported non institutional deliveries during last twenty years had responded by saying that it was just because of the convenience or convention that they opted for non-institutional delivery. 36 per cent of the respondent mothers replied that non-availability of an institute at a reasonably comfortable distance forced them to opt for non-institutional delivery. Only 1 per cent of the respondent mothers blamed non-availability of the qualified health staff for opting for non-institutional delivery.

***Table 3.7 : Mother-child Health care in Northern High Hills***

| Time period | % of Institutional deliveries | Percentage of | | No. of infants per thousand of live births who died before attaining the age of one year | | Percentage of bearing mothers aware of sex of foetus | Percentage of mothers who had institutional pre natal maternal care | Immunization status of surviving children (%) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Male deliveries | Female deliveries | M | F | | | Partially Immunized | Fully Immunized | Not Immunized at all |
| 1980-85 | 9.71 | 65.93 | 34.07 | Nil | 22 | Nil | 30.97 | 75.91 | 19.55 | 4.54 |
| 1985-90 | 11.21 | 56.89 | 43.11 | 9 | 9 | 0.43 | 45.26 | 39.04 | 57.55 | 3.41 |
| 1990-95 | 14.33 | 53.24 | 46.76 | 20 | 3 | 0.35 | 63.48 | 18.72 | 78.84 | 2.44 |
| 1995-2000 | 26.64 | 50.65 | 49.35 | 0 | 0 | 0.44 | 86.03 | 5.24 | 94.32 | 0.44 |
| 2000-2004 | 37.26 | 50.00 | 50.00 | 9 | 9 | Nil | 98.92 | 2.23 | 97.32 | 0.45 |

Source : Based on the sample data

Low Hills have performed relatively poor in terms of number of non-institutional deliveries reported over the years. The proportion of institutional deliveries reported during the period between 2000 and 2004 was just 23.05 per cent where as it was 37.26 per cent in Northern High Hills for the same period. However, a gradual improvement in this proportion since 1980 is a big consolation. A slight tilt in favour of the proportion of female deliveries has been observed during the reporting period. Infant Mortality Rates for males as well as for females were within reasonable limits

except for males for the period between 1995-2000 and for females in the period between 1980 and 1985. Incidence of knowledge of sex of foetus has increased over the years and is certainly more than what is observed in Northern High Hills. Proportion of bearing mothers undergoing institutional pre natal maternal care has increased and nearing universal coverage gradually but surely. Despite having large coverage of bearing mothers undergone pre-natal maternal care, extremely low incidence of institutional deliveries is difficult to explain. Only possible reason could be that the pre-natal care is provided by the sub-centers whereas institutional deliveries can take place only at the PHC level and above and that too in the ones with indoor facilities. Out of the total mothers who reported non institutional deliveries, around 87 per cent attributed it to convention of following this practice. The status of immunization of surviving children has also shown improvement over time with 97.32 per cent of the total surviving children having immunized fully during 2000-2004.

***Table 3.8 : Mother-Child Health care in Low Hills***

| Time period | Percentage of | | No. of infants per thousand of live births who died before attaining the age of one year | | Percentage of bearing mothers aware of sex of foetus | Percentage of mothers who had institutional pre natal maternal care | Immunization status of surviving children(%) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male deliveries | Female deliveries | M | F | | | Partially Immunized | Fully Immunized | Not Immunized at all |
| | % of Institutional deliveries | | | | | | | | |
| 1980-85 | 6.32 | 61.26 | 38.74 | 3 | 16 | Nil | 30.95 | 64.69 | 32.69 | 2.34 |
| 1985-90 | 10.15 | 54.95 | 45.05 | 6 | 0 | 0.17 | 39.93 | 32.88 | 66.38 | 0.74 |
| 1990-95 | 13.29 | 51.21 | 48.79 | 12 | 3 | 0.3 | 75.23 | 11.42 | 88.43 | 0.15 |
| 1995-2000 | 13.29 | 51.21 | 48.79 | 12 | 3 | 0.3 | 75.23 | 11.42 | 88.43 | 0.15 |
| 2999-2004 | 23.05 | 54.29 | 45.71 | 4 | 8 | 1.91 | 93.33 | 1.92 | 98.08 | 0 |

Source : Based on the sample data

Incidence of institutional deliveries is highest in the Valleys and Plains amongst all the three regions. This can be attributed to high literacy rate among the female population of the Valleys and Plains. However, about half of the deliveries reported are still non institutional. There is an urgent need on the part of the Government to create awareness about importance of having institutional deliveries. Apart from the question of creating awareness, it will also be important for the government to considerably upgrade the quality of services at the PHC level to encourage the recourse to institutional deliveries. Tilt in the proportion of total deliveries in favour of males testifies declining sex ratio in the age group of 0-6 years in the region. The proportion of bearing mothers having knowledge about sex of the foetus is the highest in the region. All care was observed by the investigators to have an exact idea of the practice of pre-natal sex determination, however, it is felt that the

magnitude of the problem could be much more than as has been reported. Many of the respondent mothers would not even like to discuss about it because of the highly sensitive nature of the issue. Indicators of infant death, pre natal maternal care and

***Table 3.9 : Mother-Child Health care in Valleys and Plains***

| Time period | % of Institutional deliveries | Percentage of | | No. of infants per thousand of live births who died before attaining the age of one year | | Percentage of bearing mothers aware of sex of foetus | Percentage of mothers who had institutional pre natal maternal care | Immunization status of surviving children (%) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Male deliveries | Female deliveries | M | F | | | Partially Immunized | Fully Immunized | Not Immunized at all |
| 1980-85 | 8.49 | 64.45 | 35.55 | 4 | 6 | Nil | 36.93 | 57.37 | 40.82 | 1.81 |
| 1985-90 | 12.97 | 50.62 | 49.38 | 4 | 0 | 0.21 | 63.39 | 39.83 | 59.75 | 0.42 |
| 1990-95 | 21.99 | 53.28 | 46.72 | 8 | 9 | 1.69 | 84.14 | 5.97 | 93.39 | 0.64 |
| 1995-2000 | 36.12 | 57.18 | 42.82 | 0 | 5 | 2.63 | 94.02 | 0.00 | 100.00 | 0.00 |
| 2000-2005 | 50.45 | 56.82 | 43.18 | 12 | 16 | 2.93 | 95.16 | 1.15 | 98.85 | 0.00 |

Source : Based on the sample data

immunization of the surviving children can be rated as good in Valleys and Plains and in fact, have been so for all the three regions under consideration. On the basis of the information about number of marriages that took place during last twenty five years in a household by sex and by age, mean age at marriage for males and females has been worked out. Table 3.10 contains mean age at marriage for all the three regions.

***Table 3.10 : Mean Age at Marriage***

**(Years)**

| Region | Mean Age at Marriage | |
|---|---|---|
| | Male | Female |
| Northern High Hills | 22 | 20½ |
| Low Hills | 23 | 20 |
| Valleys & Plains | 25 | 21 |

Source : Based on the sample data

An attempt has also been made to know the proportion of eligible couples having protection against unwanted conception. A stock of the methods being adopted for protection against unwanted conception by the married eligible couples has also been attempted. Based on the information extracted from the eligible couples from the sample households, the aggregates have been presented in table 3.11. About ninety percent of the eligible couples from the sample households have been

protected by one method or the other. Sterilization is the most commonly practiced method of protection in vogue. Proportion of Males undergoing sterilization is very small as compared to those of females in Low Hills and Plains. This differential is not very big in Northern High Hills as the proportion of Males and Females who have been sterilized is almost the same. Use of IUD is almost negligible in all the three regions. Use of contraceptive by females is rare and the proportion of females using OCPs is very little in all the three regions. Considering that out of the total eligible couples those who have temporarily abandoned protection to have another child but were protected otherwise have not been treated as protected couples, the achievement in this regard is great.

***Table 3.11 : Protection against unwanted conception***

| ***Regions*** | ***Percentage of eligible couples protected*** | ***Method of protection adopted by eligible couples (As % of eligible couples)*** | | | | | |
|---|---|---|---|---|---|---|---|
| | | ***Sterilization*** | | ***IUD*** | ***C.C.*** | | ***OCP*** |
| | | M | F | | M | F | |
| Northern High Hills | 92.03 | 32.89 | 33.91 | 0.72 | 24.45 | Nil | 1.88 |
| Low Hills | 89.15 | 14.38 | 58.09 | 0.81 | 18.71 | 0.08 | 1.72 |
| Valleys & Plains | 90.26 | 15.27 | 56.27 | 0.33 | 22.58 | 0.08 | 1.74 |

Source : Based on the sample data

Presence of medical institutions and qualified staff in far flung areas ensures access to basic health service for the population living in remote areas. The sample villages did not have any hospital except for one private nursing home in the Northern High Hills. None of the sample villages reported existence of private clinics being run by qualified medical doctor but existence of registered medical practitioners was reported in a few pockets of Valleys and Plains. No traditional ***'Hakeem"*** or ***"Vaidya"*** was reported to be practicing in any of the sample villages. None of the sample villages had Ayurvedic Hospital and existence of homeopathic or Unani Institutions have not been reported from any of the sample villages. Only eight villages out of the sample villages in Northern Hill Hills had either an Allopathic or an Ayurvedic doctor in them. 10 out of 18 villages in this region had either MHW or FHW or a trained ***"dai"***. The corresponding figures for Low Hills were 10 villages out of 41 sample villages had either an Ayurvedic or an Allopathic doctor; and 25 villages had either MHW or FHW or a trained dai. Valleys and Plains had doctors in only three villages out of 35 sample villages and 30 villages had either a MHW or a FHW or a trained ***"dai"***. In most of the cases the posts of medical staff were lying vacant in all the three regions. The survey indicates to the shortage of trained medical staff in the rural areas and requires immediate action by the Government.

Virtual absence of private sector in the sample villages does not leave much to the people to choose between Government and private institutions for availing medical health care services. Possible reason for absence of private health services, especially in the interior areas could be very large presence of the Government sector in providing these services. However, the State of Himachal Pradesh, despite having a distinction of having the highest per capita availably of health infrastructure indicators in the country has not got a reputation of having a high quality of basic health services being delivered by the Government health institutions, especially in interior areas of the State. Two grey areas where action is required to be taken pertain to a large proportion of non-institutional deliveries reported and non-availability of basic health care services in the remote interiors of Himachal Pradesh. Virtual absence of private sector in the provision of basic health care services in the rural areas leaves a vast scope for entering into 'Public – Private – Partnership'. This would have negligible cost implications for the Government whereas the benefits to be reaped by the Government, people and the private players are enormous. Enhanced ability to labour through better health enables people to pursue different livelihood strategies and achieve their livelihood objectives. At the household level, health status of the members of the household has a direct bearing on the quantity and quality of labour available in the pursuit of their livelihoods. The State Government could well take some measures to change health policy with the objective of delivering quality health services towards improving health status of rural population whose livelihoods are relatively more vulnerable.

## C. PHYSICAL INFRASTRUCTURE

### i. Land

About two-thirds of rural population of Himachal Pradesh is dependent on

***Table 3.12 : Land classification based on ownership***

***(Hectares)***

| *Regions* | *Owned land* | *Leased in land* | *Leased out land* | *operational Holding* | *Operational Holding per household (average size)* |
|---|---|---|---|---|---|
| Northern High Hills | 350.47 | 0.85 | 1.51 | 349.81 | 0.74 |
| Low Hills | 514.26 | 2.93 | 7.15 | 510.04 | 0.51 |
| Valleys and Plains | 359.57 | 1.92 | 9.67 | 351.82 | 0.39 |
| **Total** | **1224.30** | **5.70** | **18.33** | **1211.67** | **0.57** |

Source : Based on the sample data

agriculture for earning their livelihoods. Land owned or leased is the single most important asset which is used to adopt land based livelihoods. Table 3.12 gives an idea about the land available with the rural population which is used as one of the means of earning livelihoods. It is clear from the table that there is a large dependence on the owned land for taking up land based livelihood strategy. The proportion of leased land for use in rural areas is negligibly small. Further, classification of total land available has been in terms of cultivated and uncultivated land. Table 3.13 exhibits classification of operational holdings into cultivated and uncultivated land and further into irrigated cultivated land and sub categories of uncultivated land. As is clear from the table the proportion of cultivated land out of total operational holdings is very low in Northern High Hills. Difficult geo-climatic conditions and tough terrain make extension of land under cultivation a tough proposition. It also goes without saying that the average size of the operational holding is a function of the density of population and the topography.

***Table 3.13 : Classification of Operational Holdings***

| Region | Cultivated land (% of operational Holdings) | Irrigated cultivated land (% of cultivated land) | Uncultivated land (% of operational holding) | Orchards (%age of uncultivated land) | Barren land/ Ghasni (% of uncultivated land) | Private Forest (%age of uncultivated land) |
|---|---|---|---|---|---|---|
| Northern High Hills | 44.14 | 7.89 | 55.86 | 84.37 | 15.24 | 0.39 |
| Low Hills | 61.15 | 10.86 | 38.85 | 11.55 | 88.42 | 0.03 |
| Valleys and Plains | 68.27 | 27.24 | 31.73 | 6.73 | 87.82 | 5.45 |
| **Total** | 58.31 | 15.78 | 41.69 | 38.01 | 60.57 | 1.51 |

Source : Based on the sample data

### ii. Irrigation

Whatever proportion of the operational holdings is put to cultivation, only 15.78 per cent of it is irrigated and the remaining land under cultivation has to be dependent on the rain for irrigation (sample data). Data published by the Department of Land Records of Himachal Pradesh shows net irrigated area as 18.56 per cent of the net sown area which comes about 1.06 lakh hectares. The State Government has been implementing various major and medium irrigation projects and efforts to add more and more culturable command area (CCA) are on. However, actual utilization of the created CCA is a matter of concern. The Economic Survey of Himachal Pradesh (2006-07) says that against the total irrigation potential of 3.35 lakh hectares available in the State, 2.09 lakh hectares of the CCA has already been created by the end of

December, 2006. Thus, there is a vast gap between the created CCA and area under effective irrigation and there is an urgent need to bridge the gap between the two so that the massive investment already made in CCA creation is put to use and also lead to imparting resilience to the issue of sustainability of farm based livelihoods. An important comment on this data is that as the topography eases up and the altitude reduces, the proportion of operational holdings being cultivated also increases. It implies a higher intensity of land use in Valleys and Plains as compared to that in the Lower hills and the Northern High Hills.

As is clear from the table 3.14 almost all the irrigation in Northern High Hills is done through flow irrigation as the costs of lifting water from the nearby gorge or valley are exorbitant and does not meet the economic criteria of evaluation of lift

***Table 3.14 : Irrigated land by source (%age of total irrigated land)***

| ***Regions*** | ***Canals/ Kuhls (Flow Irrigation)*** | ***Nallah*** | ***Community ownership*** | ***Private ownership*** |
|---|---|---|---|---|
| Northern High Hills | 98.46 | 1.54 | Nil | Nil |
| Low Hills | 88.95 | 0.11 | 10.94 | Nil |
| Valleys and Plains | 93.16 | Nil | 6.73 | 0.11 |
| **Total** | **92.46** | **0.21** | **7.27** | **0.06** |

Source : Based on the sample data

irrigation projects. A major proportion of the uncultivated land in Northern High Hills is being used as orchards mainly for growing apple and stone fruits. The proportion of cultivated land in Low Hills is large as compared to that in Northern High Hills and is still larger in valleys and plains. A very large proportion of the operational holdings in the Low Hills and Plains and Valleys of the State are classified as the barren lands or *Ghasni* (land used for grazing or abundant in grass). The climatic conditions of the valleys and the plains are conducive for growing citrus fruits yet proportion of land as orchards is very less both in Low Hills and in Valleys and Plains. A very large proportion of irrigation is done either through irrigation canals or Kuhls. Most of the irrigation is done through these two sources of flow irrigation. Community owned and private irrigation is almost absent from Northern High Hills and the Low Hills and their presence in Valleys and Plains is negligibly small. A huge investment is required to bring un-irrigated land under irrigation. It, however, needs to be underlined that with the high O&M costs of future expansion of irrigation and low cost recovery even from the earlier irrigation assets will remain formidable constraints for a rapid expansion of irrigation facilities. This will certainly impact the farm sector based livelihood options and strategizing such options vis-à-vis others.

### iii. Road Connectivity

Half of the sample villages in the Northern High Hills are not connected through a motorable or jeepable road. Out of the connected villages, all of them are connected with black topped roads. The average distance of "not connected villages" from the nearest motorable road is 5.17 Kms. 78 per cent of the villages in Low Hills are connected through either jeepable or motorable roads, 87 per cent of the connected villages in Low Hills have black topped road connection whereas 13 per cent of the roads are not black topped and are only jeepable. Average distance of not connected villages to the nearest motorable road is 2.06 Kms. Villages connected either with motorable or jeepable road in Valleys and Plains form 80 per cent of the total sample villages. Average distance of not connected villages to the nearest motorable road is 1.41 Kms. High costs of cutting road through extreme slopes of hard and solid rock and relatively longer gestation period of road projects in High Hills are the factors responsible for poor road connectivity in Northern High Hills. Road connectivity of sample villages in Valleys and Plains is good, especially when the average distance of not connected villages from the nearest motorable road is also taken into account. It needs to be appreciated that road connectivity is one of the most crucial and strategic inputs in impacting the livelihood strategies as also in prioritizing activities for the appropriateness of the chosen and likely livelihood strategies.

### iv. Postal Services

50 per cent of the total sample villages are without a Post Office in Northern High Hills. The corresponding figures for Low Hills and Valleys and Plains are 39 per cent and 40 per cent, respectively. Average distance from a village not having a post office to the nearest post office is 1.82 Kms in Northern High Hills, 4.53 Kms in Low Hills and 2.60 Kms in Plains and Valleys. All the villages having letter boxes (55.6 per cent in Northern High Hills, 63.41 per cent in Low Hills and 71.43 per cent in Valleys and Plains) get dak cleared and distributed every day.

### v. Telecommunications

33 per cent of the total villages in Northern High Hills are without a telephone connection and the corresponding figures for Low Hills and Valleys and Plains are 4.88 per cent and 8.5 per cent. It needs to be qualified that the village connectivity by phone here relates to only landlines and that too through the public sector provider. Possible reason for lower coverage of villages in terms of telephone connections can be high costs involved in taking telephone transmission line to the

villages located at hill tops in isolation in the provision of conventional services. After the boom in the mobile technology, there has been a sea change in rural connectivity at the household or consumer levels. The State-wise teledensity (percentage of total telephone subscribers to the total population) figures indicate that Himachal Pradesh has the third highest teledensity of 21.52 percent (as on 31.8.2006) after Punjab and Kerala. Data from the survey to that extent does not represent the availability of telecom facilities.

**vi. Bus Services**

All the villages in all the three regions connected with motorable roads are being catered to by bus service- either by private or by Government or both. However, the frequency of buses plying to and from the remote villages, especially in Northern High Hills is as little as 2 i.e. the bus which comes to village in the morning would leave the village in the evening. This has led to plying of Small Utility Vehicles on profitable routes and hence to supplementing the income of the people.

**vii. Electricity**

The status of households with domestic power connections is summarized in table 3.15. It is seen that there is almost complete coverage in terms of household electrification in all the three regions. Even commercial and industrial power connections have been reported in Low Hills and Valleys and Plains where as no industrial power connection was reported in Northern High Hills. The quality of power supply has been characterized by low voltage supply especially during evening hours in almost all the villages barring a few. 63.8 per cent of the total households in Northern High Hills reported that power supply to these households is uninterrupted except for in cases of a major breakdown or during the maintenance days. 30.8 per cent of households reported to have experienced seasonal cuts in the power supply. Strangely, all the households in Low Hills have reported to have been experiencing seasonal cuts with perpetually low voltage power supply. The quality of power supply in Valleys and Plains has been the best among three regions with about 86 per cent of the households have reported to have received uninterrupted power supply except for in case of a major breakdown or on a maintenance day with a reasonable voltage. It is implicit that constraints of topography and severity of climate take their toll on the quality and continuity of power supply in the rural areas of the State.

***Table 3.15 : Households with domestic power connections and piped drinking water***

| *Region* | *Proportion of households with domestic power connection* | *Proportion of Households with piped drinking water connections.* |
|---|---|---|
| Northern High Hills | 98.09% | 46.93% |
| Low Hills | 98.69% | 36.82% |
| Valleys & Plains | 99.31% | 45.54% |
| All Regions | 98.81% | 42.12% |

Source : Based on the sample data

### viii. Drinking Water

About 42 per cent of all the sample households had a domestic water connection. This is a fairly high percentage given the scattered nature of households. About 60 per cent of the households with drinking water connections reported to have received water supply either 24 hours a day or every day for fixed hours and did not complain about any shortage of water in Northern High Hills. Proportion of households receiving water supply either 24 hours a day or daily for fixed hours in Low Hills is 76 per cent of the total households with drinking water connection. 90 per cent of the households with drinking water connection in the Valleys and Plains did not have complaint regarding scarcity of drinking water.

However, the number of households with no drinking water connection in all the regions has some problem with regard to availability of drinking water. 53.07 per cent of total households in Northern High Hills are without any drinking water connection. Corresponding figures for Low Hills and Valleys and Plains are 63.18 per cent and 54.46 per cent, respectively. A quick comment needs to be added here that the data is depicting a situation of households with or without domestic water connection. This, however, does not mean absence of access to drinking water because all households have access to public standposts or handpumps or traditional water sources. Therefore, more than half of the households having a domestic water connection presents a fairly healthy state of access to drinking water and would enable better physical well being of the household members on the one hand, and also result in significant saving of time in fetching water from the public sources, thus, affording more time for the pursuit of livelihood options/strategies.

## D. SOCIO – CULTURAL AND POLITICAL ASSETS AND PROCESSES

Social, cultural and political environment plays a big role in determining the livelihood strategies of people in possession of tangible assets and capabilities. Some of the phenomena occurring in this environment may act as catalytic agents in

determination and promotion of a livelihood strategy and perhaps in making a livelihood strategy sustainable whereas other may lead to inertia reducing sustainability of livelihood strategies. These phenomena can be an asset with an individual or a group of individuals instrumental in enhancing capabilities. It is because of non-tangible nature of these socio-cultural and political assets that these have been termed as 'processes' in the present study. These processes, when work in harmony with each other and also with other factors, can create a favourable environment for long term sustainability of livelihood strategies. Any disharmony between these processes can have debilitating consequences for long term sustainability of the livelihood strategies. This section examines some of such processes which can enhance individual's capabilities to make livelihoods sustainable.

**i. Family Structure**

Notwithstanding the pros and cons of joint or a nuclear family from the view point of a sociologist, it is assumed that households with joint families can have better division of labour and can achieve higher economies of scale and offset diseconomies, if any, while pursuing a particular livelihood strategy. Assumption is also made that a household with a joint family feels high security by virtue of the felt cohesiveness among the members of the joint family. This gives the necessary strength to a family to face any eventuality when it comes to the question of sustainability of livelihoods. Another indicator of close association of family members is the frequency of meals all the members of the household take together. Even if members of household take at least one meal together a day just for following the convention, it is a special occasion to get together, talk out and find solutions to various problems. The practice of having discussions on various aspects of life during meals is quite common not only in rural areas but also in urban areas where an extremely hectic schedule of individuals leaves no other opportunity to discuss important issue than while having evening meals. An indicator of cohesiveness of members of the society other than those of a household is the frequency of people getting together in a year on occasions other than marriages, births, deaths and other social/religious ceremonies. Since it is very difficult to quantify social, cultural and political assets and to build a model where quantitative equivalent of these can be incorporated into it, this is another reason why these assets have been termed as 'processes' and the analysis in this section is limited to aspects that can only be qualitative.

Only 39 per cent of the households in Northern High Hills have joint families and all the members of all the households in this region have at least one meal

together in a day. Some of the households have reported the frequency of having a meal together in a day more than once also. Regarding the frequency of kith and kin and other village fellows getting together on occasions other than births, marriages, deaths and other social and religious ceremonies, it has been reported more than 20 times a year by 87 per cent of the households. Proportion of households with joint family in Low Hills is 31 per cent and the incidence of at least one meal taken together in a day has been observed in all the sample households of Low Hills. 76 per cent of the households reported to have got together with their relatives or village fellows on occasions other than birth, marriages, deaths and other religious and social ceremonies more than twenty times in a year. 41 per cent of total households in Plains and Valleys were joint families and all members of all the households in this region have at least one meal together in a day. However, 83 per cent of the households responded by indicating that on an average, they meet relatives and village folks only four time in a year. It can be inferred that adverse topography and climate tend to make rural societies more cohesive.

Based on these three indicators mentioned above, it can be inferred that society in the High Hills and Low Hills is more cohesive or strongly bound than in the Plains and Valleys. Northern High Hills and Low Hills are richly endowed in term of above defined 'processes' and therefore, should add value to the question of sustainability of livelihoods.

**ii. Associative Social Organisations**

Another 'process' in the society has been attempted to be assessed in terms of association of house-hold members with the NGOs, Self Help Groups (SHGs) and other village level associations and voluntary organizations, Table 3.16 captures the pattern of household members engaged with such organizations. It is observed that the proportion of households associated with these organizations is least in Northern High Hills and is high in Low Hills and Valleys and Plains. Only three household in the Northern High Hills have reported to have the nature of activities of these associations as income generating. All other households in Northern High Hills and other two regions have stated either to be working as a channel between people and the Government or as an agency rendering social service as the primary function of these organizations. Incidence of more than one member from a household being a member of these organizations is rare but is more frequent in Valleys and Plains.

***Table 3.16 : Association of Households with NGO's, SHGs, Village associations and voluntary organization***

| Region | %age of Households Associated | %age of | |
|---|---|---|---|
| | | Males | Females |
| Northern High Hills | 33.97 | 1.78 | 98.22 |
| Low Hills | 41.55 | 1.32 | 98.68 |
| Valleys & Plain | 40.96 | 1.27 | 98.73 |
| All regions | 39.81 | 1.39 | 98.61 |

Source : Based on the sample data

Strange pattern of the female population comprising of more than 98 per cent of total members of NGOs, Self Help Groups, village level associations and voluntary organizations has been observed. Is it because of availability of relatively more monetary incentives to female members of such organizations or if the females are being used as dummies in the hands of males by getting associated with these associations or because of both; the reasons that these associations are virtually female dominated, is an issue of separate inquiry. Larger existence of Mahila Mandals in most areas of the State could be strong factor in raising this percentage. The SHG movement in the State has largely focused on female population could contribute to the situation as well. An attempt to explore into the second reason relating to 'shadow boxing' was made through a rough technique by asking female members about the degree of freedom in taking decisions related to the working of such associations and the level of satisfaction they draw while discharging their duties, but nothing much could be ascertained as 99 per cent of the respondents in all the three regions stated assertively that they had full freedom in taking all decisions and the level of satisfaction they derive from performing the functions in achieving the objectives of the association are as per their expectations.

### iii. Women Empowerment and Exercise of Franchise

An attempt was also made to ascertain the degree of women's empowerment in terms of proportion of women in all the elected public representatives from sample villages. No sample household from the sample village has representation in either Legislative Assembly or Parliament. Table 3.17 below

***Table 3.17 : Elected representatives in three tiers of PRIs***

| ***Regions*** | ***Males (%age)*** | ***Females(%age)*** |
|---|---|---|
| Northern High Hills | 66.67 | 33.33 |
| Low Hills | 74.29 | 25.71 |
| Valleys & Plains | 59.10 | 40.90 |
| All regions | 68.12 | 31.82 |

Source : Based on the sample data

captures the pattern of representation in the three tiers of Panchayati Raj Institutions by sex. The issue of exercising voting rights has not been touched upon deliberately. Any attempt to know if an individual exercises one's voting rights may not help in creating an exact picture as the cases of impersonation could not be completely ruled out during polling process. However, an attempt has been made to explain behaviour of the voters during polls. Mainly three patterns of voters' behaviour have been observed which have a definite relationship with the level of education of voters and the level of development of the environment in which the voters exercise their right. First, is the pattern which is observed in the relatively developed areas of the State having a population of voters with high levels of education. Most of the voters exercise their right on the basis of the development issues. Caste based division of votes is there but majority of votes polled are issue based. Second pattern is observed in relatively remote areas and where the voters have a comparatively low awareness level. The voters are divided on the basis of caste and village level leader of a particular caste issues a whip to caste votes in favour of a particular candidate. Third pattern of exercising voting rights is also observed in rural interiors where local deity issues a whip to caste votes in favour of a particular candidate. All the three patterns are influenced by the social stratification on the basis of caste to some extent or the other. The deciding force behind the voter's behaviour is still either the village deity or village headman; or also the class leader of a particular class of the society.

**iv. Government policy**

State interventions are required to correct any distortions in the distributive mechanism resulting from a variety of imperfections coming into play while any programme is in actual implementation. Role of the State has undergone a change from 'mere policing' till the early forties of the twentieth century to being a facilitator in the rapidly emerging market oriented, highly competitive and relatively open environment. Till the late eighties of the twentieth century, the State had been 'enforcing' multiple interventions affecting almost all the aspects of life when the process of liberalization and structural reforms started gathering momentum. The multiple interventions not only made people heavily dependent on these, but State's policy was also dependent on the outcome of its own policy without having any consideration for the active market forces. From the experience of many of the East European and Latin American countries, it was realized that the economies in isolation tend to grow at a pace slower than their potential and excessive protection ultimately may result in retardation in the pace of development. This realization resulted in a diametric shift in the whole approach of the State as a policy maker. With the market

forces attracting more and more attention of the policy makers, the whole process of policy formulation, implementation, monitoring and evaluation has witnessed a paradigm shift both in terms of content and numbers. The new approach has its reorientation manifested in the shift in planning process from being directive to indicative. The new approach hinges on the principle of providing enabling environment to help the vulnerable sections excelling in a competitive environment so as to make their well being sustainable in the long run.

Prior to the late eighties of the twentieth century, the interventions largely comprised of the subsidies, grants and monetary transfers. A little was emphasized on the creation of an environment which would help in achieving the goal of putting the process of development on the path of sustainability. Resource constraint was the main factor responsible for utter ignorance of this aspect of policy. Relatively closed environment together with procedural complications denied not only the access to the foreign resources but also resulted in non availability of technical expertise to ensure more efficient exploitation of already available domestic resources. This deprivation resulted in an extremely slow pace of development with a lot of retarding distortions in distributive mechanism. The experience through out the world brought to fore the importance of indirect interventions with an objective of creating a highly conducive and enabling environment where the growth occurs on a sustainable basis. This, however, does not take away any merit from direct interventions especially when it comes to the growth and welfare of the vulnerable sections of the society. Direct interventions directed at the welfare of these sections of the society become an imperative in the wake of the cruel outcome of the interplay of imperfect market forces that can have devastating effects on the sustainability of livelihoods of these sections.

Policy intervention, in the present study, has also been viewed as a process as any intervention can not be measured in terms of exact quantum. Qualitative analysis is more practicable and also more meaningful. Government interventions can be classified into two categories. First, that set of indirect interventions which are strategy specific and facilitate and help individuals indirectly to realize monetary outcomes by creating a helping and supportive environment. These interventions are discussed in the next chapter in the context of the livelihood strategy being discussed. Second set of interventions is the one which directly provides monetary outcome of a strategy and is not strategy specific. Employment generation programmes and poverty alleviation programmes are the second type of interventions.

The State of Himachal Pradesh has also reoriented its approach and has endeavored to build an environment favourable for realizing the objective of overall

development on sustainable basis. Despite having experienced acute financial constraints, the government has undertaken an ambitious programme to build physical infrastructure by redefining its priorities and also by resorting to financial assistance form the external resources. 36.2 per cent of the total plan outlays for the Tenth Five Year Plan of the State have been earmarked for Irrigation and Flood Control; Energy and; Transport and Communication. High priority to creation of quality social infrastructure is evident from the fact that 47.5 per cent of the total plan outlays have been earmarked for the social services sector during the Tenth Five Year Plan for Himachal Pradesh. Constantly improving indicators of availability of health and education services as reflected in high ranks among Indian States is the result of serious commitment of the State Government in this regard. Support in the form of sector specific capacity building programmes enabling rural population enhance their capabilities is also available.

Support in the form of sector specific subsidies and grants is available for the vulnerable strata of the society pursuing livelihoods in these sectors. This support helps vulnerable sections compete in the relatively open and competitive markets. Direct interventions are also available through various poverty alleviation and wage employment programmes as are available in other parts of the country.

The problem with the wage employment programmes is that the wages received can not make the income flow sustainable in the long run as whole of the assistance received is used for consumption and does not contribute to any productive asset generation that may sustain income flow in the long run. Moreover, in the higher reaches of the State where the government sponsored civil works could be undertaken during a limited period of the year only due to adverse climatic conditions, flow of income gets disrupted during good part of the year.

## CHAPTER-IV

# LIVELIHOOD STRATEGIES IN FARM SECTOR

This section highlights the variations in livelihoods across Himachal Pradesh in farm sector. It also attempts to relate these variations to the differences in resource endowments and opportunities across three regions of the State. Livelihood patterns as determined by the information collected have been discussed in details with the vulnerability issue. Existing policy interventions have also been discussed where required. The principal occupation categories based on the adopted livelihood strategy analyzed are: cultivation, fruit production, animal husbandry; forest resource based extraction and agricultural labour. Options available for the landless poor in the farm sector have also been discussed in this section.

Occurrence of varied climatic conditions makes farm sector livelihoods widely diverse in the context of Himachal Pradesh. Cultivation ranges from crops like barley that require cold conditions during winters to sugar cane which is best grown in warm temperate to sub tropical climatic conditions in Himachal Pradesh. Varieties of apple grown in Himachal require cold temperate conditions with lots of moisture during flowering of tree and moderately moist and warm conditions during reddening of the fruit. In extreme contrast, citrus fruits that require warm temperate to sub-tropical climatic conditions are produced in the Valleys and Plains region of the State. Production of 'Hops', an important ingredient used in breweries is produced in cold desert like conditions of alpine and arctic zones of the State. Climatic conditions in combination with other assets and processes determine the strategy to be followed in farm sector. These strategies are diverse as would emerge from the following text.

### Owner Cultivation

Land being the primary asset for adopting a livelihood strategy in farm sector, it is necessary to have a look at the land ownership pattern as observed in three regions of the State. Table 4.1 captures the number of land owners by size of the land owned and also the number of landless households across three regions of the State. The pattern of land ownership has been drawn based on the information obtained after interviewing 2341 sample households from three regions of the State. 473 sample households were from the Northern High Hills, 994 from the Low Hills and 874 sample households were from the Valleys and the Plains.

### *Table 4.1 : Land ownership*

***(No. of Households)***

| *Holding size* | *Northern High Hills* | *Low Hills* | *Plains & Valleys* | *Total* |
|---|---|---|---|---|
| Landless | 3 | 36 | 55 | 94 |
| | (0.64) | (3.62) | (6.3) | (4.02) |
| < 0.5 Hect. | 245 | 631 | 633 | 1509 |
| | (51.79) | (63.48) | (72.43) | (64.46) |
| 0.5–1.0 Hect. | 115 | 210 | 92 | 417 |
| | (24.31) | (21.13) | (10.52) | (17.81) |
| 1.0-2.0 Hect. | 76 | 78 | 65 | 219 |
| | (16.07) | (7.85) | (7.43) | (9.36) |
| 2.0-4.0 Hect. | 30 | 30 | 25 | 85 |
| | (6.34) | (3.02) | (2.86) | (3.63) |
| 4.0-10.0 Hect. | 4 | 8 | 4 | 16 |
| | (0.85) | (0.8) | (0.46) | (0.68) |
| > 10.0 Hect. | 0 | 1 | 0 | 1 |
| | (0.00) | (0.01) | (0.00) | (0.04) |

Note: Figures in parentheses represent percentage out of total sample households in the respective regions.
Source: Based on the sample data.

Proportion of landless is just 4.02 per cent of the total households and the least proportion of landless is in the Northern High Hills and the highest in the Plains and the Valleys. The convention of terming the holding of the size of less than 1.0 hectare as marginal holding has not been followed here as it fails to capture the number of holdings which are less that 0.5 hectare in size and cultivation on them is either not economically viable or if at all, is just not sufficient to provide subsistence to a family. Conventional marginal holdings have been further classified into two categories i.e. one with the holding size of less than 0.5 hectare and another with the holding size between 0.5 to 1.0 hectare. It is observed from the table 4.1 that about three fourth of total land holdings in Valleys and Plains are less than 0.5 hectare in size. Corresponding figure for Northern High Hills and Low Hills are 51.79 per cent and 63.48 per cent, respectively. These when combined with the landless households constitute a very large proportion of households which either do not own any land or holding size of the owned land is not big enough to have economically viable operations on it if the factors like non-availability of irrigation, limited cultivation season in higher reaches, inadequate availability of credit and vagaries of nature are also taken into account. If marginal holdings upto the size of 1.0 hectares are also combined with these i.e. if proportion of holdings with less than 1.0 hectare together with the proportion of landless households is worked out it comes out to be about 85 per cent of total holdings taken together for all regions of the State. This figure in Northern High Hills is relatively low i.e. about 76 per cent. Corresponding figures for Low Hills and Valleys and Plains are about 88 per cent and 89 per cent, respectively. It is clear from the above analysis that for the households which are either landless or

own holding of the size of less than 1.0 hectare, which form about 85 per cent of the total households, cultivation can not be the only livelihood strategy. It has either to be supplemented with some other strategy or such households have to live in a state of deprivation. The situation in the Northern High Hills may seem a little better but small size of terraced fields along steep slopes where mechanization and irrigation are difficult to realize; and relatively higher transportation costs in carrying inputs to the site of cultivation and outputs to the market; livelihood strategies are more prone to failure. With most of the sample households having land for cultivation of a size of less than 1.0 hectare even in the Low Hills and Valleys and Plains, people have to look for other livelihood strategies to supplement their incomes. Number of supplementing livelihood strategies being adopted largely depends on the monetary outcome of not only the primary strategy but also of the supplementary strategies. Mechanization of farm activities for most of the households in the Low Hills and in Plains and Valleys is also not economically viable because of small size of land holdings owned by a majority of households. As has been mentioned in the earlier section that a low percentage of irrigated land out of the total cultivated land in Low Hills and Valleys and Plains also results in a great difficulty in sustaining the livelihood strategy involving cultivation. These households in all the three regions have no other option but to diversify their livelihoods not only in farm sector but also in non farm sector.

Scope of extensification of cultivation is very limited in the Northern High Hills as a very large proportion of land in this region is already either under cultivation or has orchards or forests on it. The land classified as forest land can not be brought under cultivation because of extremely steep slopes and environmental considerations in regard to non-diversion of land use from forests to any other. Only option left in Northern High Hills to make cultivation a more successful strategy is its intensification by using technological inputs suitable for small land holdings.

Extensification of cultivation in the Low Hills and the Valleys and the Plains is the possible livelihood intervention to bring more land under cultivation. Extensification of cultivation in these regions can help in making cultivation economically more viable by bringing more area under cultivation and also by bringing in an appropriate mix of crop diversification towards making cultivation based livelihoods more sustainable in these areas. But such an option also suffers from the constraint of overall availability of the land stock which can be brought under farm operations.

Of the total households in the Northern High Hills, 1.27 per cent reported to have no fixed livelihood strategies and they would adopt any strategy temporarily,

depending upon the availability and access to opportunities. This proportion was 2.41 per cent in Low Hills and 1.37 per cent in the Valleys and Plains. All these reported households were landless in Lower Hills and the Valleys and Plains whereas 50 per cent of such households in the Northern High Hills had land holdings less than 0.18 hectare in size.

Wheat was produced by maximum number of households (61.41 per cent) in the Northern High Hills. Maize ranks second in terms of being produced by the number of households (55.74 per cent) followed by barley and pulses (40.21 per cent and 38.29 per cent, respectively). Not much of the households undertake productions of rice and oil seeds in this region. None of the households in the Northern High Hills had surplus of the above mentioned crops that was marketed. All the produce is used for self consumption in this region. Main crop in the Low Hills is also wheat where about 80 per cent of the households owning land grow wheat followed by Maize (77.2 per cent). Third main crop of the region is rice though only about 20 per cent of the households have reported to have been growing rice. About same proportion of the house-holds have been growing barley, pulses and oil seeds. Same pattern of crops has been observed in the Valleys and Plains also with the proportion of households growing rice being slightly higher at 27 per cent. Thus wheat, maize, barley and pulses are the main crops being grown in the Northern Hill Hills and Low Hills while wheat, maize and rice are the main crops of the Valleys and the Plains. Only a small fraction (9.3 per cent) of the total produce in terms of wheat, barley and maize in the Low Hills and Valleys and the Plains has been reported to have marketed whereas a large proportion has been used for self consumption. The crop patterns explained above need to be viewed and appreciated from the viewpoint of cropping seasons as well. Whereas wheat and barley are Rabi crops, maize and rice are Kharif crops.

Potato grown in the Northern High Hills is famous for its quality through out India. 71 per cent of the potato being produced by about 74 per cent of the farmers in this region is marketed. Potato grown in the Low Hills and the Valley and the Plains is not as good as the one grown in the High Hills. About 32 per cent of the farmers in Low Hills and only 19 per cent of the farmers in the Valleys and Plains have reported to have been growing potato. About 68 per cent of the total potato produced in the Low Hills and 46 per cent of it in the Valleys and Plains is being marketed. Thus potato is one of the major crops being grown in all the three regions of the State and is a major source of monetary income in farm sector. Himachal Pradesh was once the largest producer of the quality seed potato in India during the decades of the 70s and 80s, however, a declining trend was observed thereafter. It is because other States of

India started producing better qualities of seed potato and also because of the fact that true potato seed has also started being used for cultivation. Potato is grown both in Kharif and Rabi seasons. Most of potato is grown during Kharif in Shimla district followed by the districts of Mandi and Sirmaur. In the Rabi season it is grown in the districts of Kangra, Shimla and Sirmaur. Ginger is another commercial crop that has received considerable priority over the years. The area under ginger cultivation has doubled during the last couple of decades. Ginger is produced in Sirmaur and Bilaspur district in plenty.

Production of the off–season vegetables and quality vegetable seeds besides the seasonal vegetables is one of the fields into which the diversification has been reported during the past decade in all the three regions of the State in farm sector. In those belts of the Low Hills and also of Valleys and Plains where irrigation facilities are available, growing off-season vegetable is picking up. The produce has found place in the markets of Delhi and the neighbouring States of Punjab and Haryana also. Good quality road network and availability of reasonable modes of transport further work as an incentive to take up this activity. Needless to say, the vegetables fetch attractive prices when they appear in markets during a time of non-availability of locally produced vegetables. The maximum area under vegetables, apart from potato and ginger, accounts for peas and tomatoes. Productivity of tomatoes is quite high i.e. 34,645 kg per hectare as against 24,000 kg in Punjab and 15,000 kg for all India average. Productivity of cauliflower is about the same as the all-India average while Punjab has higher productivity in case of cauliflower. Fresh peas grown in the State are of premium quality and fetch a higher price particularly in the plains where it is an off-season luxury. Vegetable seed production is a dominant feature of vegetable cultivation in the State as the climate of the Low Hills and Valleys and Plains is very conducive to seed production. Cultivation of exotic vegetables like broccoli, asparagus, leek, parsley, Brussels sprout, and others is catching up fast as these vegetables are demanded in hotels and by foreign tourists. The advantage of topography and availability of adequate irrigation water enables cultivators of Low Hills and Valleys and Plains to grow out-of-season vegetables. Cultivators in the Northern High Hills have also diversified into the production of off-season vegetables, however, the region has not caught up with this phenomenon to an extent as the other regions have largely because of scanty irrigation facilities in this region and also because of high transportation costs involved in taking the produce to market due to long distances to the market from the place of production.

Poor means of communication in the Northern High Hills and long distances from the market act as the hurdles in the way of farmers to undertake off-season vegetable cultivation. It takes relatively longer in this region to take agricultural produce to the market. Adverse weather conditions even for a small duration worsen the road conditions further and transportation time is prolonged. Considering short shelf life of the vegetables and presence of tough competition from the vegetable growers from the Low Hills and the Valleys and Plains, there is always an apprehension of getting low returns in the market for the produce. These bottlenecks have mainly, in the Northern High Hills, kept the cultivators away from off-season vegetable production

**Government Policy** The Government in its annual plans makes adequate provisions for providing quality seeds, storage and testing and certification programmes. Government envisages providing Soil Health Cards to all the farmers in the State by the end of the Tenth Five Year Plan so as to enable the farmers to choose right choice. 'Rashtriya Krishi Bima Yojana' was introduced in the State in the year 1999-2000 to give a sense of security to the farmers. Crops covered are wheat, paddy, maize, barley and potato. Insurance is mandatory for all loanee farmers and optional for non-loanee farmers. The scheme provides comprehensive risk cover against drought, hailstorm, floods and pest diseases etc. Government also takes care of the design and fabrication of agricultural tools suitable for varied climatic conditions through departments involved in extension services. In brief, the Government is making all possible efforts to make cultivation based livelihoods of the rural people of Himachal Pradesh secure and sustain in the long run.

The Tenth Five Year Plan of the State stressed upon bringing more area under cultivation of High Yielding Varieties of food grains. Maize being the principal Kharif crop in all the three regions, it emphasized bringing more area under high yielding hybrids of maize. Tenth Plan also envisaged promoting balanced use of fertilizers together with increased use of fertilizers together with increased use of organics in the form of compost, farm yard manure, farm organic waste/crop residues and fertilizers. It also mentioned about strategy to surveying and identifying the areas suitable for cultivation of off-season vegetables and other commercial crops and encouraging farmers of these areas to undertake cultivation of off-season vegetables and other commercial crops. Tenth Plan envisaged supplementation/complementation of State efforts through centrally assisted work plans under macro-management approach for Agriculture Development with the objectives of improvement of cereal crops, transfer of technology, construction of water storage tanks, development of off-

season vegetable cultivation, promotion of quality seed production and active involvement of women in agriculture.

The Approach Paper to the Eleventh Five Year Plan of Himachal Pradesh recognizes the vitality of increasing productivity of the farm sector in the State. It envisages increasing incomes and employment in the farm sector. Increasing farm sector productivity through technological interventions and diversification into the high value crops have been stated as the objectives for the farm sector development in the State. It mentions of putting in place a framework for opening up of the farm sector for contract farming and also for the organic farming. The Approach Paper also recognizes the existence of gap between the irrigation potential created and its utilization and accords high priority to bridge this gap through farmers' associations and extension work by the agriculture and horticulture departments.

**Fruit growing**

Climatic conditions prevailing in Himachal Pradesh are conducive for growing fruits ranging from apples and stone fruits in the Northern High Hills and Low Hills to citrus fruits which are grown in warm temperate and sub-tropical climatic conditions. As was pointed out in the preceding paragraphs, a large proportion of operational holdings is being used for growing fruits in the Northern High Hills. The proportion of total operational holdings being used for growing fruits is relatively low in Low Hills. The climatic conditions in these two regions of the State are perfectly suited for growing apple and stone fruits like plum, peach, apricot, pear and cherries. The apple produced in the relatively colder climate of High Hills is known for its crispness and relatively long shelf life. Fruit production received attention in the planning process only in the post-independence era. Prior to independence exotic varieties of apple were introduced in Himachal Pradesh by American and European missionaries early in the twentieth century.

About 67 per cent of the total households interviewed reported to have taken up fruit growing as one of the livelihood strategies in Northern High Hills. Temperate fruits cover about 60 percent of the total area under fruit cultivation in the State out of which about 70 per cent is under apple cultivation (area under apple cultivation comprises of 46 percent of the total area under fruit cultivation). The area under fruits has more than doubled in the last two decades. The productivity of apples also doubled to about more than 5000 kg per hectare during this period, but the productivity of nuts and dry fruits, citrus and other sub-tropical fruits decreased even though the area under these crops increased. Shimla and Kullu districts of the

Northern High Hills and tribal district of Kinnaur predominantly produce apple and peach is the main crop of Sirmaur district in the Low Hills. Stone fruits like plum and peach and pears are mainly grown in Kullu and Shimla districts. Citrus, mango and litchi are grown in the Valleys and Plains of Kangra and Una districts. The area under mango is about 39 percent of the total area under sub-tropical fruits in the Low Hills and the Valleys and the Plains regions and about 6 percent of the total area under all fruits in the State as compared to 19 percent under citrus fruits.

About one seventh of the fresh fruit bearing trees are non-bearing while this proportion is about one eighth in case of dry fruits which covers about 16 per cent of the total area under fruits. Shimla and Kinnaur districts have the largest number of non-bearing trees of fresh as well as dry fruits. The average productivity of apple (kilogram per hectare) has been 5830, other temperate fruits 990, nuts and dry fruits 450, citrus 510 and other subtropical fruits 1370.[2] The comparative figures for citrus fruits in Punjab are 10 to 15 tonnes per hectare and in Israel these figures vary from 43 to 65 tonnes per hectare. Experiments are under way in the State to grow fruits like strawberry, pomegranate, olive, kiwi, hazelnut etc. which have been identified as the potential crops of future. Some high bearing clones of these fruits have been imported and are being tested for commercial cultivation. Planting material being imported includes cultivars for apples, cherry and plum.

The temperate fruits being grown in this region are known for their quality and fetch attractive prices not only in the domestic market but also in the markets like Mumbai, Nasik and those in the neighbouring States of Punjab, Haryana, Delhi and Uttar Pradesh. People of this region find growing fruits more lucrative than other strategies and this is precisely the reason why about 98 per cent of the produce in the form of fruits produced in this region is marketed. The proportion of operational holdings being used for fruit growing is very little in Low Hills and Valleys and Plains in comparison with that in the Northern High Hills. These figures are 32 per cent and 19 per cent, respectively, for these two regions of the State. However, due to ready availability of market to dispose off the surplus, 95 per cent of the fruits grown in Low Hills and 70 per cent of the fruits grown in the Valleys and Plains are marketed. At the first instance the strategy may look to have been a lucrative and paying rich dividends to the growers, the hard fact remains that fruits require extremely conducive and finely balanced climatic conditions for reaping a rich or bumper harvest. Past experience shows that every three years out of ten, the fruit crop ends up being sub-optimal due to occurrence of nature's vagaries. Failure of crop during any year makes small and

[2] Work Plan for Accelerated Growth of Agriculture and Horticulture in Himachal Pradesh 2002-03.

marginal growers not only moneyless but also heavily indebted. Two successive crop failures can end up a vast majority of those exclusively dependent on horticulture in a state of penury.

Preponderance of a large proportion of holdings being either marginal or small in all the regions, there is every risk of losing livelihood during a year and these growers have to depend on some supplementary strategy even during a normal or bumper crop.

**Government Policy** Keeping in view the overwhelming dependence of people on growing fruits to earn their livelihoods and also that success or failure of fruit crop during a particular year depends entirely on the favourable climatic conditions; the Government has undertaken various programmes to ensure adequate returns to fruit growers of the State. These programmes aim to provide the orchardists with proper facilities for quality control, smooth transport system, adequate training in the post harvest operations like picking, grading and packing. Orchardists also need to be kept informed constantly about the happenings in the market. Minimum support price through market intervention scheme is also being provided to the fruit growers of the State.

The expansion of area under apples started post 1950 and by mid-sixties, a total additional area of about twenty six thousand hectares had been planted with apples. All these orchards are past the economic bearing age and this precisely becomes one reason for a drastic fall in productivity. The second reason is the old root stocks. The apple industry in Himachal Pradesh, therefore, faces two formidable tasks: one – to bring in new root stocks and cultivars which have prolific bearing, and two – to replant orchards which have overaged. Each year, on an average, about 2000 hectares of old orchards will need to be replanted to keep this stream of livelihood at a sustainable level. Appropriate backing of this effort with credit, technology and extension is of paramount significance to continue the dependence of about one lakh families on this form of livelihood.

The work plan for the development of fruit production as was envisaged in the Tenth Five Year Plan of Himachal Pradesh, aimed at complementing and supplementing the efforts to bridge the gap between the low level of productivity and the quality of fruit crops resulting from:

- Lack of availability of elite planting material.
- Lack of availability of latest advanced technological inputs related to production and protection.

- Lack of availability of appropriate mechanism aimed at rapid and efficient transfer of technology.
- Poor communication infrastructure due to hilly terrain.
- Inadequate irrigation facilities and underutilization of the created potential.
- Non availability of scientifically managed post-harvesting techniques.
- Losses due to the vagaries of nature, etc.
- Poorly knit market infrastructure and MIS.

The Approach Paper to the Eleventh Five Year Plan stresses upon the need to diversify into high value crops and contemplates supporting it through funding under the National Horticulture Mission (NHM). The Mission is the single largest programme of the Ministry of Agriculture. The NHM aims at interventions to ensure provision of quality planting material for high value crops, bringing in structural changes in the relationship between the farm and non-farm sectors and building adequate market linkages through private sector participation.

Modernization of pre and post harvesting techniques is necessary to improve production and quality in highly competitive environment. Maximizing the profit margins on sustainable basis being the motivating force for the cultivators, establishment of a highly efficient market information system is an imperative to ensure remunerative returns in the highly price sensitive and competitive fruit markets.

**Other Horticultural Activities**

**Floriculture** History of commercial floriculture in Himachal Pradesh is not very old. It started in the decades of 80s with the Government intervention through the Department of Horticulture of Himachal Pradesh. It was declared as a thrust area for economic development of the State. The District Rural Development Agencies (DRDAs) in the districts of Kangra, Mandi, Shimla and Solan are engaged in promoting floriculture among the cultivators of these districts. The Government has set up several nurseries throughout the State for propagation of floriculture and distribution of planting material to the cultivators. Gladiolus, carnation, chrysanthemum, tulips and daffodils are the main varieties being cultivated in the State. Some of the traditional varieties like marigold are also being cultivated in certain areas like Rajgarh in Sirmaur district. Area under flower cultivation has increased from five hectares in 1991 to 467 hectares in 2006. Some of the Self Help Groups and the NGOs especially, in the districts of Chamba, Sirmaur and Bilaspur have really come up in the field of commercial cultivation of exotic and traditional varieties of flowers. The flowers being produced in Himachal Pradesh are exported to the places like Chandigarh, Amritsar, Delhi, Haridwar, Hrishikesh and other places. The floriculture in

the State is still in its infancy and requires appropriate interventions to make it remunerative enterprise in order to exploit the vast potential in this field.

Handling the produce during transportation and finding immediate and appropriate market are the most crucial components in the field of floriculture. Highly delicate and fragile nature due to extremely short life of the floricultural produce makes it of critical importance that the produce reaches and is disposed off in the market immediately at a place which fetches the best price for the produce. Absence of availability of market information at the right time and lack of technical know how in post harvesting handling of the produce among cultivators are the main factors responsible for keeping the cultivators away from taking up this enterprise. An intervention at the level of the Government for imparting necessary training to cultivators and use of IT to establish a comprehensive market information system (MIS) will help in exploiting the vast potential of this produce in international markets.

**Mushroom Cultivation** Under the Technological Cooperation Programme of the FAO, mushroom cultivation technology was first introduced in Himachal Pradesh on trial basis in 1961. Commercial propagation of this technology was later undertaken under the FAO and UNDP assisted project at Chamba Ghat in Solan district during 1977-82. Another project with the joint assistance of the Government of India and the Dutch Government aiming at commercial mushroom production was launched at Palampur in Kangra district. These initiatives helped in encouraging cultivation of 'button mushrooms' (*Agaricus bisporus*) in the State and its productivity increased from six kilograms per square metre in 1992 to 10 to 15 kilograms currently. 4318 metric tonnes of mushroom were produced during 2005-06 and the bulk of this output was produced in the districts of Solan and Kullu of the Low Hills. During 2005-06, 421 metric tonnes of pasteurized compost for mushroom production was prepared in the two development projects located at Chamba Ghat in Solan and Palampur in Kangra and was distributed to the mushroom growers.

These units supply pasteurized compost to about 400 new production units mainly concentrated in Kangra, Kullu, Mandi, Solan and Bilaspur districts of Low Hills. Around twenty small units are operating in the private sector in Solan district which produce pasteurized compost. There are nine spawn production laboratories in the State of which six are in the private sector and three are with the research institutions. An export oriented unit has been set up at Paonta Sahib in Sirmaur district with a capacity of exporting 150 metric tonnes of mushrooms and processed products in various forms.

Mushroom production is an activity that is associated with high returns on investment if a harvest is reaped in full. However, there is a great risk of getting the whole lot spoiled if it catches infection due to inappropriate temperature and moisture combinations. Great care is required to be taken in providing appropriate climatic conditions to the mushrooms while being produced. The Government has been providing training to the cultivators interested in taking up mushroom production commercially.

**Bee-Keeping** A great diversity in agro-climatic conditions in flora in Himachal Pradesh provides enormous potential for production of honey. The British first introduced the bee-keeping in Kullu valley in 1934 and in Kangra valley in 1936. Bee flora from the Northern High Hills was brought down to lower altitudes during winter months of 1952 when migratory system of bee-keeping was introduced for the first time in the State. Himachal Pradesh took a lead in the introduction of exotic honey bee, *Apis melifera* (Italian honey bee) for the first time in 1962-63. Prior to this, the honey was produced form *Apis acerana* and production was ten metric tonnes per annum from 2500 bee colonies maintained by 150 bee-keepers. Now there are about 26,000 bee colonies maintained by 939 bee keepers producing over 650 metric tonnes of honey of diverse flora every year. The target of production of 1000 metric tonnes of honey during 2006-07 is likely to be met. The honey produced from the flora growing at the high altitudes of the Northern High Hills is said to have some unique medicinal properties and hence fetch more price in the market.

Private entrepreneurs have established breeding and multiplication centers with the assistance under various State and centrally sponsored schemes. These schemes have become very popular among the upcoming bee-keepers. Bee keeping is also resorted to by the fruit growers of all the three regions of the State on rental basis during the flowering season as it helps in pollination/cross pollination of fruit trees resulting in better fruit yields besides producing honey. The targets set by the Government in terms of distribution have always been met and some times the actual distribution well exceeds the targets. One honey processing unit with the installed capacity of 120 metric tonnes of honey processing every year has been established in the public sector at Kandrori in Kangra district and is managed by the Ago Industries Corporation Limited. The plant procures honey from the local producers as the first priority and imports it from outside the State if adequate honey is not available locally to ensure working at full capacity. The State Government has provided financial assistance during 2006-07 for improving financial health of the plant. Some of the private companies like Dabur India Ltd. also procures honey from the local producers

and processes it Presence of private players in the field will bring in competition and help the public sector players to compete in the self sustaining mode.

**Animal Husbandry**

A reasonably large proportion of people follow animal husbandry based or supported livelihood strategy. Main commodities being produced through this strategy are milk, wool, meat and hides. 72 per cent of the sample households in Northern High Hills produce milk and the proportions of households producing milk in Low Hills and Valleys and Plains are 45.5 per cent and 42 per cent, respectively. No household in the Northern High Hills and Low Hills has reported to have marketed surplus of milk produced by them, whereas only about 6 per cent of the households producing milk in the Valleys and Plains have reported to be marketing surplus of the milk they produce. However, the response on this particular issue is contrary to what has been observed by the investigators while in field. Most of the households owning milch animals sell milk though in small quantities within the village. A few dispose off surplus milk in the markets located in adjoining villages. The villages which are located in contiguity with the small or large townships have common practice of selling milk in semi urban markets of these townships. Out of the total annual milk production of 784.082 thousand tonnes, MILKFED, the only large scale and functional milk cooperative in the State procures just 1.5 per cent of it. This indicates to the existence of a large unorganized and obviously highly decentralized market for milk in the State. A sizeable part of the demand for milk in the urban areas is met by the imports from Punjab and Haryana which clearly indicates the scope for expansion of this particular pursuit of livelihood strategy either in conjunction with others or as a stand alone strategy.

A large proportion of the milch animals in Northern High Hills and Low Hills are indigenous varieties with very low levels of yield when compared to those of improved and exotic varieties. The proportion of indigenous milch animals to the total milch animals is about 54 per cent in the Northern High Hills and about 67 per cent in Low Hills. Livestock of exotic and improved has, per force, to be reared in an entirely different manner than the indigenous stock. Indigenous stock is habitual of open meadow/grassland/open forest area grazing whereas the exotic breeds need to be only stall fed. The milk yields drastically fall if these animals are sent out for open grazing. In this context, cultivation of high protein/nutrient fodders has to accompany the rearing of exotic/improved breeds. Fodder cultivation also offers opportunities for further refurbishing the farm based livelihoods.

Population of bulls – exotic and indigenous, kept exclusively for breeding is negligible in all the three regions of the State. Reason for such a thin population of such bulls is the assistance being provided by the Government run centres in artificial insemination of adult cows. This has stopped flow of income to such bull owners who used to charge from people for inseminating their adult cows. In any case, service by bulls is on the decline as the government supported artificial insemination facilities have expanded considerably over the last decade.

Sheep and goats form a considerable proportion of the total livestock population of the Northern High Hills and Low Hills. However, the ratio or the stock of improved breed is negligibly small and exotic varieties have negligibly small presence in all the three regions of the State. Another source of high quality wool i.e. rabbits has not been observed to be present in Northern High Hills. Only one rabbitary in the Low Hills and two in the Valleys and the Plains have been reported. Pursuing this vocation is also on the decline due to opening up of the world market under the WTO regime and fall in the international prices.

Most common pattern of marketing wool from the sheep and the goats is to pay the shepherds a fixed proportion of wool extracted during a year in lieu of the services rendered by the shepherds in rearing and grazing the sheep and the goats owned by other people. Incidence of organized marketing of wool is a rarity except for in local trade fairs. Procurement by Government agencies is also prevalent if prices crash in the market. Himachal Pradesh State Cooperative Wool Procurement and Marketing Federation Limited (HPWOOLFED) is the agency through which the Government intervenes by procuring wool directly from the producers as and when need arises and provides modern mechanized sheep shearing facilities at the pasture level and marketing of wool.

Meat shops are found in adequate number in the Low Hills and the Valleys and the Plains. Though the number of meat shops in Northern High Hills is less in comparison with those in the Low Hills and the Valley and Plains, yet traditionally, incidence of meat consumption is high among the people living in the Northern High Hills. Goats followed by sheep contribute to a large chunk of meat produced in the State. Pigs as a source of meat are almost absent. A common pattern of meat production in the higher reaches is that every villager has a turn after a fixed period of time to slaughter an animal owned by him. It is at the discretion of the owner of the slaughtered animal to give meat as a gift to the privileged few and charge a price from others. Poultry as a means of livelihood is rare especially in Northern High Hills. Very few households are engaged in this business. However, if its incidence is compared in

three regions, Plains and the Valleys region has few households engaged in this economic activity. The proportion of households engaged in poultry is relatively less in Low Hills and Northern High Hills. Possible reasons for low incidence of poultry enterprises in Northern High Hills and Low Hills includes high transportation cost involved in not only taking the input to the farm but also in transporting the output to the market and extremely severe competition from the neighbouring States where large sized poultry farms have a massive advantage of economies of scale. High transportation costs together with other delays caused by frequent blockade of roads due to slips and slides erode away the competitiveness of the producers in the hills. Kangra is the leading district in terms of poultry followed by Mandi and Solan. In these districts too the concentration of poultry is confined to the pockets which are quite near to the markets in Punjab or the local townships.

**Government Policy** Quantum of produce based on livestock is in direct relationship with the health of livestock. Qualitative improvement in the livestock is achieved through spread of the veterinary services in the State. The Government run veterinary institutions have fairly justifiable distribution in all the three zones of the State. These institutions are concentrated in the three regions roughly in proportion to the livestock population in these regions. However, poor means of communication infrastructure like roads make it difficult for the people living in the Northern High Hills to provide timely veterinary services to the livestock owned by them. All the districts in Himachal Pradesh have at least one mobile veterinary dispensary catering to the needs of livestock population of the district.

There are five Government run sheep breeding farms located at Jeori in Shimla district, Sarol in Chamba, Nagwain in Mandi, Tal in Hamirpur and Karchham in Kinnaur district. These are responsible for supplying improved breeds of sheep to the breeders. With a view to increase the demand for pure Hoggets, more popular Soviet Marino and American Rambuillet in the State, the State Government has switched over to pure breeding in all the Government run farms. There are two 'Angora' rabbit farms for distribution of rabbits to the breeders and are located at Kanwari in Kangra and Nagwain in Mandi district. In view of increasing milk production, cross breeding of indigenous cows with the Jersey and Holstein breeds is being encouraged and similarly, improved breeds of buffaloes are being encouraged. Artificial insemination at subsidized rates is also being provided to the livestock owned by the population of these three regions. The State Government has recently established Himachal Pradesh Livestock Development Board with the objective of giving boost to its cross breading programme. There is a considerable presence of Government interventions

through the agencies like HPMC, MILKFED and WOOLFED however, despite all the efforts being made by the Government in encouraging the livelihoods based on animal husbandry, the sector still is working in a highly unorganized manner and requires urgent interventions especially in providing the market linkages.

**Extraction of Forest Wealth**

Forests have been the most dependable companions of the rural population from the ancient times. Forests have, from time immemorial, contributed significantly to the sustainability of a wide range of rural societies and their livelihoods. Forests contribute to societies in several ways. Rural communities derive a wide range of direct and indirect benefits from forests. Not only the poor but all the sections of the society depend on forests to some extent or the other. Dependence of rural poor on forests for sustenance of their livelihoods is implicitly larger than the non-poor rural population, especially in the mountain economies. Rural poor largely depend on the forests for extracting fuel wood out of them. Any ban on extraction of fuel wood from the forests is going to affect the livelihood of the poor adversely. The fact remains that the poor have to be dependent on forests for extraction of the fuel wood and the forest wealth has to be managed in such a manner that the livelihoods of the poor do not get affected adversely and at the same time the forest wealth also does not get depleted to the extent that future generations do not get any fuel wood out of the forest.

89 per cent of the total households in the Northern High Hills are dependent of forest for extracting fuel wood. These proportions of sample households in the Low Hills and in the Valleys and the Plains are 86 per cent and 74 per cent, respectively. In all the sample households that indulge in extraction of forest produce in all the three regions of the State, at least one female member is associated with this activity. Most of the fuel wood extracted from forests in all the three regions of the State is used for self consumption and very little of it is sold occasionally, catering to the need of those households who do not have any member going to the forests to extract fuel wood. In none of the sample villages any village level association was found which would be managing the fuel wood extraction from the forests. There is an urgent need of an intervention where in partnership with the local people, the forest resources and the fuel wood extraction are managed in such a way that not only the needs of present generation are met but also the future generations continue to reap benefits of forests in this regard. In this behalf, the involvement of communities in protection, management and raising of forests in a symbiotic manner deserves to be promoted for which well founded usufruct sharing principles need to be evolved and put in place.

The other common benefit from the forest resources is timber by way of Timber Distribution Rights (TDR). All such households whose land are covered under land settlement operations are given a right to a couple of fully grown trees in the thick Government jungle for specified purposes. These rights are also termed as 'Bartandari" rights. In lieu of these rights, the households are supposed to protect the forests against the natural accidents. They are also supposed to protect the saplings and plant new saplings. However, this duty is discharged by a very few households. The timber extracted hence has not been reported to have found place in the market in any of the three regions of the State. All the timber extracted by way of TDR is used for self consumption only as it is not permitted to sell it in the market by law. Commercial felling of trees has not been reported from the sample villages. Only 7 per cent of the households in the Northern High Hills have been reported to be in the business of the extracting resin and oils from the forests. The corresponding proportions of total households engaged in resin and oil extraction in the Low Hills and the Valleys and the Plains are 9 per cent and 8.5 per cent, respectively.

Extraction of herbs and medicines from forests is generally pursued as a supplementary livelihood strategy. Whatever extraction of herbs and medicines is being done, its marketing is being done in an unorganized manner. Lack of market for herbs and medicines within the State makes people sell these to the middlemen at throw away prices. Middlemen reap huge profits by selling these in the proper markets of Punjab, Utter Pradesh and Delhi. Existence of common properly rights to natural resources is negligible. Rather free access rights to the natural resources are being exercised by the rural people making natural resource based livelihoods vulnerable to their early extinction. Various national and international organizations have also been exploring the natural wealth of the State to exploit the potential of highly valued medicinal and aromatic herbs. There are about 70 units/pharmacies in the State which manufacture Ayurvedic medicines. Profit being the sole motive of these private sector units, the scientific extraction of herbs and medicinal plants do not form a part of overall operations of these units. Indiscriminate exploitation by the outside agencies of these plants is likely to bring many species to extinction. Two bigger units in the Government sector are functional at Joginder Nagar and Majra and they procure raw material from the local producers, process them and supply to outside agencies as ingredients to various Ayurvedic medicines. Four herbal gardens have been set up by the Ayurveda Department of the Government of Himachal Pradesh to raise germplasm nurseries. These herbal gardens have been yearning for perfecting the conservation and other agro-techniques for the sustenance and multiplication of such plants which suit best to and are grown in the given agro-climatic conditions.

**Government Policy** After the Government of India initiated joint forest management with the active participation of local communities and voluntary agencies in regeneration of degraded forests in 1990; this concept has also been adopted by the Government of Himachal Pradesh by establishing village level forest development committees. With the introduction of new legislation empowering Panchayati Raj Institutions for forest management, the task of village level committees has been entrusted to the PRIs. The participation from the communities in or around the forests in the development plan for the forest area has yielded encouraging results in the Kandi area of the State and the same experience needs to be replicated throughout the State. The Forest Department of Himachal Pradesh through the experience gained from implementation of various externally aided projects has adopted the 'participatory forest management' approach in managing the forest wealth of the State. A participatory forest management scheme called as Sanjhi Van Yojana aiming at empowering local institutions to plan, execute and further maintain forestry operations on their own; with the department only playing a role of facilitator has been launched by the Forest Department of the State.

Women being the primary gatherers of the fuel wood and other forest produce in all the three regions, their participation is crucial to the success of any participatory forestry programme. A policy decision has been taken by the Government of Himachal Pradesh to recruit female forest guards in the Forest Department with an objective to ensure free and more frequent interaction with this important stakeholders' group. One of the externally aided projects implemented in Kandi area encouraged the housewives, the major gathering agents of the forest produce, to undertake the economic activities to enable them to earn some income and use alternative fuels like kerosene and LPG. The project succeeded in achieving the objective as the women remained busy during the day time that stopped them from going to the forest and extracting fuel wood, on the one hand, and they started earning income, on the other. Such success stories need to be replicated in other parts of the State.

With about four-fifth of the total holdings being less then one hectare in size, there is little scope for the jobless to earn wages in the farm sector. The average size of a sample household is just adequate to look after the labour needs of the marginal holdings they own. The percentage of households who resort to wage labour in farm sector as the chief means to earn their bread in the Northern High Hills is just 0.8 per cent. The corresponding figures for the Low Hills and the Valleys and the Plains are 1.9 per cent and 2.2 per cent, respectively. These proportions as worked out form

the Census data for the 2001 are: 0.38 per cent for the Northern High Hills; 0.94 per cent for the Low Hills, and; 1.06 per cent for the Valleys and Plains. However, the proportion of people who resort to work in farms as hired labour to supplement their main livelihood is much larger in all the three regions. The labour from outside the State engaged in cultivation operations is virtually absent. The people engaged in fruit growing especially in the Northern High Hills do engage labour during the harvesting and post harvesting seasons. The labour engaged in the orchards in these areas is generally of the Nepalese origin. Lack of employment opportunities in Nepal forces these people to migrate from Nepal and similarity in climatic conditions of Nepal with those of Northern High Hills works as a favourable factor for these people to work in this region. The government has enacted the Minimum Wages Act and ensures strict implementation of the same through various agencies. These agencies also ensure that the women are not discriminated against by getting lower wages than the rates as notified by the Government from time to time.

It has generally been observed throughout the State that the women contribute in majority of the activities in farm sector livelihoods. Barring ploughing and disposing off the marketable surplus, women contribute more than the men do in all other farm related activities, Right from sowing, irrigation, using fertilizers, reaping and post harvest management of the produce has large contribution from women in all the three regions of the State. Same pattern has been observed in fruit production and livelihoods based on the livestock. The women would manage all the activities related to the livestock except for grazing and disposing off the marketable surplus. Women would manage not only the fodder and other feeding requirements of the livestock but also all other issues related to the health of the livestock. If viewed from the participation angle, the picture seems to be pretty good in terms of women empowerment, however, sad part of the story is that none of the women from the sample households which have both men and women engaged in farm activities has reported to have known the quantum of monetary returns the household has received after selling off the marketable surplus. Same pattern regarding participation of women has been observed across all the three regions. However, over the years some of the Women Self Help Groups (WSHGs) formed through the intervention of the Government and also through NABARD have done pretty well not only by undertaking economic activities related to farm sector but also those of non-farm sector. The Government ensures credit to such groups and helps them to become financially sustainable after providing initial financial assistance on loan basis. Quite a few WSHGs, especially in the districts of Kangra, Sirmaur and Solan have been reported to have become self dependent after repayment of the loans. All the

members of the WSHGs have to compulsorily save some fixed amount in the bank out of their income on monthly basis. This intervention has also inculcated the habit of saving besides engaging the female members in economic activities. A centrally assisted scheme with an objective to empower women in the traditional farm sector has been in operation in the 68 development blocks of the State. The women engaged in farm activities are organized into the groups to promote Agriculture Technology and Extension Support through them.

## CHAPTER-V

## LIVELIHOOD STRATEGIES IN NON- FARM SECTOR

This section endeavours to explore the pattern of livelihoods in the non-farm sector in three regions of Himachal Pradesh under this study. About three-fourth of the total sample households are engaged in the farm sector for earning their livelihoods as their primary strategy – as has emerged from the information collected through survey. However, very large dependence on farm sector for earning livelihoods does not indicate to its long term sustainability. An overwhelming majority of operational holdings measuring less than half hectare combined with other risks – natural and market based, leave the rural population of Himachal Pradesh with no other option but to supplement primary livelihood strategies with other alternatives. Supplementary livelihood strategies as adopted by the rural population of Himachal Pradesh do not necessarily pertain to farm sector only but alternative strategies from the non-farm sector have also been reported by the sample households. Most of the supplementary activities being undertaken are seasonal in nature and do not form the perennial feature. This section maps the pattern of livelihoods in non-farm sector. The livelihoods being followed in all the three regions of the State have been grouped into three categories. First category has all the livelihoods that require some skills to adopt them. Both traditional skills based and technology driven skill based livelihoods are grouped into these categories. The second category contains all the livelihood strategies related to tourism. Third category is of services in the Government sector and wage labour in totally unorganized non-farm sector of which, the former has been dealt with in details in one of earlier chapters and, is not covered in the present chapter. Most of the large scale industrial activity is confined to the semi-urban and urban centers of the State located along the boundary of the State with the neighbouring States and hence rural population has little opportunities available in this sector. Moreover, going into the details of livelihoods of people living in urban areas of Himachal Pradesh is not in the purview of the present study as it only attempts to deal with the issues related to livelihoods of rural population.

An attempt has been made to list main livelihood strategies adopted by the rural population of Himachal Pradesh. However, in view of adoption of multiple supplementary livelihood strategies by majority of population, no attempt has been made to segregate supplementary livelihood strategies. Based on the responses of

the sample households, the data on primary livelihood strategies being followed in three regions of Himachal Pradesh along with the proportion of households adopting particular livelihood strategy is presented in table 5.1 below. It gives a clear idea about large dependence of rural population on the farm sector. It is observed that 86.91 per cent of the rural population in the Northern High Hills depends on the farm sector in pursuing their primary livelihood strategy. 75.61 per cent of the rural households in Low Hills and 76.76 per cent of the rural households in the Valleys and Plains depend on their livelihoods primarily from the farm sector.

***Table 5.1: Occupational status in three different regions of Himachal Pradesh***

| *Occupation* | *Proportion of Households* | | |
|---|---|---|---|
| | *Northern High Hills* | *Low Hills* | *Valleys and Plains* |
| **A – Farm Sector** | | | |
| Cultivators | 35.42 | 34.86 | 52.29 |
| Animal Husbandry | 1.98 | 5.39 | 4.23 |
| Fruit Growing | 48.71 | 33.46 | 18.04 |
| Agricultural Labour | 0.80 | 1.90 | 2.20 |
| **B – Non Farm sector** | | | |
| Household industry | 0.62 | 7.14 | 2.38 |
| Construction | 0.00 | 0.14 | 0.43 |
| Trade | 1.29 | 2.43 | 3.97 |
| Private Jobs in the organized sector | 0.02 | 0.49 | 1.03 |
| Wage labour | 5.32 | 7.19 | 9.18 |
| Others | 5.84 | 7.00 | 6.25 |

Source : Based on the sample data

## Wage Labour

The economic activities in the non-farm sector range from a simple wage labour to trading and producing traditional skill based commodities at the household level. A large proportion of people earning their livelihoods from the non-farm sector are working in the form of wage labour. The nature of wage labour is largely confined to the employment opportunities which arise out of the development activities undertaken by the Government. In the higher reaches, the climatic conditions do not permit these development activities to be continued throughout the year and hence the people in these areas who work as wage labour have to remain jobless for a majority period of the year. Migration to earn wages in non-farm or in farm sector has not been attempted to be captured as the migration observed in Himachal Pradesh is not in the same nature of as is observed in other parts of the country. One of the patterns of migration observed in Himachal Pradesh is when civil work on the road being constructed downhill starts, the labour from uphill goes downhill to work and may be stay there for a few days and come back to their families for a couple of days

and go again to work downhill. This pattern of movement certainly does not resemble migration proper. Another pattern of temporary movement of people observed in Himachal Pradesh is those of rich orchardists from the Northern High Hills moving to urban centres and constructing houses there to facilitate education of their wards in public schools of repute. These people go back to their native places at the time when labour intensive fruit growing activities require labour most. They would come back to urban centres once the harvest is over and the produce is disposed off in the market. Third pattern of temporary movement of people observed in Himachal Pradesh is that a few rich residents of the higher reaches own another piece of land in relatively newly urbanized areas and construct houses there. They visit their native places once or twice in a year for a limited period of time. None of these patterns of temporary movement of people discussed above can be termed as migration in its true sense of the word.

Other economic activities in the non-farm sector are private jobs in the organized sector which has a very low presence in all the three regions of Himachal Pradesh. Whatever jobs in the organized private sector are available are confined to the urban industrial belts along the boundary of the State with the neighbouring States of Punjab, Haryana and Uttarakhand. These could not be captured in the scope of the present study as the research site was confined to the rural areas only. Since location of industrial activity is confined to the areas in the periphery of neighbouring States of Punjab, Haryana and Uttarakhand, people living in the Northern High Hills and Low Hills have little opportunities getting employment in industrial sector mainly on two accounts. First, the people living in high hills can not afford to migrate to the industrial belt as if they do so, there is no one left behind in the hills to after their farm operations on whatever little operational holding they possess. Second, necessary skills required by the industry are not possessed by the literate but not educated natives of hilly areas. The employment pattern observed in this industrial belt is such that people form the neighbouring States would come to work sites and go back to their native places in the evening after putting day's labour.

Employment in construction activities as wage labour is virtually absent in the Northern High Hills. The construction activity in this area is very little because of tendency of people migrating to urban and semi-urban centres of the State. Whatever construction activity is undertaken in the Northern High Hills is individual based and most of the unskilled labour is contributed from within the household. Extremely high costs involved in transporting the modern construction material restrict the usage to locally available construction material. Timber and stones are the primary construction

material used in this area. Large scale construction activity is confined to Low Hills and Valleys and Plains and that too in the areas in the urban and semi-urban centers of these areas. Tendency to settle in the urban and semi-urban centres has led to congestion in the urban areas of the State apart from causing environmental deterioration. The Government has formulated and is implementing a comprehensive plan commensurate with the housing needs of not only the rural poor but also of the urban poor and other urban population of the State in a phased manner. The strategy requires to take into consideration the environmental concerns and decongestion of the urban areas by exploring into the possibility of developing housing colonies in the new and interior areas of the State. Appropriate legislation has been enacted to promote and invite private sector to do apartment/real estate development in the designated places. This will surely help meeting the housing needs of the rural population and will provide employment opportunities to the poor of these areas. Private investment with community participation would be an idea worth trying on pilot basis and replicating based on the feedback of the pilot initiative in addition to purely private initiatives.

Actual working season is very limited during the year, especially in the Northern High Hills. It is during this period of the year that development activities undertaken by the Government start being executed and it is also during this period of the year that the native people of these areas would like to utilize the owned assets to achieve desired outcomes through following various livelihood strategies. The available choices of livelihood strategies during this period of the year compete with one another. This conflict may help in bringing about competition among the available choices and may result in the people adopting the most remunerative choice. However, given a limited working season in the Northern High Hills, the people tend to adopt the easier option of engaging themselves in wage labour in various development projects of the Government and owned assets based strategy is a gross casualty of the conflict between the available choices.

A big hydel power exploitation programme undertaken by the Government of Himachal Pradesh in partnership with the private sector has also resulted in creation of employment opportunities. However, the opportunities available for the unskilled poor population of the State are mostly those of wage labour and the low end jobs. The employers have obvious bias in favour of relatively more skilled people from outside the State for employment in these projects. The Government, in partnership with the private sector, is seriously required to undertake a massive skill

upgradation programme for the local population enabling them to avail the employment benefits of hydel projects in the State.

Services like motor workshops, STD/PCOs, Electrical repair shops and medical care have been clubbed into “other” categories of economic activities. The proportion of households engaged in “other” activities is 2.43 per cent in Northern High Hills, 2.68 per cent in Low Hills and 3.13 per cent in Valleys and Plains. Considering small size of the local market and low turnover, these services have very weak financial returns. The households engaged in these activities are barely able to break even.

Himachal Pradesh being a small State has a very small size of market available for disposing off the commodities produced within the State. This combined with the non availability of the raw materials locally, takes away the competitive edge from the local producers. High transportation costs involved in importing raw materials from outside the State and then in exporting the finished goods to markets outside the State make it extremely difficult to compete with the producers form outside and even in the local market where cheaper substitutes supplied by the manufacturers from outside are available. Moreover, difficult terrain especially in the Northern High Hills and the Low Hills together with the extreme climatic conditions bring uncertainty with regard to smooth communication between different regions of the State and also between the markets of the State and those of other States. Relatively younger strata of the inner Himalayas causes massive and frequent land slides and slips even with the slightest of rains. These blockades sometimes take days together to get cleared. The clearing operations are again, more frequently than not, hampered by erratic behaviour of the forces of nature.

All these factors discussed in the preceding paragraph make economic activities extremely vulnerable to be carried out for a good part of the year. These factors are a sufficient reason for the rural population to adopt a strategy based on the local resources and to restrict the scale of operations commensurate with the size of the local market. Such a small scale of operations can not sustain the livelihoods of the families throughout the year, especially in the Northern High Hills, where the livelihoods are inflicted with the seasonality. Moreover, technological advancements render these players helpless with the availability of cheaper substitutes produced with the technologically advanced techniques.

**Livelihoods in Tourism and related activities**

A wide variation in the geographical and climatic conditions prevailing in Himachal Pradesh has resulted in vast potential in tourism. In fact, the policy makers have always considered tourism as an industry while formulating strategy for actualization of this potential. If guided by the right policy, this particular industry has a potential for long term sustenance as well. Clean and beautiful environment, sacred shrines, historic monuments and hospitality of the native people of the State complete the indicative list of prerequisites for sustaining tourism related activities in the long run. The potential for earning livelihood not only by the urban population but also by rural population of the State in this sector is immense. Tourism helps providing employment mainly in three ways. First, the direct employment resulting from rendering of hotel and catering services, as porters, transport and working as tourist guides; Second, employment through production of goods and services required by the tourists during their stay at the destination; and, third, employment through the activities undertaken for development of infrastructure required for promoting tourism. The number of tourists visiting in Himachal Pradesh has been increasing over the years. The number of tourists who visited the State in the year 2002 was 51.04 lakh and this number rose to 75.72 lakh in 2006 (upto November, 2006).[3] All the three regions of the State have vast tourism potential, a large part of which is still unexploited. The Northern High Hills are known for their clean environment and raw beauty in terms of high snow clad mountain peaks, meadows, thick forests, wide range of flora and fauna and places of historic and religious importance. This region has slight advantage in terms of natural beauty as compared to that available in the Low Hills and the Valleys and the Plains.

The tourism policy of Himachal Pradesh takes note of the fact that for every Rs. 10.00 lakh investment in tourism industry 47 employment opportunities are generated whereas the same investment in most labour intensive industry generates only 44 jobs. Despite having such a vast potential in terms of employment and income generation, the sector contributes only about 2 per cent to the State domestic product. The policy envisages bringing prosperity to the people of Himachal Pradesh through travel and tourism; to promote tourism in such a way that it is in harmony with the social and cultural values of the local communities; tourism is environmentally sustainable; and tourism as an industry creates ancillary, direct and indirect employment opportunities for the local communities. The policy has explicit objective

[3] Economic Survey of Himachal Pradesh, 2006-07, Department of Economic and Statistic, Government of Himachal Pradesh, Shimla-171 009

of breaking the seasonality factor of tourism in the State. Himachal Pradesh has always been popular tourism destination during the summers. The policy envisages diversification of products and services which directly or indirectly promote tourism to attract tourists in all the seasons of the year.

The trends observed in the choice of destination by the tourists visiting State clearly indicate that the destinations are limited to the popularly known and conventionally established tourist destinations like Kullu, Manali and Shimla. This has not only brought about congestion in these areas but has also caused scarcity of availability of basic services like drinking water, sanitation and power during the peak tourist season. High turnover of tourist at these tourist destination cause suffering to the tourist at least on two accounts. First, the scarcity of basic services and commodities tends to cut short on the already planned stay of tourists at these destinations giving a never come again feeling to them. Second, driven by the sole motive of profit maximization the local entrepreneurs tend to fleece the visiting tourists by charging exorbitant prices for the already scarce commodities and services. This can, in no way, help in promoting and publicizing these tourist destinations any more. With an objective of de-congesting these tourists' destinations the State tourism policy envisages promoting tourism in rural and tribal areas and developing National Parks and wild life sanctuaries. This will not only meet the objective of decongesting the present tourist destinations and developing new destinations but will also help in enhancing incomes and creating new employment opportunities in the rural and tribal areas of the State.

The State has various pilgrimage destinations spread across all the three regions of the State. A very large number of tourists visit these destinations every year which has resulted in creation of employment opportunities at these destinations. But the fact remains that people who have undertaken economic activities at these destinations are either from outside the State or from other parts of the State and they do not belong to the local communities. The only economic activity that has been observed to be undertaken largely by the local communities is the sale of Puja material at pilgrimage destinations. This has deprived local communities of the benefits flowing from the promotion of tourism at these destinations. This trend is also observed almost at all the tourist destinations. Hotels, Resorts and Restaurants at tourist destinations are either largely owned by the people from outside the State or by the people who do not belong to the local communities. However, it has been observed that the local communities have been able to find gainful employment by owning taxies and running them profitably as also through ancillary activities. The

number of taxies at particular destination is so high that the competition has become very tough and taxi owners are not lucky enough to earn enough on all the days.

Existence of a reasonably good physical infrastructure is the prime concern for every tourist who intends visiting a destination. Adequate infrastructure facilities not only attract a large number of tourists but also prolong their stay at the destination. Basic amenities also form an integral part of these infrastructure facilities. Over the years, the congested roads and hotels in Shimla and Manali have diverted a large number of tourists to other destinations outside the State. Lack of infrastructure facilities at the lesser known tourist destinations within the State does not attract much of the tourist traffic to these destinations. With an objective to provide adequate basic infrastructure at tourist destinations, the tourism policy in the State explicitly makes mentions of this objective.

The role of Government has to confine to that of a facilitator rather than being a provider. The later role is required to be left for the private parties and the communities. For obvious reasons, the focus of the Government so far has been 'the tourism' rather than being 'the tourist'. The need is to orient the policy in such a way that the tourism is marketed as a commodity to the tourists. The level of satisfaction the tourists derive during their stay in the State is required to be maximized by making them comfortable by providing all the desired commodities and services on the one hand and preserving social and cultural values of the local communities and the environmental balance, on the other. There is a need to build various public-private partnerships at different levels keeping in view the limited resources at the disposal of the State Government. The participation of communities is also important at all stages of this particular activity because they are the real stake holders. The concept of tourism needs to incorporate into it a social, cultural and environmental aspect apart from the already included economic aspects.

Promoting tourism in the lesser known areas through a suitably designed policy will surely help in providing livelihood opportunities to the people living in these areas on sustainable basis. The tourism industry in Himachal Pradesh has already ventured into the fields of recreational travel, adventure and sports tourism and cultural tourism. Off late larger towns of the State which have large and decent hotels have become popular travel destination with the corporate world. Another segment which has a vast potential for promoting tourism is health tourism. A vast potential existing in the State in terms of herbal and medicinal plants cultivation can help in establishing in Himachal Pradesh popular health tourism destinations, if exploited carefully. There is also a need to convert Himachal Pradesh from being a holiday destination to tourist

destination. A policy that limits the role of the Government to being a facilitator and that brings maximum welfare to the local communities by using locally available resources through partnerships with private sector is required to be put in place.

**Skill based household livelihoods**

Both village and household schedules contained a section in which few responses relating to the traditional skill based livelihood strategies were sought. Based on these responses, a profile of the traditional skill based economic activities has been attempted in terms of their existence, sustainability and vulnerability to seasonality and trends.

Shawl weaving and carpet weaving are the two main economic activities which are being followed in most of the households who are engaged in traditional skill based livelihood strategies in all the three regions of Himachal Pradesh. Other traditional skill based activities like metal craft, wood craft, medical practice based on herbs were virtually found to be absent from most of the sample villages barring a few. A few villages in the Valleys and Plains were reported with the existence of the traditional skill based activities other than shawl weaving and carpet weaving. 10 per cent of the sample villages in the Low Hills with a small number of people employed are reported to be following metal craft as the means to earn their bread.

39 per cent of the sample villages in the Northern High Hills were reported to have people with the skill of shawl weaving and carpet weaving. But only a few had full time employment weaving shawls whereas the remaining persons found employment in this activity at least for one month in a year. Those persons who have full time employment in this activity had to depend on some supplementary livelihood strategy as shawl weaving was not lucrative enough to sustain their families even at the subsistence level for the whole year. Not many people who have undertaken this economic activity have flourished over the years as this activity alone is not adequate to provide even subsistence to a household.

All other villages in the Northern High Hills responded to the query if this particular trade has become extinct over the years by saying that the trade is either static or stagnant or is in the process of dying. The reasons for becoming shawl weaving a dying industry are:- (i) Lack of market for finished products in the close proximity of the production centres; (ii) Non availability of necessary raw material locally and, if at all, not at the time of actual requirement; (iii) Availability of cheap substitutes based on advanced technology, and; (iv) Inadequate returns on the

finished products because of the compulsion to sell these product at throw away prices due to the availability of cheap substitutes. People possessing shawl weaving skills have been passing on these skills to the next generations in an informal way and most of this is confined to the family members only. Some of the training centres sponsored by the District Industries Centres have been found to be running at a few Panchayat Headquarters but stipend being given by the government during the duration of the training seems to be working as the only incentive for people to attend such training programmes. No other traditional skill based activity was reported to have existing in the Northern Higher Hills.

Low Hills have few people having carpet weaving skills. These people earn their bread by training other persons through formal training programmes in this art. Occasionally they would produce a carpet or a shawl and dispose it off in the market. Metal craft and wood craft were reported to have existed in a few pockets and the inference made about their sustainability is negative for the reasons applicable in case of other traditional skill based activities. The process of instilling knowledge about these skills in the next generation is mainly informal.

All the persons possessing shawl weaving and carpet weaving skill do not get employment in this trade for most part of the year and have to resort to some other livelihood strategy supplementing shawl weaving. Possible reasons for shawl weaving not being an industry with reasonable returns are the same as have been mentioned in the preceding paragraphs in case of the Northern High Hills.

Shawl weaving and carpet weaving are the two traditional skill based activities being practiced through out the State. But the observations made during the survey indicate that these skills are either in the process of dying or have already become extinct due to inadequate returns from this trade and a relatively smaller duration during a year for which the persons possessing these skills get gainful employment. A large part of the activity in this particular trade is in the form of the Government run training centres where trainees are provided with the monthly stipend and one time grant for the raw material under various State run and Central schemes which, seem to be a major incentive for rural population to undergo such training. The trainees after completion of the training have not been reported to have engaged themselves in any gainful employment based on the skills acquired related to this particular trade. Some of the cooperatives in the districts of Kullu and Kinnaur have been doing well by employing people trained in this trade through out the year. Continuation of this activity in these two districts through out the year can be attributed to the fact that the shawls woven in these two districts have unique pattern/design on

them and these shawls are in demand not only in other parts of the country but also abroad because of uniqueness of this pattern on the shawls woven in these two districts.

## CHAPTER VI

## PROCESSES OF DEVELOPMENT AND IMPACT ON TRADITIONAL LIVELIHOOD OPTIONS: A BRIEF NOTE

There are some livelihoods which have either become entirely extinct or are in the process of becoming extinct due to dynamics of change and process of development. During the course of filed investigations some of such livelihoods have been recorded and the following text gives a brief account of such livelihoods. Such trades/livelihoods have been broadly classified into three categories. First category includes those livelihoods which have become absolutely extinct and no one can be observed to be following such livelihoods currently. Any effort to revive or support such livelihoods would be futile as the technological advancements and expansion in communication network have made such livelihoods redundant in the present context. '***Dareis'*** and manual rickshaw pullers belong to this category. '***Dareis'*** were the persons who, with the help of the inflated animal hides called '***Khatnaloo'*** used to take persons and commodities across the rivers and streams. This particular practice was prevalent particularly in the Plains and Valleys where the rivers and stream are wide the water in them is less turbulent than in the hills. In the hills where the river waters are turbulent, manually operated steel wire/rope spans called as **'*Ghururoo'*** in the local dialect are used to cross the rivers. Manually operated '***Ghururoos'*** are also being now replaced by the diesel driven motorized spans where the traffic is heavy and it is profitable to run such spans. '***Dareis'*** used to exist in the olden days when the means of water transport were scarce and network of bridges was not as developed. With the expansion of communication network as more and more motorable and foot bridges came into existence, these **'*Dareis'*** were forced to substitute this activity of supplementing livelihood with some other emerging livelihood strategies. Although water transport in Himachal Pradesh has still not developed, network of motorable and foot bridges has expanded and has caused **'*Dareis'*** to give up for good the traditional practice of taking people and goods across the river and streams in search of new avenues. During the British regime, manually pulled rickshaws used to ply as the only means of transport on the relatively posh Mall Road of Shimla town where entry of Indians, except for a privileged few, was not permitted. These rickshaws used to ply on the same Mall Road through the permits issued to the rickshaw pullers till late seventies and used to carry the aged, children and the people with disabilities from one place to another. The movement of vehicular traffic on the Mall Road is restricted to ambulances, police patrol vehicles, fire engines and the vehicles of VVIPs and VIPs only. Due to various reasons, the Government banned plying of these rickshaws in

late seventies and this resulted in rendering many rickshaw pullers jobless, who were most likely absorbed in the labour market as porters.

The second category includes those livelihoods which have either become extinct or are in the process of becoming so and there is little merit in sustaining them because of availability of better alternatives. Water mills ***(Gharat)*** and cattle driven oil mills ***(Kohlu)*** are such trades. The total turnover of these two trades has come down considerably because of cost effective and less time consuming available option of power/diesel driven mills. Similarly, Manual cotton cleansing/ginning by the ***Dhunias*** is being gradually replaced by more efficient and resource saving electrical substitutes. ***Dhunias*** who were seen in plenty especially, during summer and autumn have become a rare scene in Himachal Pradesh. These livelihoods have little merit in continuing as such. However, technological interventions in these particular trades will result in displacement as technological interventions in these trades would necessitate movement of location of industry from the traditional to a place either within the market proper or at a place which is very near to the market. This displacement may bring in difficulties in pursuing several supplementing livelihood strategies. Interventions to change strategies through technological interventions rather than interventions to revive the extinct or sustain the dying strategy are what would prove to be appropriate interventions in such trades. In fact, these trades have lost their relevance in the modern context when the technological advances have resulted in better and cheaper substitutes. Tinsmiths ***(Kalaigars)*** also belong to this category of livelihoods that have lost out to the introduction of stainless steel utensils.

Third category of livelihoods is those where more direct interventions can help sustaining the livelihoods of the rural poor. Shawl weaving, carpet weaving, and livelihoods based on farm sector are some of the livelihood strategies that can sustain in the long run through appropriate interventions. Potters, village blacksmiths, carpenters are such craftsmen who can benefit from the technological interventions without getting displaced as they are generally located either within the market proper or are located near to the market. Interventions aimed at providing market linkages will surely be instrumental in bringing long term sustainability to these traders.

## CHAPTER VII

## VULNERABILITY ISSUES AND IMPROVING LIVELIHOODS

Livelihood strategies in the farm sector are highly vulnerable to the uncertainties of nature. Also, the climatic conditions in the Northern High Hills and Low Hills do not permit growing of more than two crops a year in most of the pockets. At extremely high altitude the number of crops harvested in a year is just one in few pockets of the Northern High Hills. This makes people to diversify their livelihood strategies in the areas other than cultivation in farm sector. As the total dependence on cultivation based livelihood strategies would leave a very high proportion of the population going without any economic activity for a large part of the year, they are not left with any other choice but to adopt some other supplementary livelihood strategy.

Relatively small size of operational holdings also is a major factor resulting in the adoption of a "supplementary strategy". The observation that majority of the produce out of cultivation is used for self consumption and a very little of it is marketed is sufficient to infer that a large proportion of population has to supplement their earning of bread with a supplementary strategy. Scope of extensification of farm operations in the Northern High Hills being limited, a high dose of technological inputs is required to improve productivity and ensure sustainability. Intensification is the only alternative available in the Northern High Hills whereas there is some scope of extensification in the Low Hills and the Valleys and the Plains.

Keeping in view the occurrence of natural disasters in the past, Himachal Pradesh is among the most unstable and disaster prone States of the country. The fragile nature of ecology due to relatively new mountain ranges and varied climatic conditions, makes the area vulnerable to various natural disasters. Various anthropogenic activities, in addition to the natural factors, have also had a multiplier effect in creating imbalances in the delicate equilibrium of the State's ecology. Frequent natural disasters of varying intensity and their impact on land and society have hampered the livelihoods of people not only instantly but have also put question mark on sustainability of livelihoods in the long run in many areas of the State. Rural agriculture based livelihoods are the worst hit victims of natural shocks though population gainfully or otherwise engaged in non farm sector is also equally hit by these shocks. Sometimes, environmental degradation caused by the

developmental processes like road building and hydropower development also add to the misery.

The State of Himachal Pradesh is prone to severe seismic activity as it lies in the sensitive Himalayan belt at the juncture of two tectonic plates. Seismologists have categorized Himachal Pradesh in seismic zones IV & V, highly prone to earthquakes. Statistically, more than 250 earthquakes of the magnitude 4.0 or more on the Richter scale, including 51 with magnitude above 5.0 on the Richter scale have rocked the State during the last century. Scientific investigation reveals that most of the earthquakes in the region are the result of movement along thrusts. As far as geographic distribution of earthquakes is concerned, the area falling in the district of Kangra, Bilaspur, Chamba and Kullu i.e. most of the area falling in Northern High Hills and Low Hills is in the zone of the highest seismic activity i.e. in zone-V and is prone to disastrous earthquakes. Earthquakes of high intensity shatter the lives of the affected people and it takes a long period of time to revive livelihoods of such people, and that too through interventions.

Another external shock to the livelihoods strategies is in the form of frequent landslips and landslides. The climatic conditions and various anthropogenic activities together with highly fragile nature of the strata of Himachal Pradesh make the State vulnerable to this phenomenon. The frequency of slips and slides is much higher than that of earthquakes. In fact, the slightest of rains may cause slips and slides especially, in the Northern High Hills and Low Hills. As a result of vibrations, over burden of rock material, removal of lateral support, change in the water content of rock or soil bodies, blocked drainage etc. the soil and debris of rocks start movement down the slope taking along with it whatever comes in its way. Loss of life, damages to houses, roads, and means of communications, agricultural land and local floods are some of the major consequences of land slides in the region. Deforestation, unscientific road construction, terracing and water intensive agricultural practices, encroachment on steep hill slopes and hydropower development are some of the prominent activities which make already fragile strata prone to slips and slides. According to rough estimates about one  per cent of the land surface in the districts of Kullu, Shimla, Sirmour, Chamba and Kangra is constantly in the danger of slipping any movement. Every year one or two cases of huge land slides are reported in the State which cause loss of property and human life.

Another common disaster in the State are flash floods and cloud bursts which are extreme events and occur under slowly moving or stationary thunder storm and last for less than 24 hours. This phenomenon has resulted in enormous loss of life and

property in the State as a result of the extremely high velocity of water current and impact which can wash away virtually everything in its way due to the fact that the area affected by such occurrences is often small or limited. The cloud bursts or flash floods can actually alter the entire physiography, economy, life support systems etc. to an almost irreversible level. The flash flood of August, 2000 in Satluj river is one such example in which about 150 people were killed and huge loss to the property including physical infrastructure was reported which, in turn, affected the livelihoods of hundreds of people living in the affected areas. Despite all the efforts on part of the Government to rehabilitate the affected persons they are yet to come out of the distress. All the area along the banks of the rivers in Northern High Hills and Low Hills is more prone to this disaster than that in the Valleys and the Plains because of high velocity and turbulence of water current in hilly areas.

A large part of area falling in the tribal districts of Kinnaur, Lahaul & Spiti and Bharmour and Pangi sub-divisions of Chamba district is prone to the disaster caused by avalanches. According to the Snow and Avalanches Study Establishment (SASE) of the DRDO, on an average 30 persons are killed every year due to this disaster in the Himalayas.[4] Avalanches also cause great damage to physical infrastructure and hence directly affect the livelihoods adversely. Rebuilding of physical infrastructure takes years together and thus does the rehabilitation of affected people and reviving their livelihoods.

Extreme loss of soil fertility and damage to land basin caused by soil erosion is another event which makes the sustainability of farm dependent rural poor in all the three regions of the Himachal Pradesh vulnerable. Human induced activities have increased the rate of soil erosion, although it is a natural process and has been occurring on the surface of the earth since time immemorial. The turbulent waters of five mighty rivers inundating the land of Himachal Pradesh have posed a serious threat to the ecological balance of the State through soil erosion. The steep slopes in the hilly terrain have the terraced farming prevalent in them and these farms are more prone to soil erosion with the slightest of rains and sometimes even with the irrigation water resulting in the loss of fertility. Other development activities like cutting of roads through slopes, construction of housing units and deforestation are some of the human induced factors responsible for increasing rate of soil erosion in the State. Another disaster that strikes the livelihoods of rural poor is the forest fires. Recently, the incidence of forest fires in Himachal Pradesh has increased many times. A forest fire can be both natural and human induced – intentional and un-intentional.

[4] Himachal Pradesh Development Report, Planning Commission, Government of India, New Delhi.

Negligence, poor levels of awareness of people entering forests for extracting forest wealth, shifting cultivation to forests, throwing smouldering stubs of cigarettes and Beedies and cooking food in the forests are some of the factors that may lead to a forest fire. These fires not only cause huge loss to the valuable timber and other forest produce but also deprive many people of their livelihoods who are dependent on forests. Many other environmental imbalances caused by forest fires also affect livelihoods of poor people indirectly. The forest fire which broke out in 1995 and covered two States – Uttarakhand and Himachal Pradesh and in which forest wealth worth Rs. 1750 million was destroyed can give an idea about the severity of losses caused by forest fires.

The vulnerabilities discussed above are external to the system of assets, capabilities and strategies in the sense that human beings have no or little control over these. These vulnerabilities are external in the sense that the effects of such shocks can not be totally eliminated through any kind of interventions and the time of their incidence is highly unpredictable. However, interventions can be made to mitigate the effect of such shocks. Earthquakes, flashfloods, cloud bursts, land slides and slips can not be predicted or if some of the shocks have any element of predictability, the techniques available for predicting them lack accuracy. However, interventions can help in reducing the frequency and intensity of some of the shocks viz. land slides, soil erosion, forest fires etc. Interventions involving active participation of the stakeholders can directly and indirectly reduce the incidence of land slides, soil erosion and forest fires. Direct interventions can be helpful in rehabilitating the people affected by the natural calamities through direct monetary benefits and by providing wage employment.

Other shocks like human health shocks in the form of epidemics or extreme hunger are almost absent from all the three regions of the State. There have been some reports of outbreak of some diseases in some micro pockets of the State but they are localized and confined to a particular area. The Health Department's interventions have helped to eradicate these shocks. Himachal has the reputation of being a peaceful State and shocks in the form of civil, social and political conflicts are almost absent from the State. The only form of political conflict visibly present in the State is the elections to the various institutions. The Government machinery is also equipped through the extension agencies to deal with any kind of shocks related to crop and animal stock health. Any such incidence can destroy the whole crop during a period. If the high value commercial crops like apple, mushrooms and flowers which need relatively expensive inputs are affected by such shocks, it can bring about a

situation where the poor cultivators get worsen due to their inability to cope up with the stress. This is particularly true about the cultivators in the Northern High Hills where the alternative means of livelihood are a rarity. A vast network of veterinary institutions and extension staff of the departments of Agriculture, Horticulture and Animal Husbandry in Himachal Pradesh work relentlessly in making the stakeholders aware about the possible shocks and ensure that incidence of such shocks is mitigated and minimized. Even if stray incidences of such shocks occur, the prompt action of the extension staff has been able to deal with it in Himachal Pradesh. In fact, no major incidence of any kind of crop and livestock health shock has been reported in Himachal Pradesh in the first decade of the twenty first century.

Other factors which the livelihoods of the rural poor are vulnerable to are a) non availability of appropriate market within the State b) existence of a sub-optimal or inadequate physical infrastructure c) limited working season in the Northern High Hills because of harsh climatic conditions during winters.

A population of about 60 lakh people (2001 Census) spread over an area of 55,673 square kilometres can not accommodate the marketable surplus of both farm and non farm sector in its small market. Rural people do not find any place in small local markets for their marketable surplus. A small proportion of population is spread over a large surface area especially, in the Northern High Hills. It is not possible for the small local markets with relatively low population densities to accommodate whatever is available on the supply side. Rural people have either to go to the larger markets or have to sell their surplus in the local market at much lower prices. Large scale producers can afford to take their produce to the neighbouring markets as the economies of scale work out to be favouring them. Small scale producers can not afford to take the produce to the neighbouring markets and have to settle for lower returns in the local markets. This is the situation particularly in Northern High Hills where access to market is hampered by inadequate and poor quality of physical infrastructure and high vulnerability of the available infrastructure to the drastic climatic conditions. Even the large scale producers have to compete with the low cost produce from the neighbouring States. High transportation costs together with transit delays takes away the competitive edge from the producers in the Northern High Hills and also in the Low Hills. Small size of operational holdings also results in distorted economies of scale against the marginal and small farmers. Small size of the operational holding also keeps away the cultivators and the fruit growers from introducing technological inputs into the farm operations as use of high cost technological inputs may not yield commensurate output and returns because of small

scale of operation. Above mentioned factors are responsible for low productivity levels in farm sector in Himachal Pradesh.

Creation of physical infrastructure is exorbitantly expensive, more than normal time consuming and a difficult activity in the hilly terrain. It takes more than double the resources – financial, human and time to complete an infrastructure development work in a hilly area of what it would have taken in finishing the same work in the plain areas. High transportation cost involved in carrying the raw material and machinery to the site of development and transit delays resulting from slow movement along the narrow and meandering tracts and vagaries of weather inevitably lead to delays in execution and cost escalation of the development works. Given the limited resources at the disposal of the Government, interventions at the Government level can do a little in mitigating the incidence of these bottlenecks. Building public private partnerships in rural areas especially in the field of providing basic physical infrastructure does not work in favour of the rural and weaker sections of the society. Maintaining the created infrastructure is also extremely expensive and difficult. A heavy rain may wash away the whole trace of recently cut road and result in undertaking the work afresh. Even the thickly tarred roads require repairs after a snow fall during winters or heavy and persistent rains during monsoons. This is in no way to indicate that the Government has not been making any efforts to improve physical infrastructure in the State. The State Government has resorted to supplement its efforts to build infrastructure in the State through various funding sources like NABARD and World Bank. In fact Himachal Pradesh is among the leading States in the country which has developed its infrastructure in the recent years and is catching up fast with the most developed States of the country. But availability of a particular level of infrastructure in a certain area in plains would mean different from the same level of infrastructure spread over same area in the hills. With a view to provide rural road connectivity, the State government undertook a massive programme to connect all the unconnected 631 Panchayats (as on 1$^{st}$ April, 2003) through motorable road. Apart from funding the rural roads construction through Pradhan Mantri Grammen Sadak Yojana, various other sources of funding have also been tapped. Out of 631 unconnected Panchayats, 157 Panchayats had already been connected till the end of the year 2006. Funds for connecting 417 more unconnected Panchayats have already been made available. The State Government has fixed a target to provide connectivity to all habitations of population more than 500 by March, 2009.

Severe climatic conditions in winters and heavy rains during monsoons limit actual working season to only a few months in the year. This seasonality is

particularly pronounced in the Northern High Hills and Low Hills. Incessant rains during monsoons though a boon for the farmers in the areas where irrigation facilities are rare, result in heavy damage to the available physical infrastructure. A good part of the year is consumed by the efforts to restore the basic infrastructure damaged by the rains and snow. Whatever working days are available during the year, are consumed by the efforts to store necessary provisions for the winters and rainy season. Life especially in the higher reaches virtually comes to a standstill during winters where the land remains covered with snow for a good part of winter. All the flora vanishes from land and fauna is rarely seen outside its natural or man made shelters. A great hardship is faced in earning two meals a day by the people living in these areas though starvation has not been reported from any area in the State. The poor are left with no other option but to resort to borrowing either from village moneylender or buying necessary articles on credit from the village grosser. The economic activity undertaken by these poor during whatever working season is available is largely dedicated to repay the loans taken during winters. Above factors make livelihood vulnerable in the farm and non-farm sectors alike.

**Improving Livelihoods**

Above text elaborated two types of factors that affect the livelihoods of rural population of Himachal Pradesh adversely. The first category of factors is exogenous and unpredictable and interventions can do little in eliminating them. The only possible course of intervention is to mitigate the effects of these phenomena. Mitigating interventions have to be largely at the level of the Government. However, role of the communities, voluntary organizations and the private sector can not be undermined in doing so. Only limitation in involving the private sector in mitigating effort is that the private investment is mainly profit driven and mitigation efforts have little scope in terms of profit earnings. Mitigation of effects of natural calamities can be done through a comprehensive disaster management plan as is being done in the State through the district administration. Some of the steps like afforestation, introducing scientific techniques of farming aimed at minimizing soil erosion, formulation of a comprehensive environment conservation plan, introduction of technological innovations in the development process and creating awareness among people about the possible effects of natural calamities and ways to mitigate the impact thereof can be helpful in coping with the after shocks of natural calamities. Respective line agencies like, the departments of agriculture, revenue, horticulture, forest, and irrigation have been actively involved in formulating and implementing appropriate strategies through their extension staff at various levels in the State.

The second category of factors affecting the livelihoods is endogenous to the system and is a result of either the prevalent practices or interaction of social, cultural and economic processes occurring within the system. These vulnerabilities can either be eliminated entirely or frequency of their incidence can be reduced through direct interventions. One of the major problems identified has been the lack of marketing infrastructure and the strategy to market the marketable surplus. Absence of local market and poor access to neighbouring markets aggravate the situation. Direct interventions in providing an effective marketing infrastructure and market linkages can be instrumental in increasing the employment opportunities and income generation both in farm and non-farm sectors. The Government, communities, voluntary organizations and the private sector have equally important role in establishing market linkages by organizing producers and providing proper access to a competitive market enabling them to get remunerative prices for their produce. The role of private sector and the communities becomes important in the wake of two main factors: i) the Government has limited capacity in terms of financial and other resources; and, ii) participation of communities gives participants a sense of being involved in the development process and such involvement is a big motivating force. Active participation from the communities also enables the actual stakeholders to compete in the highly competitive environment by breaking away from the conventional practice of being dependent on the Government for hand holding. However, the poorest of the poor still need hand holding by the Government as the level of their vulnerability has been pretty high. The social security schemes run by the Government take care of this section of the society. The old, the widows and the persons with disabilities who are unable to take up any livelihood require special support from the Government. The Himachal Pradesh Government is currently providing social security pension to 2,12,250 old aged, widows and persons with disabilities through various welfare schemes. (2006-07). The State Government, through indirect intervention, has been providing food grains and other food articles at subsidized rates to the people living below poverty line under the Targeted Public Distribution System (TPDS). 2.98 lakh BPL families have been receiving subsidized food articles in the State. Out of these BPL families, 1.97 lakh poorest of the poor families have been further covered under Antodaya Anna Yojana. The State Government is in the process of identifying additional 2,15,819 BPL families for being covered under TPDS to achieve the target of 5.14 lakh families as fixed by the Government of India.

As has been mentioned in the earlier text that marketing of marketable surplus whether in the field of crop cultivation, fruit growing or any activity in the farm

sector, has always been a serious problem for the producers. In the absence of marketing network and organizations except for a few in the public and co-operative sectors and due to inaccessibility of the markets caused by difficult nature of geography of the State, producers of the State are not able to get adequate returns on their marketable surplus. A large part of apples and vegetables produced and almost entire produce of mushroom and honey is for sale. However, a great deal of uncertainty hovers around the producer regarding the quantum of returns by disposing off the marketable surplus. Marketing even of the major cash crop of the State i.e. apple had been highly uncertain in most of apple producing pockets of the State till recently. There was only a single public sector undertaking called as Himachal Pradesh Horticulture Produce Processing and Marketing Corporation (HPMC) looking after the needs of fruit growers in the State. The corporation has done a commendable job in helping the fruit growers of the State in marketing their produce. The Corporation also undertakes value addition activities to the horticultural output and whatever produce the growers are not able to sell, it procures it from the producers and uses the same for value addition. The fruit products of the HPMC are popular not only in India but are also exported to many parts of the world. In pursuance of the policy of increasing private participation in agriculture and allied sectors two private companies namely; Adani Agrifresh and Reliance Group of Industries have stepped into the marketing operations of apple in the State during the last couple of years. These two companies through their collection centres dispersed over the apple producing belt of the State procure apples locally at the rate prevailing in the market. This has helped in mitigating the hardships in transporting and marketing the apple being faced by the apple growers of the State. The prosperity brought to the apple producing areas and increased levels of satiety of producers brought about by private interventions stand testimony to the success of this experiment though it is too early to make an assessment of the exact quantum of impact. This experience needs to be replicated not only in farm sector but also in the non farm sector.

The only cooperative society in the field of Animal Husbandry which has considerable presence in the State is State Cooperative Milk Producers Federation Ltd. (MILKFED). However, the extent of milk sold in the unorganized market can be judged from the mere fact that only about 1.5 per cent of the total milk produced in the State is procured by MILKFED. As has also been mentioned in one of the earlier Chapters that most of the labour is done by females in rearing and feeding the cattle whereas, they have no role to play in marketing of milk which deprives the women of economic empowerment. Women put all the hard work in producing the output in

Animal Husbandry sector. The White Revolution of Gujrat is a well documented success story and is worth replicating. The women in Himachal Pradesh are required to be organized in small groups and helped to take up all the aspects of Animal Husbandry including marketing of the produce, thereby empowering them not only economically but also socially. This operation especially requires implementation in poultry and dairy farming where women are deprived of their rightful share in economic returns. The private sector participation is one of the alternatives for achieving this end or option of involving voluntary organizations can be explored into. The Government gradually needs to withdraw from the direct interventions because of little success of this mode of operation in the past. The concept of the community participation through involvement of private and voluntary sectors should gradually be put in place not only in the field of marketing but also in all other fields related to technological inputs, pre and post harvesting management etc. with an objective to raise productivity levels. Single product specific organization of potato growers of Himachal Pradesh called as Potato Growers Association of Lahaul Spiti has succeeded in marketing the high quality seed potato grown in the Tribal district of Lahaul & Spiti at highly remunerative prices in the markets through out the country. This kind of experiment can be replicated in the upcoming field of off-season vegetable production.

A large number of Self Help Groups (SHGs) have been formed under the initiative taken by various agencies including NABARD in the State. Some of these groups particularly the Women Self Help Groups (WSHGs) have performed extremely well and have repaid the entire loan extended to them by the sponsoring bank and all the members of such groups have been empowered economically and socially. The NABARD had assisted a total of 5122 SHGs in the State up to 2005-06 by providing financial assistance to them. The Mahila Mandals as per he records of the Department of Rural Development of Himachal Pradesh which have received assistance from various banks by 2005-06 were 11,048. The maximum numbers of Mahila Mandals registered are in the district of Kangra followed by Mandi and Shimla. An agro business consortium called as “Samridhi Mahila Cooperative”, exclusively run by the women was established in the resource poor Changer area of Kangra and Chamba Districts. The organization was supported by the Indo-German Changer Eco-Development Project (IGCEDP) and two other NGOs based in Kangra and Chamba. The Cooperative started with 16 women members and processed 350 kg. of food product in the year 1995-96 and has now grown into a reasonably big agro business consortium with a total membership of 182 members and it produced about 23,000 kg

of pickles, chutneys and candies. [5] The products are being exported to various parts of the country and are always in demand because of the better quality of the products as compared to others available in the market. This type of experience can be replicated not only in all the activities in farm sector but also in non farm sector.

One of the promising sectors which can be developed with the participation of the private sector is production of herbs, medicinal plants and aromatic plants. This will not only help in exploiting the vast potential in this field but will also help the rural poor living around the forest areas to improve their livelihoods and sustain them in the long run. The private players can be tied up with for supplying technological inputs and buy back guarantee for purchasing raw or semi-processed produce at remunerative prices and that too at the door step of the communities. Both the stake holders i.e. the private party and the community stand to benefit from this venture. The Government can provide the necessary infrastructure and may only enforce conservation norms strictly with the sole objective of making the livelihood sustainable without disturbing the ecological equilibrium. This will also result in rapid increase in output and will bring some additional revenues to the Government. Private players have choice of adopting different models depending on the circumstances prevailing in a particular area and their operations do not suffer from the procedural rigidities and other debilities as are the characteristic feature of most of the Government operations. The flexibility in their operations, no doubt, is aimed at maximizing the profits of the organization, yet profits accruing to the producers are tremendous. The experience not only in various parts of the country but also in most of the developing nations has shown that the private sector participation has benefited the communities in two ways. First, as the communities are involved at every stage of the operations in the field, it gives the producers much needed exposure to the competitive environment which, in turn, increases the confidence levels of and motivation among the producers. Secondly, the direct benefits are in the form of increased incomes and improved livelihoods. In the districts of Kullu and Shimla some of the small private parties even extend advances to the growers for procuring necessary inputs and these advances are then adjusted during the final settlement when the crop is actually harvested.

These suggestions, as a first step could be considered to be implemented in the relatively unexploited fields like extraction of medicinal plants and later on they can be replicated in other sectors. The experience gained from the initial sector can be handy in correcting the strategies in the subsequent sectors. No doubt, the Government interventions like that of HPMC have proved to be successful in

[5] Himachal Pradesh Development Report, Planning Commission, GOI, New Delhi

protecting the interest of the fruit growers, but, sustainability of not only the corporation but also of the livelihoods of the growers protected against the competition have become questionable. The time is now ripe that the Government should leave the livelihoods of the producers to themselves in the participative mode and it should retract form the direct interventions. However, it should continue its role as the provider of the environment that is conducive to the long term sustainability of livelihoods.

## CHAPTER VIII

## SUMMING UP

As has been mentioned in the opening chapter of this study, it aimed at a study of the pattern and context of rural livelihoods in Himachal Pradesh. Accordingly, the sectors and livelihood activities in farm and non farm pursuits of the rural economy of Himachal Pradesh have been covered. A specific mention of such rural occupations or livelihoods that have either become extinct or are headed for extinction as a result of the dynamics of change in the economy including developmental processes has been made in the relevant chapter. The study has covered the various livelihoods and analysed the constraints which impinge upon the issues of sustainability of these livelihoods. In this manner, the study has analysed the current status of livelihoods, understood the dynamics of livelihoods, and outlined the extent of vulnerability and come out with the strategies for dealing with these issues.

The census data indicates that the percentage of total workers has increased from 36.80 per cent in 1971 to 49.22 per cent in 2001. It clearly indicates that there has been a rise in the working population in Himachal Pradesh and the ratio of total workers to non-workers has improved from 1:1.72 to 1:1.03. This is a welcome sign as it indicates that the dependency ratio at an overall level has considerably declined. Among the workers, the farm sector accounted for 75.82 per cent of all workers in 1971 and it has now come down to 68.65 per cent according to the 2001 census. Non-farm occupations have now started absorbing larger work force than in the past.

Whereas the total workers including those seeking work according to 2001 census constituted 49.22 per cent of the total population, the workers excluding the seekers accounted for 45.99 per cent of the total population. In the context of the gender dimension, 50.54 per cent of the total male population was classified as workers whereas the corresponding percentage for the females was 41.38 per cent. Thus on a comparative basis, there is a gender gap in the working population but this gap is not significantly pronounced and implies that the female population of the State is also fairly economically active. To that extent, the women workers significantly impact the various household level livelihood pursuits.

Apart from the census classification of population as workers and non workers, in the overall context of livelihoods, it is important to highlight the fact that Himachal

Pradesh is among those States which have a very high ratio of government employees to the total population. The total number of government employees and employees of the para-statal organizations in Himachal Pradesh is about three lakh out of a population of about sixty lakh. It is implicit that government employment is a major livelihood pursuit in most cases and a supplementary livelihood pursuit in case of households which also lean on the farm and non-farm livelihood strategies.

Coming to the question of enabling environment which deals with the assets, capabilities, policy and processes as tools of livelihood, the most central to the question of assets is the population. Within the given population of an area, the share of economically active population comprises the core asset in the context of the choice and pursuit of the livelihood strategies. The data collected through the study reveals that 62.46 per cent of the sample population comprises of persons in the 15-58 years age group. The share of population in the 0-14 year's age group is 28.80 per cent whereas that of the persons of 58 years and above age is only 8.74 per cent. Besides the share of population in the economically active age group, the literacy percentage of the population excluding 0-6 year age group at 82.78 per cent is also a positive aspect of the demographic asset and indicates a better capability of the population towards adopting a diverse set of livelihood strategies. The literacy rate of the sample population for males is 92.13 per cent and that for the females 72.77 per cent. In this manner the gender gap in literacy in the sample population by and large conforms to the gender gap in literacy observed at an overall level by the 2001 census data.

The educational qualifications or attainment of certain skills and proficiency by the literate population is another aspect of the capability as a tool for choice of livelihood strategy. The sample data was analysed for this aspect and it is revealed that it could be grouped into three categories – upto high school; above high school upto post graduate level; and technically or professionally equipped literates. The sample data indicates that 83.50 per cent of all literates belonged to the first category, i.e. upto high school level. All such persons besides the usual livelihood strategies – adequate or inadequate – would get supplementary livelihood support under the programmes like National Rural Employment Guarantee Scheme, thus adding to the sustainability component of the main livelihood strategy being pursued by this group of population. The data also revealed that 13.91 per cent of the literates belonged to the second category of persons having achieved above high school and upto post graduate level of education. Such persons could find sustainable employment opportunities in the public sector or in the private sector in the nature of general

services. However, employment opportunities in the public sector have been shrinking and the private sector does not hold a larger promise within Himachal Pradesh. The last category comprising of the remaining 2.59 per cent is of professional and technically qualified persons for whom sustainable livelihoods would not be difficult to come by as the State and national economies continue to grow at higher rates.

The physical well being of the population is another asset and imparts a certain capability to an individual in the context of pursuit of the chosen or available livelihood strategy. The Sample data has thrown up very healthy indications of the state of well being. There has been a steady rise in the percentage of institutional deliveries in all the three regions over the study period but this is most pronounced in the Valleys and Plains. The increase in percentage has been nearly six fold in this region, whereas in the other two regions it has been about four fold. The proportion of mothers receiving institutional pre natal maternal care has also considerably gone up in all the regions and ranges between 93.33 per cent for the Low Hills to 98.92 per cent for the Northern High Hills. Immunization cover is another aspect of ensuring a sustainable state of physical well being. The sample data revealed that the ratio of fully immunized children was as high as 98 per cent in all the three regions. This augurs well for two judgments – first that the awareness about the importance of immunization is nearly universal and second that the outreach of the health infrastructure is very extensive in the State as it affords immunization opportunity to almost the entire population. These three aspects of the data collected clearly indicate that on the question of the state of physical well being, the study population is fairly well endowed for pursuit of any kind of livelihood strategy.

Talking of the physical infrastructure, the various elements which have been covered by the study include land, irrigation, road connectivity, postal and telecom services, transport services, electricity and drinking water. With the exception of land at an overall level, the cultivated land (operational holding) at the specific household level and irrigation, all other elements of the physical infrastructure endowment in the State at large, and for the study units, in particular, exist in a state of strength and lending credibility to the sustainability of livelihoods. At the concurrent level, the physical infrastructure endowment levels also afford fairly extensive opportunities for diversification of the livelihoods as the options for reaching the markets keep expanding and improving.

The socio-cultural and political environment plays a critical role in determining the livelihood strategies of people. At times two sets of people endowed with an identical set of tangible assets may perform differently with regard to the choice of the

livelihood strategy on one plane, and in terms of performance on another plane even though the livelihood strategy chosen may be the same because the performance levels will be a function of the capacity and the prevailing market environment.

The family, the active social organizations like NGOs, SHGs and any other formal or informal organization of people would also determine or guide the choice of the livelihood strategy. The recent decentralization of democratic governance has paved the way for a quantum leap in terms of empowerment of women through the reservation process. This, in due course of time, is certainly going to significantly intervene and impact the overall scenario of livelihoods in the society in general, and that of the female population, in particular.

Last, but not the least, is the significant role of an appropriate enabling government policy for correction of distortions in the distributive mechanism. Himachal Pradesh government has all along laid a significantly positive role in creating the physical environment for improving the capacities of its population for sustainable livelihoods. High priority to social services in the recent decades has led to Himachal Pradesh becoming a model socially developed State and thus has a rural population which is empowered with better levels of educational and health attainments. There are several instances of positive government interventions by way of policy in creating a strong enabling environment for enabling and improving the status of livelihood strategies.

Having said a word on the occupational pattern and the enabling environment for choice and pursuit of the livelihood strategies, we may not turn to quick comment on the livelihood strategies in the farm and non farm sectors. As was mentioned above, farm based livelihood strategies suffer from two inherent constraints of small size and inadequacy of irrigation facilities. Whereas the small size of the holdings does not become a constraint as it is a country-wide phenomenon and it can, on the contrary, be an advantage in the context of Himachal Pradesh due to climatic and topographic diversity; the inadequacy of irrigation facilities is a real constraint. Without the provision of assured irrigation, the much needed diversification of the farm economy will be difficult to realize and in turn may significantly impact the sustainability of the farm based livelihoods in agriculture sector. As regards the government policy, environment conducive to enhancing the sustainability of such livelihoods has been consistently attempted to be created by a wide range of interventions which have been outlined in chapter-IV. In the recent times, it has been conclusively demonstrated that vegetable cultivation offers unlimited potential for long term sustainability of farm based livelihoods in Himachal Pradesh. Success stories

galore and are acting as a strong catalyst in pulling in more and more farmers into this activity.

Horticulture is a livelihood strategy practiced by more than 10 per cent households in the State. Although Himachal Pradesh has made for itself a name in the field of horticultural development over the last 50 years, yet Horticulture suffers from a wide range of formidable constraints. A very large segment of the temperate horticulture mainly comprising of apples, is carried out on marginal or sub-optimal lands. The plantations have aged and are largely past the prime as regards the bearing capacity and therefore, need to be replanted with appropriate cultivars. The root stocks are old and overdue for replacement. Irrigation is also a major constraint in the context of expansion of horticulture as also in raising the productivity levels. Post harvest handling of the fruit output at times emerges as a major constraint. All these factors make temperate horticulture a fairly vulnerable livelihood strategy. Talking of the sub tropical horticulture, it suffers from very low productivity and can not be pursued as a stand alone livelihood option. The government policy has always come up with positive interventions to enhance the sustainability of horticulture based livelihoods which include market intervention in the case of glut in the markets, bringing in “State of the Art” technology for productivity improvement, research and extension and strengthening the marketing infrastructure in public as well as private sector.

Floriculture, Mushroom cultivation and bee keeping are the other horticulture related activities which have become popular with the farmers to a certain extent. These, however, are principal livelihood strategies at a limited level and are supplementary strategies at a larger level. These activities have also received appropriate policy support from the State Government for making them good support livelihood strategies.

Himachal Pradesh with a live stock population of close to five million could be called a State where a vast majority of the population follows agro-pastoral livelihoods. The milk production in the State has been rising as a result of which the consumption of milk in the rural areas has also risen. The marketing of milk is highly decentralized in the rural context. A sizeable portion of the urban milk demand is met by imposts from Punjab and Haryana. Apparently there is scope for extension of dairy farming in Himachal Pradesh on this count but competition to milk imported from Punjab and Haryana may not be possible due to the productivity differential and the economies of scale. Sheep and goat rearing is practiced as a principal livelihood strategy largely in the tribal areas by specific tribes. These are the nomadic ***gaddis*** who move with their

flocks to the plains during winters and move back to the mountains during summers. State intervention for improving the live stock based livelihood pursuits include a fairly well placed veterinary care infrastructure, organization of apex milk producers cooperative, establishment of cooperative wool procurement and marketing infrastructure and efforts to upgrade the indigenous stock of animals by cross breeding and importing exotic varieties of various animals.

In the context of forestry based livelihood strategies, an important activity deserving a special mention in this study is minor forest produce based livelihoods. Apart from the traditional collection of minor forest produce, the organized cultivation of various aromatic and medicinal herbs is emerging as a strong possibility of becoming a sustainable livelihood option in the long run. In the context of taking the local communities and the local government institutions on board for sustainable management of forestry resources, the government has come up with the enabling framework of usufruct sharing, which will go a long way in getting all the stake holders together in making forest management a sustainable activity and thus lead to imparting resilience to long term sustainability of the land and farm based livelihoods in the rural areas of Himachal Pradesh.

Lastly, an important comment needs to be added here that the above different livelihood strategy options are so inextricably linked with each other in the context of rural economy of Himachal Pradesh that many of the rural households would be found simultaneously pursuing all, and if not all, then more than one of the above as livelihood strategy. In that scenario, the vulnerability questions are bound to take a back seat and the emergence of crisis situations is not a widely and frequently accruing phenomenon.

The data collected through the study revealed that farm sector based occupations accounted for 86.91 per cent of the households in northern high hills and the non farm sector occupations for the remaining 13.09 per cent of the households. With in the non farm sector, wage labour accounted for 5.32 per cent for all households. All other occupations engaged only 7.77 per cent of total households and these other occupations include household industry, construction, trade, private jobs in the organized sector, motor workshops STD/PCO booths, electrical repair shops and medical care. This data clearly shows a very heavy dependence of the households on farm based livelihood pursuits in the Northern High Hills region.

For the low hills, farm sector based occupations accounted for 75.61 per cent of the households and the non farm sector 24.39 per cent. To that extent, the

livelihood pursuits are at a slightly more diversified set of non farm activities as compared to the Northern High Hills. In this region also, the wage, labour and government jobs accounted for 11.51 per cent of the households but the most important aspect in this region is that a good 7.14 per cent of the households were engaged in household base industry.

Whereas the macro picture for the third region comprising of the valleys and planes in regard to the households engaged in farm sector based occupations and the non farm sector base occupations resembles the one obtained in Low Hills region, the major difference is that the farm based activity of fruit growing is at a much lower level and engages only about 18 per cent households as against 33.46 per cent households in Low Hills and 48.71 per cent households in the Northern High Hills. The other difference is that wage labour is pursued by 9.18 per cent of the households.

Off-farm livelihood pursuits are also available in the tourism and related activities as also in the area specific skill based livelihoods like shawl and carpets weaving. However, the shawl and carpet weaving face a severe competition from the mechanized manufacturing.

The study has covered the vulnerability issues for the whole range of livelihood strategies and has also come up with suggestions for improving their sustainability. In most cases the improvement is possible to be brought about by a proactive government policy which is a vehicle of facilitation and extension rather than by subsidy support. The government intervention will certainly not cost much and will lend the direction in which the livelihood strategies could become sustainable. One of the most critical gaps in terms of capabilities of the population is the lack of adequate technical skill build up and linking such build up to the market needs. Public-private partnerships for strengthening the technical education infrastructure as also private sector investment in the field could fast track the ability of the local population to find skill based sustainable livelihoods not only in Himachal or rest of the country but also outside the country.

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