PART –I

(General Profile)

CHAPTER - 1

Introduction

Uttarakhand, having completed a decade as a separate state, is now poised to embark on a new era of sustained inclusive growth and all-round development. The broad features of the administrative structure and systems, extending from the state to the district and sub-district levels, are now in place, though the problem of shortage of manpower in crucial areas remains. The 10th Five Year Plan was prepared at a time when the State was still quite new. The administrative system was then still in the process of evolution. Adequate administrative support and expert assistance for planning was not available. The financial resource position of the State was quite precarious, as the State came into existence after the award of the Eleventh Finance Commission had been accepted and implemented by the Central Government, and the State had not been granted the status of a Special Category State. Despite these constraints, Uttarakhand made rapid progress and posted a consistently high rate of growth of GSDP – nearly 10 percent on an average during the Tenth Five Year Plan and the initial teething problems relating to structure and administration were solved to some extent. The Eleventh Plan, therefore, afforded an opportunity of building on the base that has been created so far, sustaining the tempo of growth that has been generated and making it a more inclusive process by spreading its benefits to all sections of the society and to all parts of the State equally. The Eleventh Five Year is half way through and despite global recession, the State has been able to sustain the tempo of growth. The mid term appraisal report released by the Planning Commission, GoI reveals. that the economy has weathered an exceptionally difficult global environment very well and is now well poised to achieve the targeted growth rate by the terminal year i.e. 2011-12, of the Eleventh Five Year Plan. Uttarakhand also registered a growth rate commensurate with the targeted growth rate of 9.9 percent during the first three years of the 11th FYP.

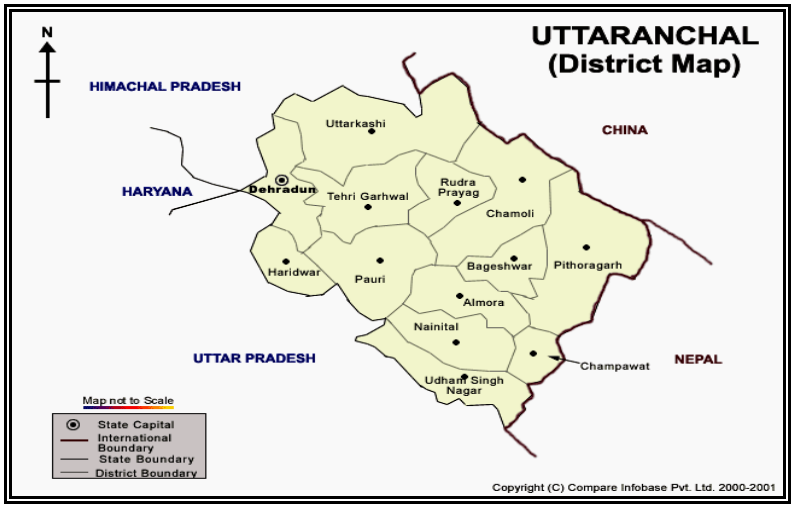
There has been a clear shift in the sector wise composition of GSDP growth in the State from primary to secondary and services sector. However, despite this relatively better performance, poverty remains a serious cause of concern.

LAND & POPULATION

The State is strategically located and forms part of the Northern boundary of the country, sharing its borders with Nepal and China (Tibet). It extends between 77°34'and 81°02'E Longitude and 28°43' and 31°27'N Latitude. It touches Tibet in the north, Himachal Pradesh in the west and northwest, Gangetic plains of Uttar Pradesh in the south and Nepal in the east. Starting from the foothills in the south it extends to the snow clad mountains in the north. The high Himalayan ranges and glaciers form most of the northern parts of the state while the lower reaches are densely forested with rich stock of flora and fauna.

The entire State forms part of the Central Himalayas. It is interspersed with rivers, fertile terai, deep valleys, glaciers, alpine meadows and high peaks. The State presents pristine, pure and picturesque environs. No wonder it is also considered to be "Dev Bhumi" or the abode of the Gods.

Exhibit 1.1 : Map of Uttarakhand



The State is spread over 53,483 sq. Km of land, which is 1.67 percent of the country's total area. The population of the State, according to the 2001 Census, was 8.49 million, of which 4.33 million were males and 4.16 million females. The total number of inhabited villages, including forest villages, is 15,761. The decadal growth rate of population during 1991-2001 has been 19.20% {All India - 21.34}, a reduction from 24.23% during the previous decade. This in itself is a major achievement, but the aim is to bring it down to replacement levels by the end of the Eleventh Five Year Plan.

The density of population in Uttarakhand is 159 persons per sq. Km {All India - 324}. Low density is attributed to larger forest and uninhabitable snow covered mountain area which, in other words, means that since most of the land in hills is under forest. it leaves little scope for settlement of population. Consequently, the spread of population is fairly uneven. For instance the districts of Haridwar, Udham Singh Nagar and Dehradun together account for roughly 47% of the State's population whereas district Champawat accounts for only 2.65% followed by Rudraprayg 2.68% and Bageshwar 2.94%.

The sex ratio in Uttarakhand stands at 962 female per 1000 males. It is also interesting to note that in 8 out of the 13 districts, the sex ratio is more than 1000, since a lot of men migrate in search of employment. All these 8 district belong to the hill region of the State. However, an area of concern is the decline in child sex ratio which shows 906 girls to 1000 boys in the 1-14 age group.

As per 2001 Census, the ratio of rural to urban population is 74:26. The Scheduled Castes and Scheduled Tribes constitute 17.9% and 3.0% respectively of the States total population.

The struggle for statehood, the cherished dream of the people of Uttarakhand for a long time, was based essentially on the conviction that the development of the region required development decisions be taken locally in response to local needs and problems. Only then would the constraints imposed by the difficult geographical conditions of this region be overcome. An allied concern underlying the aspiration for statehood as a means of development was that it should result in all round progress and betterment for the common man. The State of Uttarakhand strives to fulfil this responsibility. Sincere efforts are being made to reinforce the basic infrastructure to provide a solid base for attracting more and more investment in the

private sector. Attention has been paid to bring gradual changes in the traditional fields of horticulture, agriculture, animal husbandry and dairy development to make them more income and employment oriented. Hydro- Power, Tourism, Horticulture and Industry are the backbone of development. To increase the production of hydroelectricity, a collaborative effort with central public sector enterprises and private sector power companies is being made, and several projects that had earlier closed down are being restarted. Master plans have been drawn for the development of tourism, and private sector investment is being encouraged. A new industrial policy seeks to give a boost to industrial development resulting in an influx of projects. Good roads are the bedrock of development. Accordingly, higher priority is being accorded to road and bridge building. The State has identified new areas and has started giving final shape to lay a firm foundation for development.

To accelerate socio economic development in the State through focused initiatives for leveraging identified opportunities in sectors that have an intrinsic comparative advantage, professional assistance of expert agencies is sought. In this context CRISIL Infrastructure Advisory was assigned the job of preparing a development roadmap for the state in the beginning.

CRISIL submitted a concept note which identified the major areas of concern as :-

1- Lack of an “economic pickup” to achieve its development goals; and

2- High unemployment and low per capita income.

On the initiative of the present Hon'ble Chief Minister, a Long Term Vision 2020 has been prepared to make Uttarakhand a prosperous, educated, healthy and a model Green State. Sectoral goals have to set and accordingly action plan is being formulated. A comittee under the chairpersonship of the Chief Secretary of the State has been consitututed to monitor regularly the progress under vision 2020.

The suggested focus or driving sectors in which Uttarakhand has comparative advantage which should be leveraged are hydro-power, tourism, agro-processing and horticulture, IT, bio-technology and micro, small & medium enterprises.

It is, therefore important that these focus sectors break away from the inertia of the past at significantly higher rates so that the overall state GDP can grow at a higher pace and developmental aspirations of the state can be realized.

Now, the Confederation of Indian Industry (CII) has come up with yet another exercise of Uttarakhand Development Vision-2022 which will be made use of in due course.

Good governance is possible only with good politics. The State has been committed from the beginning to create a clean, efficient, transparent and responsive administrative system, without which its development goals will remain unrealized. Issues of good governance and optimum utilization of resources through rigorous monitoring mechanism at all levels will be given the top priority during the years to come. During the Eleventh Five Year Plan (2007-12) too, the endeavour of the State is to provide a clean and responsive administration to ensure sustainable economic growth and to provide more opportunities to ignite the young talent of Uttarakhand and preserving the pristine beauty, for which the State is renowned. It is observed in the UDR that the growth performance of Uttarakhand appears to fully justify its

formation as a separate State. The new State is fast closing the gap with national average; It further states that while Uttar Pradesh (the parent State) continues to lag behind the national average in terms of annual economic growth Uttarakhand has demonstrated robust growth on a sustained basis. *

Agriculture and Land use

As per latest available land-use statistics, the total reported area is 56.70 lakh hectares. The land use pattern in the State is shown in the table below.

Land use pattern in Uttarakhand: 2008-2009

Sl. no.	Category	Area (Ha.)	% of Reported Area
1	Total reported area	5672568	**100**
2	Forest	3485847	61.45
3	Barren & Unculturable land	224480	3.96
4	Land put under non-agricultural uses	216534	3.82
5	Culturable Waste	303144	5.34
6	Permanent pastures and other grazing land	198737	3.50
7	Land under misc. tree crops and groves etc.	383987	6.77
8	Current Fallows	35161	0.62
9	Other fallows	70967	1.25
10	Net area sown	753711	13.29
11.	Gross cropped area	1188462	13.29

Source : Chief Revenue Commissioner, Uttarakhand.

The net sown area is only about 13.29% of the total reported area. The cropping intensity is about 158 %, and the ratio of gross irrigated area to gross sown area is only 45.00 %. In the hills the major crops grown include wheat, paddy, mandua, ramdana and potato whereas in the plains the major crops are wheat, paddy, pulses and sugarcane.

Uttarakhand is blessed with rare bio-diversity. Over 175 rare species of aromatic and medicinal plants are found in the State, which gives it a unique opportunity for diversification of activities within the primary sector. Unfortunately existence of some of them is in danger due to unscientific illegal practices and over exploitation. Survival of these species need to be ensured for our rich bio-diversity.

SOCIAL INDICATORS

Health

The Crude Birth rate at 20.1 per thousand in the State is significantly lower than the country's average of 22.8 per thousand. Similarly the Crude Death rate stands at 6.4 per thousand against the all India average of 7.4. Infant mortality rate (IMR) in the State as per SRS 2009, stands at 44 per 1000 live births, which is also much lower than the all-India average of 53 per 1000 live births.

* *Uttarakhand Development report, Planning Commission, GoI Pg. 115*

A similar situation exists between Uttarakhand and the all-India average, in regard to death rate as well. In comparison to Himachal Pradesh, Uttarakhand is marginally ahead in total death rate and rural death rate. However, urban death rate in Uttarakhand is higher, than Himachal Pradesh.

The emerging trends regarding IMR as reported in Registrar General's SRS bulletins seems to be disturbing. It has gone up from 41 in 2001 to 44 in 2008. This may partly be attributed to smaller sample size, however, undoubtedly the trend is alarming.

Estimates of Infant Mortality Rate, 2009

State	Total	Rural	Urban
Uttarakhand	44	48	24
Himachal Pradesh	44	45	27
All India	53	58	36

Source: SRS Bulletin-October, 2009

Another area of concern is the poor health status of women and children especially in the hill areas. According to NFHS-3 (2005-06) only 44.8% of pregnant women receive ante natal care, only 36% institutional births take place and 61.5% children below 3 years and 47.6% of women suffer from anaemia.

Life expectancy at birth is 62 years for Uttarakhand as compared to 61 years for the country. During past few years we have made a remarkable progress in providing various medical services. Even then, the birth-rate, IMR and Urban death-rate need to be improved to the desired extent.

This adverse trend is reflected in the following table. :

	SRS- April 2004	April 2006	SRS – Oct- 07	SRS- 2008	Oct- 2009
Birth Rate	17.0	20.5	21.0	20.4	20.1
Death Rate	6.4	7.2	6.7	6.8	6.4
I M R	41	42	43	48	44

It is stated that very small sample size for smaller states may have some sample bias, however, the trend reflected in the table above is, a matter of serious concern.

Public health facilities in Uttarakhand consist of an extensive network of Government health institutions catering to the health needs of the people. These include 2 Base Hospitals, 13 District Hospitals, 6 District Women Hospitals, 55 Community Health Centres (CHCs), 239 Primary Health Centres (PHCs), 1765 Sub-Centres and 389 State Ayurvedic Dispensaries (SAD) which dispense medical services to the far flung remote rural populace. However, the network of dispensaries and hospitals is inadequate as access to health services in the remote rural areas still remains a challenge. This problem is further compounded by the non-availability of trained doctors, paramedics and diagnostic equipments in the interior areas. To tackle this problem a multi-pronged approach is needed - setting up of medical colleges in public as well as in private sector for increasing

availability of doctors, strengthening and setting up of more CHCs, PHCs and Sub-centres, provision of mobile clinics with medical and para-medical personnel and latest-diagnostic equipment (6 such vans are already in operation) to serve the People in remote areas on a scheduled basis and utilizing the opportunities offered by Tele-medicine and Tele-consultation. The State has taken an innovative step in this direction by providing services of pharmacists at the sub-centre level in the remote and difficult areas which are beyond the reach of SAD or PHC.

Another innovative step has been the EMRI emergency transportation service (dial 108) being implemented in the PPP mode, where any resident of State requiring emergency ambulance service can be picked up by EMRI from the road side within half an hour of their contacting the toll free number 108. A fleet of 108 ambulances is providing this free service in all the thirteen districts of the State and has found very encouraging response from the public. For providing otherwise expensive services of MRI, one MRI unit has been established in Dehradun in PPP mode which provide cheaper service to the needy public.

Education

The State's literacy rate has gone up remarkably from 57.75 per cent in 1991 to 71.60 per cent in 2001. This is also higher than India's literacy rate of 65.38 per cent. A dark side of Census finding is the existence of a wide gender gap with literacy rate for males being 83.3 per cent as compared to only 59.6 % for females. During the last 10 years the state government has taken effective steps to reduce such imbalances and to further step u the overall literacy.

As evident from the above chart the gender divide in rural areas and amongst castes is strikingly high. These class or region specific gender gaps are a cause of concern for us.

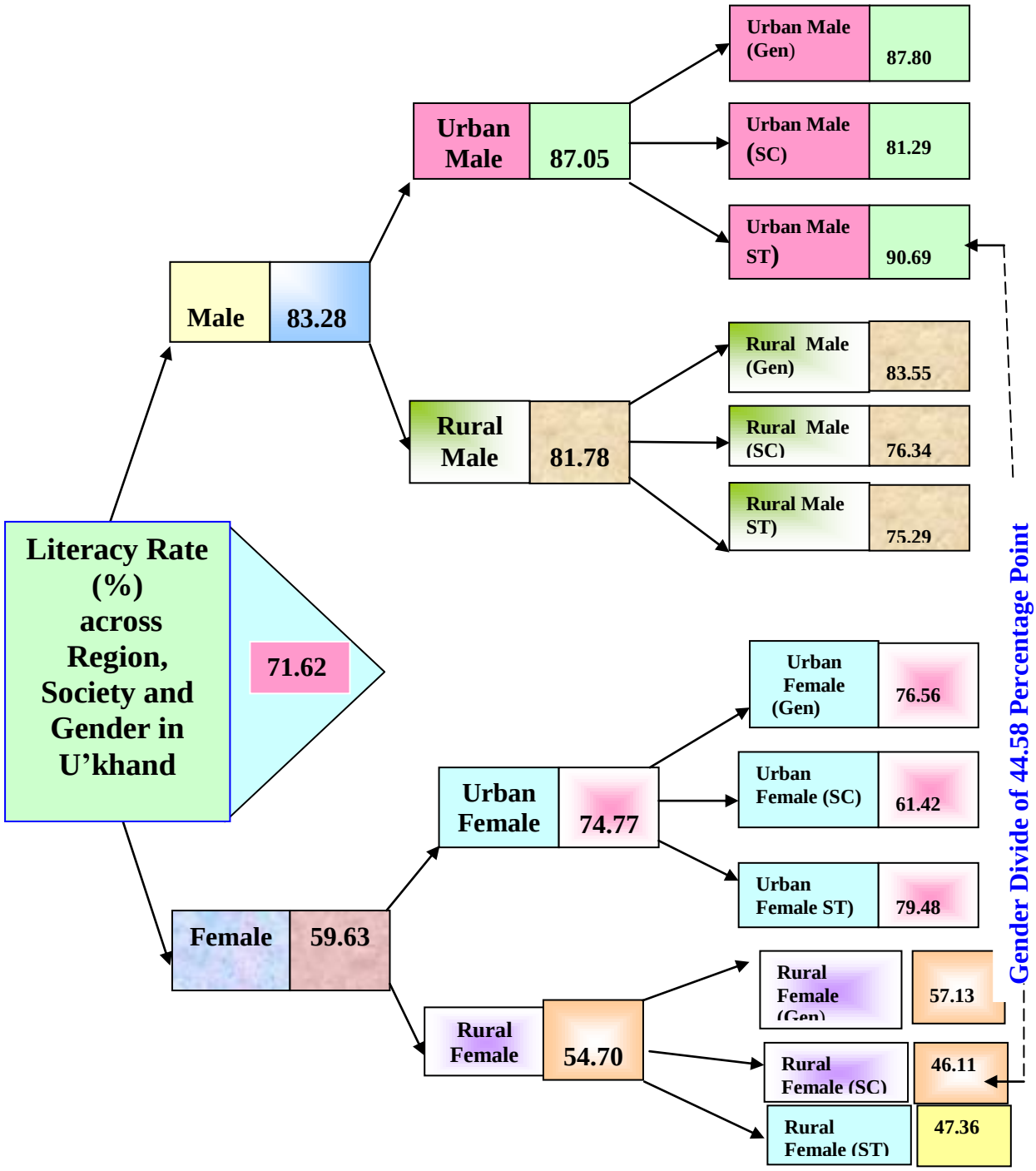
The State is making earnest efforts to bridge the gap. In fact the education of girl children has been made free up to graduation level. This has resulted in encouraging the girls to pursue continuous education as is amply clear from the fact that number of female student is higher than male students in almost at all levels.

The education infrastructure in the State as on March 2009 consisted of 15,356 Primary Schools, 4296 Senior Basic Schools, 2353 Higher Secondary Schools /Intermediate Colleges, 104 Degree Colleges and 17 Universities (including 2 central Universities, 5 Private sector Universities and 3 Deemed Universities). In addition to this, there are 10 Engineering Colleges (Public & Private), 3 Medical Colleges, 2 Dental Colleges, 2 State Ayurvedic colleges, 35 Govt. Polytechnics, 6 Private Polytechnics and 106 ITI's imparting vocational education in the state.

In order to achieve the national resolve of free, compulsory and universal education for all children between 6 to 14 years of age, the State Government is committed to provide all necessary resources. Free textbooks are being provided to all children at the primary level and free school uniform are also being made available. Mid day meal programme for all the primary children is being implemented effectively in all primary schools in the State. Uttarakhand has pioneered the unique concept of "Bhojan Mata" for this purpose. School meals are cooked by "Bhojan Matas" who are poor and needy women from the villages served by the school and whose children/child attend(s) that particular school. They are paid an honorarium for cooking the daily meal. The system has been working very well and has been appreciated at various national forums. To consolidate the gains

of SSA a new centrally sponsored scheme under the name Rashtriya Madhayamik Siksha Abhiyan (RMSA) has been launched in 2008-09. the gains

Appropriate initiatives are being taken to improve the quality of Higher and Technical education in the State to ensure better employability of the students passing out of the State's education system. The Government has also taken major initiatives in the field of computer education - the details of which are outlined in the succeeding chapters.



Source : Census 2001

Drinking Water

In spite of the fact that the Ganga and the Yamuna, the two major river systems of the country, have their origin in the State even then it is faced with inadequate drinking water. Although above 96% of the inhabited villages have been provided with safe drinking water facilities in the village itself, as per the status of water supply in rural areas as on 1.4.2009 only 67 percent habitations are fully covered and the remaining have it within a distance of 1 Km. Many schemes have become inadequate or defunct due to depleting water sources, natural calamities coupled with population shift etc. Such schemes urgently require re-organisation or renovation to cater the ever increasing need.

The main problem lies in the re-organisation and maintenance of Water Supply Schemes due to paucity of resources. Inevitably this leads to erratic or failed water supply, fuelling resentment among the people.

The State has 39967 rural habitations. According to a survey conducted in 2003, on the recommendation of the Working Group on Rural Drinking Water Supply and resurvey in 2008, the status of water supply in rural areas of the State at three points of time was as follows:

Habitations	2003	2007	2008	2009
Habitations fully covered (FCs)	20748	23128	25258	26828
Habitations Partially covered (PCs)	13892	12247	10541	9405
Habitations Not covered (NCs)	4540	3805	3343	2947
Un populated (NN)	787	787	825	787

The State of Uttarakhand, due to its difficult hilly terrain and scattered population, has been experiencing acute drinking water problems, especially in the remote areas.

The State of Uttarakhand in consonance with the policy of Government of India of Sector Reform, has opted to implement Sector Wide Approach (SWAp) in the Rural Water Supply Sector with effect from 01.12.2006, in which all the single village schemes and multi village schemes are to be implemented in the principle underlined by SWAp in a demand responsive approach by the villagers itself.

INFRASTRUCTURE

Roads

Uttarakhand, a predominantly hill State, is minimally connected through rail and air links limited to plain area only. Therefore, roads assume the role of lifeline of the State. As on 31.03.2009, the State has 42,481 Km of road length maintained by the PWD & other departments, out of which more than 19071 Km are painted roads. In addition to the above, there were 12056 Km of bridle roads and 497 Km of border tracks. Details of Roads are as follows.

Sl.	Item	Under PWD	Other Deptt. Roads
1.	Total length of Road	24995.61	17485.00
2.	Painted Roads	14491.71	4579.29
3.	Kachcha Road	6615.15	4240.71
4.	Bridled Road	3391.33	8665.00
5.	Border Tracks	497.41	0.00
Railway Line			
	Meter Gauge	**Board Gauge**	**Total**
Length in km.	61.15	283.76	344.91

Energy

Uttarakhand has an estimated hydro-power potential of approximately 25,000 MW. So far only 3135 MW potential has been harnessed. The status of power generation program in the State is summarized below:

Total Hydro Potential :	**25000 MW (approximately)**
Installed Capacity:	
a- Before Creation of Uttarakhand	1116.1 MW
b. After Creation of Uttarakhand	2018.95 MW
Total Potential Harnessed	**3135.05 MW**
Projects Allotted to various agencies (capacity) of which	12145 MW
a. To Central Power Sector Units	7302 MW
b. To State Power Sector Units	2902.7MW
c. Pvt. Developers	1941 MW

Though Uttarakhand is assumed to be a power surplus State, a lot needs to be done to sustain the generated capacity, harness the untapped potential and sell the surplus power to make this a GDP driver for the State. Uttarakhand at present has one 440-KV substation, five 220-KV sub-stations fifteen 132-KV substations, seven 66 KV substations and 138 substations of 33 KV. The total existing 33KV line length in the State is approximately 3881.01 Km. as on March 2009. However, the State lacks a separate grid system and there is no connectivity between Kumaon and Garhwal divisions, which are fed by separate feeders. Evacuation systems for new hydel power projects are also required.

The status of rural electrification in the state is as follows:

No. of inhabited villages	15761
Villages electrified up to 31.03.2008	15469 (98.15%)
By GRID (UPCL)	14917
Non-GRID (UREDA + Micro Hydel)	546+6= 552
Villages to be electrified	292

The target date for 100% access to electricity to all villages and hamlets by March 2009 and all rural households by March 2012.

The State, has almost achieved the targets of rural electrification, which is higher than the national average. However, due to the scattered nature of habitations/hamlets in Uttarakhand, extension of LT lines presents a major task. In addition, improvement of 11KV/LT system is required to improve the quality of supply and voltage. Hence about one-third of the total households, majority of whom belong to hill area of the State are yet to be benefited.

INCOME AND POVERTY

Uttarakhand is a fast growing state with most of the growth taking place in the industrial and services sectors. Although more than half of the workers are engaged in the Primary sector, its share in GSDP was 17.39 per cent while the share of secondary and tertiary sectors was 33.64 and 48.97 per cent respectively in 2008-09.

Per capita income is a summary measure of the level of economic development of any region. The per capita NSDP at factor cost in 2005-06 was Rs 24928 (at current prices) as compared to the national average of ` 26003 Which has gone up ` 36520 in 2008-09 and to ` 42000 (AE) in 2009-10. A comparative picture of Uttarakhand vis-a-vis Himachal Pradesh and all India for the year 2005-06 to 2007-08 is given in the following table :

Per Capita NSDP at factor cost (at current prices)(in `.)

Year	Uttarakhand	HP	All India
2005-06	24928	33954	26003
2006-07	29373	36781	29524
2007-08 (P)	33381	40134	33283
2008-09 (QE)	42031	-	37490

*Source : DES, Uttarakhand.*P- Provisional, QE- Quick Estimates, AE- Advance Estimates

Uttarakhand thus, lags behind the Himachal and national level of development. However, the gap between the State and national level has been narrowed since the creation of the State. This fact has also been mentioned in the Uttarakhand Development Report.

Although the per capita estimates indicate a rather healthy picture, the fact remains that poverty levels are quite high in the State and sharp regional disparities between different areas of the State, still exists, especially the remote and interior hill areas are economically lagging behind. Thus, Haridwar, US Nagar, Nainital and Dehradun account for a very higher per capita income, while the interior areas of Uttarkashi, Pithoragarh, Chamoli or Bageshwar have stark poverty. Therefore, the per capita NSDP figures do not give a correct picture of the privations that people face.

This last assertion is borne out by the poverty data for Uttarakhand. The Planning Commission has recently released estimates of population below the poverty line in various states and at all-India level based on the 1st Round of household consumer expenditure survey carried out by the NSSO in 2004-05. It has presented two separate estimates – one based on uniform recall period (URP) in which consumer expenditure data for all items are collected from 30-day recall period, and the other based on mixed recall period (MRP) in which consumer expenditure data for five non-food items are collected from 365-day recall period and the rest from 30-day recall period. The comparative figures for Uttarakhand, Himachal Pradesh and all-India in both rural and urban areas are given below.

Percentage of Population Below Poverty Line : 2004-05

State	URP			MRP		
	Rural	Urban	Total	Rural	Urban	Total
Uttarakhand	40.8	36.5	39.6	31.7	32.0	31.8
Himachal Pradesh	10.7	3.4	10.0	7.2	2.6	6.7
All-India	28.3	25.7	27.5	21.8	21.7	21.8

URP refers to uniform recall period; and MRP to mixed recall period

Poverty levels in Uttarakhand are much higher than those at the all-India level or in Himachal Pradesh in both rural and urban areas. This is true irrespective of the estimate we rely upon – whether based on URP or MRP. According to URP, rural poverty in Uttarakhand is estimated at 40.8%, urban poverty at 36.5% and total poverty at 39.6%. The corresponding figures according to MRP are 31.7%, 32.0% and 31.8% respectively. The all-India poverty estimates are at least 30% lower on both the counts. Poverty levels in Himachal Pradesh, on the other hand, are only a fraction – about one-fourth in rural areas and one-twelfth in urban areas – of the Uttarakhand levels.

Similar results were obtained in a survey of rural households conducted by the Rural Development Department to identify BPL families. This survey estimated the proportion of BPL families in rural areas of Uttarakhand at 47.42% on the basis of 52 point ranking. These estimates are being adjusted and revised annually. District wise number of BPL families based in 2002 and 2009 are given in the following table :

Districtwise distribution of BPL families (Rural) in 2002 and 2009 (No. of Families)

Sl. No.	Districts	2002	2009		
			Total	SC	ST
1	Nainital	44394	43785	13568	551
2	Almora	60659	60659	19076	0
3	Chamapwat	20198	20198	4523	271
4	Udham Singh Nagar	70517	70517	15379	9091
5	Bageshwar	26238	26238	807	2
6	Pithoragarh	44129	44129	14845	2053
7	Uttarakashi	28485	28485	8998	335
8	Chamoli	32384	32384	8370	664
9	Rudraprayag	25295	25295	6865	12
10	Hardwar	92430	91927	35355	490
11	Dehradun	55199	55199	11871	10542
12	Pauri Garhwal	61554	60909	14505	331
13	Tehri Garhwal	62308	62308	5910	1334
	Total	**623790**	**622033**	**160072**	**25676**

Source : Rural Development Department, Uttarakhand

What these data clearly point to is the need to give topmost priority to create even livelihood opportunities for the people, both in rural and urban areas, especially in the hill districts, with accelerating economic growth. Growth clearly has to be an inclusive process.

WORKERS' CLASSIFICATION :

The Work Participation Rate (WPR), which is defined as the percentage of total worker to total population is 36.93 percent for Uttarakhand and 39.30 percent for India as per 2001 Census. Thus, it is evident that the dependence ratio (proportion of non-workers) is higher in Uttarakhand. It is interesting to note that in Uttarakhand there is a perceptible decline in the proportion of main workers and significant increase in proportion of marginal workers: the latter has increased from 5.56% in 1991 to 9.54% in 2001. This fact also has another aspect to it. The youth of Uttarakhand, who are highly qualified, leave the State for better employment/business opportunities. The "Brain Drain" from Uttarakhand is adversely affecting the State.

The Economic Census 2005 reveals that performance of Uttarakhand has been better than all India average in terms of growth of employment as well as growth of enterprises. Interestingly, in both cases the rural sector has performed much better than the urban sector. (Uttarakhand Development Report, Planning Commission)

With this background the State envisions to achieve within a period of 10-15 years a level of economic development for the state that will provide opportunities for its people to achieve a good quality of life and social progress while preserving its pristine beauty and natural wealth.

Vulnerability, Fragility & Disaster Proneness

The Himalaya is the youngest mountain chain on the globe and is believed to be still evolving and thereby is not having stabilized due to prevailing active geodynamic conditions. Because of this the Himalayan region is one of the most seismically active regions in the world.

The State of Uttarakhand falls in seismic zone category V & IV which is termed as the most severe seismic zone and referred as Very High Damage Risk Zone. The region has experienced many earthquakes of varying intensities in the recent past (and similar threats remain imminent) causing massive loss of life and property[1].

Through the last millennium a continued process of observation and innovation led the people of this hill region, like other parts of Himalayas, to evolve their economic activities and management strategies, primarily under conditions of tough topography, inaccessibility and isolation. With the increasing demand of ever-growing population in and outside the region, the environmental resources are experiencing serious degradation and causing manifold problems. Apart from growing population degradation is also governed by mountain specificities, viz. inaccessibility, fragility, marginality, diversity (heterogeneity) niche characteristics (natural suitability) and adaptability (human adaptation)[2].

This results in limited external linkages and replication of external experiences, slower pace of development, intra-regional imbalances and under utilization of regional potential.

Inaccessibility, marginalization and unsustainable development

The evolution of socio economic patterns of the Himalayas and its growing ecological fragility have to be viewed against the backdrop of issues of accessibility and geo political sensitivity. The political integration and the economic amalgamation have often been said to reduce the autonomy of the local people, with the risk of them being marginalized in the process of competing with the formal market and the economies of the technologically modernized economies outside the region. Over a period of time this led to the creation of a separate State. However, under the consideration of viability, plain districts of Hardwar and Udhamsingh Nagar were also included in it. Plains are inherently in a advantageous position in terms of agricultural, infrastructural and industrial development. Hill region generally suffers from various factors attributed to its geo-physical and socio-cultural peculiarities.

Land Degradation and Agriculture Systems

Being a part of the worlds highest mountain chain, the hill region of the State is characterized by a complex geological structure, snow clad peaks, large valley glaciers, deep river gorges and rich vegetation. A complex interplay of climatic and geological processes, patterns of resource use and economic conditions have led to resource degradation and associated environmental consequences.

References: 1. Natural Resource Management & Development in Himalaya - K.S. Rao, GBPIHED
2. Uttarakhand Perspective and Strategic Development Plan 2009-2027. Watershed Development Directorate, Uttarakhand.

Majority of the mountain population in the State depend on farming and agriculture as their primary source of sustenance. Hence efforts to address the problems of poverty, inequality and marginalization must begin with improving the well being of mountain people by addressing the problems of mountain agriculture. Without improvements in the thousands of small mountain farms there will be little positive impact either on poverty or on the mountain environment.

Since the cropping pattern as well as yield is largely determined by topographical and climate conditions, the problems related to land and agriculture in the Hill region vary with elevation, slope, soil and climatic conditions.

Poverty, Prosperity & gender differentiation

The spread of monetized economy has its positive dimension in terms of providing access to jobs and cash incomes, employment opportunities, access to newer technologies and practices etc. Increasing access to education has also led to positive outcome. However, it was largely the men who benefited. As educated youth out migrated to seek employment away from their homes, the burden of subsistence obviously is transferred to the women and elderly.

The presence of markets and access to cash incomes through money orders has led to loss of capacity and interest to meet their basic consumption requirement locally further compounded by land degradation and diminishing agriculture returns.

Environment related issue

Out of total geographical about 64.8 percent area is under forests in the state. Thus the people of this has a great responsibility of preserving and nurturing the eco system which ultimately benefits the whole nation. It has been scientifically estimated that Uttrakhand is providing free of cost eco-system services amounting to ` 31294 crore annually to the nation. obviously it takes a significant part of the budget to maintain these services on one hand, and on the other hand has to suffer from many disabilities on account of conserving the forest land. [1]

Himalayan region though considered to be the store house of bio diversity and water tower, feeding the densely populated Indo-Gangetic region down the plains, is suffering from extreme climatic variations. Global warming is affecting ice and glacier cover in the region. The environmental constraints against the exploitation of natural resources also include other natural phenomena like mass wasting, high seismic activity, landslides, glacial lake outburst, floods, erosion and sedimentation. Glaciers play an important role in maintaining ecosystem stability as they act as buffers and regulate the run off of water supply from high mountains to the plains during both, dry and wet, spells.

A study conducted by the International Commission on Snow and Ice (ICSI) has observed that Himalayan glaciers are receding faster than their counter parts and if the present rate continues, the likelihood of them disappearing by the year 2035 is very high. The Gangotri glacier, one of the major and important glacier in Uttarakhand was 25 km. long when measured in 1930, has now shrunk to about 20 KM^2.

The rich biodiversity of Himalayas is now severely threatened and many species of flora and fauna have become extent or endangered on account of a variety of physical, biotic and strategic factors, unique to the region. The loss in bio

diversity has been largely on account of habitat losses caused by depletion of forests, over-exploitation of resources, encroachment and population growth.

Other factor for loss of bio diversity include forest fires and natural calamities. Poaching and illegal trade in wildlife are other major threats to species survival in the Himalayas as the region is coextensive with international boundaries of China and Nepal which provides transit routes for illegal wildlife trade.

Efforts for environmental protection of the region have been made at various level in the form of popular environmental movements, policy and legislation and research networks. However, despite these efforts, the region continues to face environmental degradation. Sustainable environmental management will have to be based on an understanding of the specific social and economic context, environmental specificities and the critical geo-political role of this region.

Carbon stock and mitigation potential of forests

Mitigation potential of the State forests is quite high which is a very important tool for carbon sequestration. This potential can be enhanced by afforesting wastelands and increasing the density.

A comprehensive study by Raj and Joshi based on remote sensing data (as quoted in Uttarakhand State Perspective and strategic Plan 2009-27: Watershed Management Directorate) has reported 266.96 MT. of Carbon in the biomass pool of states forests. As per this study total carbon content in pools of biomass, forest floor litter and soil is 537.02 MT.

Table : Carbon stock in various forest types of Uttarakhand

Sl. no.	Forest type	Area (Km^2)	Carbon (Mt.)			Total
			Biomass pool	Forest floor litter	Soil pool (150 cm)	
1	2	3	4	5	6	7
1	Tropical conifer (pire)	5418	33.4	1.74	61.71	
2	Temperate conifer	6017	37.1	1.90	68.54	
3	Temperate brood leafed	7809	119.3	2.39	111.95	
4	Moist deciduous	3027	54.4	0.30	15.10	
5	Dry deciduous	695	12.5	0.07	3.47	
6	Sub tropical (sal)	562	10.1	0.05	2.80	
	Total	23528	266.96	6.48	263.58	

Ref : Uttarakhand State Perspective Strategic Plan 2009-27 : Watershed Management Directorate, Uttarakhand.

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1. *Valuation of Forest Ecosystem Services in Uttarakhand Himalayas for setting Machnisms for Compensation & rewards for communities conserving forests of Uttarakhand-Madhu Verma, Professor IIM, Bhopal-XII World Forestry congress, Buneous Aires, Argentina, oct. 2009.*

2. *Background paper on Himalayan Ecology% Main Issues & concerns--GBPIHED, Almora.*

The environmental disturbances and the resulting global warming has put a question mark on the existence of life. Under such circumstances, it is imperative to encourage and compensate the states which are contributing to environmental cause for meeting out the cost of opportunity loss, difficulties faced in providing public utilities/facilities and higher cost of construction etc. The standing principle of 'Polluter Pays' must be adhered to and 'preserver be compensated'.

In view of the central Government's plan to release green dividends and a green bonus to the states in accordance with their mitigation potential from the coming financial year as a measure for protecting the ecology, it assumes a greater importance from the resources point of view.

In the 54th meeting of the National Development Council problems of the hill states were deliberated upon and subsequently the Hon'ble Prime Minister in his concluding remarks expressed the need for a fresh analysis of problems of the Himalyan states and regions of the country in a manner that suggests ways and means so that these areas do not suffer in any way on account of their peculiarities and specificities. In a follow up action of this, a Task Force was constituted by the Planning Commission. The report of the Task Force is at hand now and has made some valuable recommendation on environmental, human development and infrastructural development related issues which need to be implemented in its earnest. **1/**

1/ *Report of the Task Force to look into problems of Hill States and Hill areas:- Planning Commission, GoI*

CHAPTER - 2

Economic Profile of Uttarakhand

State Domestic Product

GSDP of a state and the growth rate of GSDP are the universally accepted indicators of its economic development. During the Tenth Five Year Plan period, Uttarakhand had aimed at a growth rate of 6.83 per cent at constant prices against which the achievement was 9.2%. The growth performance of Uttarakhand appears to fully justify its formation as a separate State. While the parent state of UP continues to lag behind in terms of annual economic growth, Uttarakhand has demonstrated sustained robust growth since its birth and is fast closing the gap with national average. This is even better in comparison to Himachal Pradesh (HP) as also all other special category states. A comparative picture of this is summarized in the following table :

Table 2.1 Annual growth rates of GSDP (at constant prices)

Sl no	States	Year					
		1999-2000	2000-01	2002-03	2006-07	2007-08	2008-09
1	Uttarakhand	0.80	12.04	9.92	9.84	10.4	8.7
2	UP	0.99	2.19	3.72	7.18	7.2	6.5
3	HP	6.60	6.32	5.06	9.20	8.6	7.4
4	All India	6.07	4.35	3.84	9.57	9.1	6.5

Source : CSO/MTA and Directorate of Economics & Statistics, Uttarakhand.

However, buoyancy in growth rates in the early years may also be attributed to the fact that the new state started from a low level of growth and secondly the plain districts of Udhamsingh Nagar and Hardwar were included in the new state and industrial and tertiary sectors which accounted for major share in the growth dynamics, is limited largely to the plains of the State only.

The share of different sectors in Net Domestic Product is shown in the following table.

Share of different sectors in Net Domestic Product at current prices (Uttarakhand), 2006-07 to 2009-10

Sl. No.	Sector	Total 2006-07 (` in cr.)	% Share	Total 2008-09 (`. in cr.)	% Share	Total 2009-10 (AE) (` in cr.)	% Share
0	1	2	3	4	5	6	7
A	**PRIMARY SECTOR**	6072.39	22.22	6566.97	18.66	7286.67	17.80
1	Agriculture	5109.84	18.70	5646.79	16.04	6565.48	15.30
2	Forestry & Logging	478.34	1.75	502.03	1.43	538.39	1.32
3	Fishing	10.05	0.04	12.05	0.03	14.01	0.03
4	Mining	474.16	1.73	406.10	1.15	468.79	1.15
B	**SECONDARY SECTOR**	**8104.20**	**29.65**	**11611.97**	**32.99**	**14127.52**	**34.50**
5	Manufacturing	3466.74	12.68	4250.04	12.08	4782.57	11.68
	a) Registered	2552.44	9.34	3137.09	8.91	3542.58	8.65
	b) Unregistered	914.30	3.35	1112.95	3.16	1239.99	3.03
6	Construction	4394.28	16.08	6849.47	19.46	8662.64	21.16
7	Electricity, Gas & Water Supply	243.18	0.89	512.46	1.46	682.31	1.67

C	**TERTIARY SECTOR**	**13155.41**	**48.13**	**17017.95**	**48.35**	**19532.78**	**47.70**
8	Transport, Storage & Communication	1630.28	5.96	2256.86	6.41	2702.59	6.60
9	Trade, Hotels & Restaurants	5149.13	18.84	6151.91	17.48	6904.80	16.86
10	Banking & Insurance	880.84	3.22	1115.46	3.17	1263.36	3.09
11	Real Estate, Ownership of Dwelling & Business Services	1271.82	4.65	1510.14	4.29	1667.50	4.07
12	Public Administration	1409.65	5.16	2396.58	6.81	2929.69	7.15
13	Other Services	2813.69	10.29	3587.00	10.19	4064.84	9.93
	Total (A+B+C)	**27332.00**	**100.00**	**35196.89**	**100.00**	**40946.97**	**100000**

QE- Quick Estimates, AE- Advance Estimates.

It will be seen that while the primary sector contributes about 21-22 percent of the NSDP and the secondary sector accounts for 30-31 percent, the tertiary sector accounts for 48 percent of the state domestic product. In the primary sector the share of agriculture, which is the mainstay of the vast majority of the rural population, is only 19 per cent. In the secondary sector, manufacturing accounts for over 12 per cent of NSDP, with the share of registered manufacturing being only 9.34 per cent. The structure of the State's economy thus is largely service sector based, while the majority of the people are dependent on agriculture for their livelihood. Agriculture sector's contribution to the NSDP has witnessed a decreasing trend over the last few years.

Agriculture, for most of the people in the hill districts, remains a subsistence activity. In the hills, land holdings are tiny and scattered, soils are poor, irrigation coverage very low so that much of agriculture is carried out in rain-fed conditions. As a result the majority of hill cultivators are engaged in cultivation for self-consumption. Even then, most of them are not able to meet more than 6 to 8 months need of food grains. It is only in the plain districts of Haridwar, Udham Singh Nagar and Dehradun that cultivators are able to produce marketable surplus.

* **NSDP at current prices:** The NSDP of Uttarakhand was ` 22833.88 crore in 2005-06 rose to 27332.00 in 2006-07 ` 31548.80 crore in 2007-08 and further ` 35196.89 in 2008-09. In percentage terms this represents an increase of 19.70, 15.43 and 11.56 percent respectively. As per advanced estimates for 2009-10 it is estimated to go up further to ` 40946.97 crore.

* The share of primary, secondary and tertiary sectors in 2008-09 is ` 6566.97 crore, `11611.97 crore and `17017.95 crore respectively. In percentage terms this translates into a share of 18.66, 32.99, and 48.35 per cent respectively in total NSDP. Thus during the first two years of the 11th Five Year Plan share of Primary Sector went down from 22.22% to 18.66% while share of secondary sector has gone up to 32.99% from 29.65%. The share of tertiary sector remained almost static.

Per Capita Income: Average per capita income at constant prices of 1999-2000 worked out on the projected population over the years, shows regular increase in the State. While it was `13516 in 1999-2000, it rose to ` 21516 at the end of the 10th Five Year Plan i.e. year 2006-07 and further to ` 25114 by 2008-09. Reduction in gap between the national per capita income and states per capita income also indicates the better performances of the State.

Trends in State's Finances

Uttarakhand being a relatively new state, financial data are available only from 2001-02 onwards, including actual data from 2001-02 to 2008-09, revised and budgetary estimates of 2009-10 and 2010-11 respectively. Non-availability of data precludes any meaningful trend analysis. The problem is further compounded by the instability and volatility of data. Notwithstanding these limitations, an attempt has been made in this section to analyze the State's finances, with a view to getting an idea of the trends in the State's revenues and expenditure.

State's own tax and non-tax revenue plays a vital role in determining the budget size of the state. Since formation of the state, its own tax revenue has increased at a CAGR of 21.47 percent while the tax revenue to GSDP ratio has stabilized around 8 percent. On the other hand non-tax revenue has established at around 2 percent of GSDP.

The table below shows trends in revenue and fiscal deficit and debt liability as percentage of GSDP.

Trend of Fiscal Indicators for Uttarakhand (Percentage to GSDP)

Sl. no.	Item	Year				
		2007-08 Actual	2008-09 Actual	2009-10 RE	2010-11BE	2011-12p
1	2	3	4	5	6	7
1.	Own Tax Revenue	7.69	7.58	7.78	7.85	7.95
2.	Non Tax Revenue	1.88	1.74	3.15	2.17	2.50
3.	Transfer from Central Taxes	4.01	3.75	3.41	4.57	4.61
4.	Plan Expenditure	5.15	10.44	11.74	9.98	9.71
5.	Non Plan Expenditure	15.23	18.36	24.73	20.15	16.94
6.	Revenue Expenditure	20.38	20.91	26.59	23.39	22.77
7.	Salary + Pension + Interest	11.78	13.36	17.74	14.90	12.87
8.	Revenue Surplus / Deficit	-1.79	0.60	(-) 2.45	0.32	1.33
9.	Balance Debt & Liability	36.63	35.97	36.66	35.61	34.52
10.	Fiscal Deficit	-4.90	4.59	8.55	3.41	3.03

R E = Revised Estimates, **B E** = Budget Estimates, **P** = Projected

Source : State Budget Document 2009-10 & 2010-2011.

Despite the implementation of the recommendations of the Sixth Pay Commission the percentage of non-plan revenue expenditure to GSDP in general shows a downward trend while plan expenditure indicate a step up in the government investment in the State. This indicates good fiscal management. Revenue deficit indicate that the state government is living beyond its resources,

from 2001-02 to 2004-05 the revenue deficit and fiscal deficit increased rapidly but from 2005-06 there is decrease in the deficit figure. In compliance to TFC recommendation the State Government introduced the FRBM Act in October, 2005. According to the Act, the state government had to bring the revenue deficit to zero and bring down the fiscal deficit to 3 percent of GSDP by 31st March 2009, which has been near achieved as per figures of budget estimates. It is also provided in the Act that the State Government shall bring down the ratio of debt to GSDP to 25% by 2015.

As stated in the Uttarakhand Development Report prepared at the behest of the Planning Commission, "the transfer for state plans are however, arbitrary and subjected to various conditions. The total transfer as percentage of GSDP for Uttarakhand during 2001-2004 was 13.6 percent on an average basis. This was the lowest among the Special Category States."

It states further, "Even the FC12 grants for Uttarakhand when measured in terms of per capita, it works out to be one of the lowest among Special Cateogry States.*

This admission of the situation certainly make a case for providing plan assistance generously.

Trends of Revenue Deficit/Surplus

Revenue deficit of the state was recorded ` 457.26 crore in 2002-03 which increased to ` 731.64 crore in 2003-04, and ` 950.14 crore in 2005-06. In the year 2005-06 the situation improved and the actual revenue deficit came down to ` 73.95 crore and further in 2007-08 and 2008-09 a revenue surplus of ` 636.53 crore and ` 239.53 crore respectively was registered. Owing to the liabilities of the Sixth Pay Commission the revenue deficit again jumped up to ` 1113.57 crore as per revised estimates. However, in 2010-11 Budget estimates a surplus of ` 162.10 crore is estimated. In view of the States performance the 13th Finance Commission has not recommended any revenue deficit grant to the state which obviously would put pressure on it to maintain the deficit at zero level.

Trends of Fiscal Deficit

The trend of fiscal deficit has remained volatile over the years which is evident from the following table:

Year	Fiscal Deficit (Rs. crore)
2001-02	424.19
2002-03	888.82
2003-04	1407.14
2004-05	2171.42
2005-06	1878.23
2006-07	885.77
2007-08	1742.40

2008-09	1844.96
2009-10	3882.15
2010-11	1747.15

It was targeted to bring down the total fiscal deficit to 3 percent of the GSDP but due to global economic recession, it increased to 4.59 percent in 2008-09. However, efforts are on to bring it down to the desired level of 3 percent by the year 2010-11.

Trends of Capital Expenditure

The Capital expenditure during previous years has overall witnessed a healthy trend as is evident from the following table :

Table : Trends of capital expenditure in Uttarakhand *(Rs. in Crore)*

Sl. no.	Head	2001-02	2006-07	2007-08	2008-09 (R)	2009-10 (R)
1	Capital Expenditure	308.65	1699.26	2234.82	2016.36	2866.53
2	% of capital exp. to total expenditure	8.31	14.49	21.31	17.44	17.32

Indebtedness

The State inherited a huge amount of debt at the time of its formation The requirements of infrastructure development, to sustain the pace of development, it further necessitated to manage resources through internal and external debts its further increased over the years. Thus the over all indebtedness that was ` 4430.04 crore in 2001-02 has risen to ` 13930.36 crore by the end of 2009-10.

In terms of the debt and liability balance as percentage of GSDP has remained almost static around 36 percent during the first four years of the Eleventh Five Year Plan. However, as stated in the state Budget 2010-11, an amount of ` 1300 crore is balance in the Sinking Fund from which repayment of loans will be made in due course and thus the targeted figure of 25% will be achieved in coming years.

Banking and Finance

The financial infrastructure is closely related to all economic, industrial and trade activities of the State. In Uttarakhand, banks are the main source of finance for industries. Many branches of nationalized, commercial, regional, rural and co-operative banks are operating in the State. State level financial institutions such as, State Industrial Investment Corporation also provide assistance to large and medium scale industries. In 1994-95, there were 601 public sector bank branches, 176 regional bank branches, 39 non-nationalized commercial Bank branches (that is, 816 in total). This figure has rapidly increased to 1470. Area wise classification is as follows:

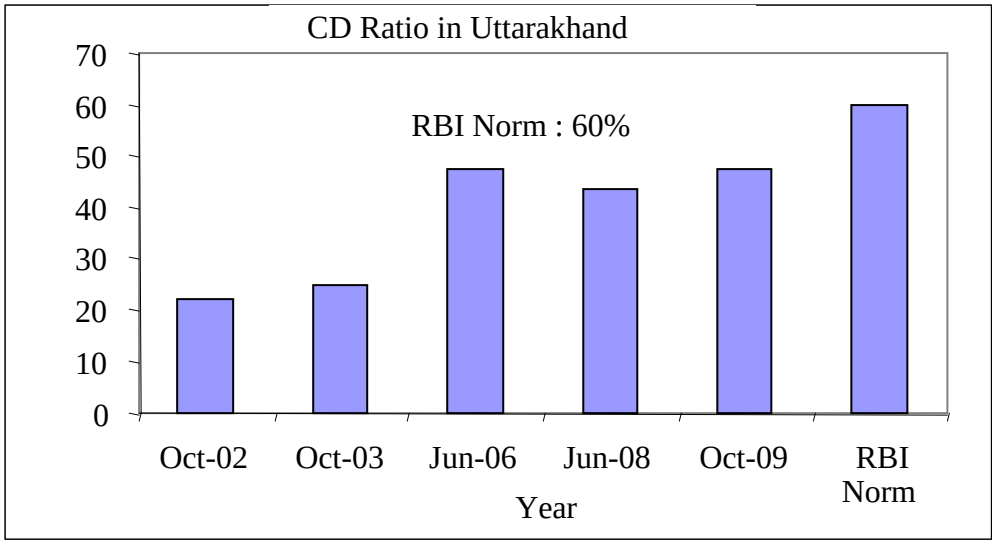
Bank Branches September, 2010

1	Rural Area	758
2	Semi Urban Area	411
3	Urban /Metro Area	301
	Total	**1470**

The total loans/advances made by these branches as on September, 2010 ` 22559.83 crore against a total deposit of ` 41761.47 crore. The total Credit-Deposit ratio thus works out to 54.04 as on September 2010. Thus it is fast approaching the benchmark of 60 as fixed by the Reserve Bank of India and has equaled the national average. However, out of the total advances in the state about 9.45 percent advances were made by the bank branches located outside the state. If this is not taken into account the net C:D ratio comes to 44.59. It needs to be appreciated that the CD ratio in the State has steadily increased from 22.22 in September 2002 to the present level. As in the past, the State is making all-out efforts to raise it further. Although the overall progress seems to be encouraging but the point of concern is that while the C.D ratio in Udhamsingh Nagar is almost 100% the hill district are lagging behind miserably.

The share of priority sector in the total advances of banks was 67.19 per cent (` 11423.12 crore). Similarly share of agriculture sector in total advances has gone up to 25.04 percent against the targeted benchmark of 18 percent which exceeds the stipulated benchmark of 40%.

Source : Budget document volume 2, 2010-11. Finance Department, GoUK



CHAPTER – 3

Vision & Strategy

Uttarakhand in spite of a smaller state, has certain key features that make it distinct form other states of the country and highlights its potential for development. However, for obvious topographical reasons and stereo type development schemes, development predominately is limited to plain areas of the state and hills are largely left with subsistence agriculture and allied activities as the main activity. Due to subsistence livelihood and migration of able bodied person, remittance economy (popularly known as 'Money order economy') operates in the hill districts. Thus the State faces the challenge of livelihood and providing health, education and communication facilities to minimize migration through generating income and employment locally and to enhance the quality of life of the people living in the hill villages.

Water, agriculture, forestry, energy and tourism are central to the states inclusive strategy and identified driving sector for future growth specially in the mountain region.

With the origin of many important rivers and glaciers, and high altitude lakes Uttarakhand has a valuable fresh water reserves. Geo-physically the region is divided into 1110 Micro watersheds. A deeper insight into the composition of watersheds would especially indicate their socio cultural homogeneity and geo physical continuity, thus making them most suitable for launching natural resource based development plan.

Position of rainfed area in the State

In the context of the mountain topography it is also necessary to analyze the altitude and area under in the State.

The total area of the State is approximately distributed in the following altitude zones :

Altitudinal zone (meters)	Percentage area
< 1000	26.00
1000 - 2000	33.00
2000 - 3000	13.00
> 3000	28.00
Total	**100.00**

Source : Uttarakhand State Perspective and Strategic Plan : Watershed Management Directorate, Uttarakhand.

The key GDP drivers identified for Uttarakhand are Tourism, Agriculture and Horticulture, Medicinal plants/Herbal wealth, SMEs based on agro-horticulture produce, generation of Hydro Energy, Information Technology and Biotechnology. The challenge is to exploit these optimally so that the common man can benefit and have a stake in the system. Almost all the GDP drivers would have a long gestation period before they start yielding results.

A pre-requisite for the success of the GDP drivers is the availability of good infrastructure, both physical and social. Hence the emphasis is on the development of infrastructure during the Eleventh Five Year Plan.

VISION & STRATEGY FOR MAIN SECTORS

Infrastructure

Infrastructure is the sector that has been given the highest priority in Uttarakhand during the Eleventh Plan period, as the future growth in this state depends critically on the rapid development of this sector. There is no doubt that our manufacturing competitiveness is adversely affected by weakness in infrastructure especially in energy and transportation. As the emphasis is on inclusive growth - this is even more important, since there is a direct link between the availability of infrastructure facilities in the far flung hilly regions of the state and the standards of living of the masses living there. Clearly, policies for inclusive growth have to correct the current imbalances in the distribution of infrastructure in the state. The centre has proposed some initiatives for extending railway lines in the hills in the Railway Budget proposals for 2010-11. However, as per existing terms the concerned State is required to meet out 50 percent of the total cost. For a smaller State like Uttarakhand, it would be a Herculean task to manage such enormous funds. Hence some sizeable relaxations are needed.

The policies for development of physical infrastructure will have to focus on roads and transport networks, electricity, irrigation, marketing infrastructure for agricultural produce and financial institutions. Equally important, if not more, is the development of social infrastructure with special thrust on health and education, as this will generate the human capital that is a critical input to the development process.

Roads and Transport Network

There is an urgent need in Uttarakhand to address problems with regard to connectivity, particularly of remote and inaccessible areas located in the mid and upper *Himalayan* ranges. This is particularly important for the marketing of primary produce, including horticultural crops tourism and delivery of basic services, which requires a well-developed network of roads connecting the fields to the markets in the urban areas. However, there is an equally pressing need to conserve the fragile ecosystem of the Himalayas, which are sometimes undermined by road construction. Therefore, infrastructure development must strike a balance between the need for connectivity and the need for environmental conservation. The solution lies in the development of a network consisting of major and minor roads together with low cost ropeways, connecting villages and agricultural areas to the urban areas and *mandis*.

The major roads in Uttarakhand mostly run from the southern plains to the mid and outer Himalayan ranges high up in the north. These roads run along the river valleys, and their location and direction have in most cases been determined by the strategic defence requirements of the Nation, and not from purely developmental considerations. As a result, there are national highways connecting the *terai* region comprising mainly the southern plains to the northern districts, while there is a dearth of major roads connecting the eastern districts of Kumaun region to those of Garhwal division in the west. In this regard, it may be worth mentioning that the highway authorities are currently considering a trans-Himalayan highway across the state. Necessary steps need to be taken to ensure speedy implementation of this

trans-Himalayan project. Similarly work on strengthening and widening of NH road connecting Delhi needs to be expedited.

It is also distressing to mention that as on March 2009 there is no NH in district Pithoragarh, Bageshwar and Rudraprayag while Champawat and Tehri Garhwal has a minimal NH length of 14 and 21 km respectively.

The State has about 424 km. long international boundary which makes it strategically sensitive. BADP is being implemented in 9 blocks of 5 districts. The villages in these areas are thinly populated due to which they are deprived of benefits of general schemes on account of population norms. However, strong connectivity and communication system is pre-requisite for the development of the people as well as from security point of view. For this road connectiivty and communication development needs to be taken up under BADP.

There are still large connectivity gaps in Uttarakhand, which remain to be filled by good quality all weather road links. Connectivity would be a key driver for other sectors also, particularly tourism and for marketing of our agriculture and horticulture produce, ensuring rapid socio economic development by the upgradation of roads to all weather motor roads and providing connectivity to all villages with a population of 250 or more. It would also be our endeavour to upgrade the existing State Highways to National Highways and major district roads to State Highways. The construction and maintenance of roads be eco-sensitive.

The Government proposes to prepare a Road Master Plan which will aim to provide appropriate connectivity to different destinations in the State. For this, efforts will be made to dovetail and integrate the priorities of National Highway development, schemes under the Central Road Fund and such other schemes as the Prime Minister's Gramin Sadak Yojana.

Railway network in the State is minimal and limited to US Nagar, Haridwar and plains of Dehradun & Nainital districts. The existing total length of railway lines in the state is 344.91 kms. It would be in the larger interest of the nation if an artery line from Dehradun-via-Karanprayag, Garud Baijnath, Bageshwar & Tanakpur is seriously considered and sanctioned.

Civil aviation infrastructure in the state at the time of its formation was almost zero. After creation of the state, the work of strengthening Jollygrant (Dehradun) and Pantnagar airstrips has been taken up. Gaucher, NainiSaini and Chinyalisaur airstrips are also proposed to be developed.

Given the existing and proposed connectivity, providing safe, affordable, reliable and timely public transport services is an area of key importance. It is necessary to develop an optimal mix of public-private and multi mode transport services.

Electricity

Uttarakhand is endowed with perennial sources of surface running water supply throughout the year with mighty rivers like *Ganga, Yamuna, Ram Ganga* and their tributaries viz., *Alaknanda, Bhilangana, Bhagirathi, Tons, Kosi, Saryu* etc. spanning the entire region. The rivers and perennial streams provide an ideal opportunity to generate large quantities of hydroelectricity through projects of all

sizes – large, medium and small/micro. In the far-flung remote areas of the State, marked by the absence of alternative sources of power, there is tremendous scope for the development of small-scale hydro systems for electrification of the state. In sharp contrast to large dam projects, such small-scale labour-intensive renewable energy options not only involve minimum rehabilitation and resettlement, they also have very low operational costs and are therefore, the most cost-effective option for power supply especially in remote hilly areas.

Despite such significant benefits, less than ten percent of the available hydropower potential has been harnessed so far in the state. The potential had not been exploited and developed in a planned manner till the formation of the State. There is, therefore, considerable scope for further exploitation of the vast untapped potential in this sphere. The State is committed to commence work on projects at a faster pace. So far projects worth 3164.75 MW are under operation and work has been started on projects worth 5509 MW capacity, while a further 6879 MW are in the pipe line to be taken up through the State sector, central public undertakings and private developers.

However projects in progress in the upper reaches of Bhagirathi valley have been stopped by the Central Government on environmental considerations which has given a jolt to power development in the State.

Simultaneous to enhancement of generation facility, it is also needed to put in place modern transmission and distribution systems. In the transmission system, there is a need for grid separation from Uttar Pradesh as also efficient systems are required for evacuation. Loan assistance from the Asian Development Bank (ADB) was sought for power sector development through Govt. of India and now with sanctioning of the projects work is under progress. The State is also conscious about the line losses and has reduced it significantly.

Irrigation

In a state where more than three-fourths of the workforce is dependent on the farm sector for livelihood, agriculture is evidently the mainstay of the economy. However, this sector is characterized by severe infrastructure bottlenecks, especially with regard to irrigation and marketing of primary produce. Barring the *terai* and *bhabhar* areas covering the foothills and valleys of the south-western plains, the state is by and large hilly, thereby making well (deep, shallow or dug) irrigation unsuitable. Alternative sources of irrigation like pump sets, canals, hydroelectric projects, small tanks, reservoirs etc. too are confined to the former areas. As much as ninety percent of the net sown in the hill area of *Uttarakhand* is rainfed. In order to deal with this situation, focus must be on developing Rainwater Harvesting along with Sprinklers and Drip Irrigation Systems (especially for horticultural crops) in all such hilly areas marked by the absence of irrigation facilities. Additionally, appropriate steps must be taken for the restoration of defunct canals, particularly in the hilly regions. People in the mountains have traditionally built shallow depressions for collecting rain water (known locally as *chal/khal*). Apart from providing water during the dry season for irrigation and for use by animals, these *chals/khals* also help in recharging springs and streams. Unfortunately, this practice is now gradually disappearing, which has to be revived as a campaign throughout the State.

Institutions for Marketing of Farm Produce

The hill areas have a comparative advantage in the production of horticultural products including fruits and vegetables including off season vegetables and spices. The bottleneck in this regard is the absence of a modern marketing practices and infrastructure. In a broad sense, marketing consists of all post-harvest activities including the collection of farm products from the field, grading, processing, packaging, storing and warehousing of the products, identifying prospective markets where the best price is available and finally transporting the produces to these markets. Unfortunately, the small farmers in the hill areas are incapable of carrying out most of these activities on their own for a number of reasons, which renders their cash crops less than remunerative.

The large capital and informational requirement necessary to carry out the marketing activities efficiently implies that only a large organization is suitable for this activity. This requirement can be fulfilled by setting up a Horticulture Marketing Board preferably in a public-private partnership mode. Some of the necessary activities of such an organization would include (i) setting up of input retail outlets for better access to inputs (ii) collection of produce from the farms and provision of warehousing (iii) value addition by setting up of food processing units and cold chains (iv) strengthening *mandis* and procurement agencies etc.

Financial Infrastructure

In order to make funds available for necessary investment in the state, the deposits in banks and financial institutions have to be mobilized and pumped back into the economy by providing credit to the relevant sectors. However, the state lacks a well-developed network of institutional finance, particularly in the remote hilly areas of the countryside. About half of the total bank branches are located in plains only. Clearly, there is a need to set up more bank branches at the district and local levels. Secondly, these bank branches in the remote areas must make sure that the small landowners or other small players in the horticulture or tourism industry get access to the credit necessary for their activities. Extension of micro-finance facilities for Self-Help Groups (SHGs) can fill this gap. Besides innovating banking solutions will have to be found.

Social Infrastructure: Education

The Eleventh Five Year Plan of the State lays strong emphasis on human development, especially through education. In the field of primary education, though access has improved considerably and enrolment is near universal, the big challenge is to ensure retention and completion of the upper primary stage, by addressing the problem of dropouts and high rates of wastage due to failure. The State Government is committed to provide access to all children between 6 to 14 years of age, for which a time bound programme has been planned. In un-served areas, new schools are opened and upgraded as per need. If in any area a new primary school cannot be opened for some reason, an Alternative Education Centre (AEC) has been opened for the children of 6 to 11 years of age. Efforts are also on to reduce the dropout ratio. Above all there is the issue of quality of education. It is interesting that the towns of Dehradun, Mussoorie and Nainital are known for their private schools

nationally or even abroad. A public private synergy needs to be established to make the State a quality education hub.

The Department of Primary Education has successfully implemented a special bridge course for street children in the PPP mode, as a pilot project in Dehradun city. The State will try to upscale such initiative, with more flexible provisions.

Another problem in this sector is the highly skewed pattern of educational development across the state. While some of the educationally advanced districts like Dehradun and Nainital report literacy rates close to 80 percent, others like Udham Singh Nagar, Uttarkashi and Haridwar are closer to the national figure of 65 percent. Not only are regional inequalities in literacy rates across the state glaring, the fact of gender disparity is a cause of great concern, especially in some of the educationally backward districts of the state like Uttarkashi. With female literacy rate is as low as 15 percent as against 78.9 percent for males in Naugaun block of Uttarkashi district, a huge gender gap of 63.9 percent at the elementary level is a clear pointer in this direction. Added to this is the fact of high drop-out rates of over 9 percent, especially for the socio-economically deprived sections of society comprising mainly the SCs, STs and OBCs in districts like Chamoli and Hardwar. These challenges in the education sector have been addressed by the *Sarva Shiksha Abhiyan* (SSA). In order to sustain the gains of the SSA, efforts will be made to improve the quality of teaching-learning and facilities at the secondary level through Rashtriya Madhamik Siksha Abhiyan (RSMA).

Computer Education from the school level is an important ingredient in today's times for our school children. The State Government entered into an MoU with *Intel* to provide Master Trainers in the schools in order to implement our vision of computer education to all students. All Government Intermediate Colleges as well as Secondary Schools have been equipped with computers and other necessary peripherals and the programme is moving satisfactorily. For the Polytechnics and the ITIs in the State, our effort is to introduce industrially relevant course curriculum as well as equip them well with machines/equipments and other infrastructure to impart meaning to the training. The training syllabus is being revised after consultation with academic institutions and industry organizations. Linking of Industries with ITI's & Polytechnics and forging partnerships which will benefit all the Stakeholders is the strategy adopted by the State.

In the field of higher education our endeavour is to develop and build on the existing and inherent strengths of the institutions to develop at least one college in each district as a centre of excellence and generally upgrade the standards in each college. This may include validation and upgradation of courses with the assistance of existing centres of excellence in India and abroad. IT enabled course material and e-libraries will also be developed which will help overcome the shortage of teachers particularly in remote areas. The HNB Garhwal University has been given the status of Central University hence problem of its affiliated degree colleges, spread over all along the Garhwal division, has arisen. Hence, a pressing need of opening a new university has risen for which preliminary exercise is under progress.

There are two new fields where Uttarakhand feels it can make a jumpstart and become a leader. These are biotechnology and information technology and IT enabled services. In the field of biotechnology Uttarakhand is fortunate to have an

extremely rich storehouse of bio-diversity and a wide range of geo-climatic zones. We propose to build on the existing and inherent strengths of Uttarakhand to leverage on technologies to bring succour to our farmers and be a leader in the sphere of the research. Towards this end, a world-class research centre is being set up at the GB Pant University of Agriculture & Technology.

In respect of information technology the vision is to deploy IT as an effective tool for catalyzing economic growth and efficient governance resulting in the creation of a knowledge-rich society with a high quality of life and to develop the State as an attractive destination for the IT industry. The key focus areas are:

(a) Development of IT infrastructure (connectivity backbone)

(b) Investing in HRD (Human Resource Development) in terms of IT skills.

(c) Deploying E-governance applications which are citizen focused and which aim at delivering Govt. services to the citizens at a place & time of his choice rather than the other way round.

(d) Promoting IT industry particularly the IT enabled service industry in the State.

Social Infrastructure: Health

The health sector is an equally important area demanding the policymaker's attention. As stated earlier the Infant Mortality Rate (IMR) has remained below the national average however, it has remained the same or increased in the recent years. The higher IMR in rural areas unmet need of 31.7%, and 36% of safe deliveries largely in urban areas thereby indicating the extremely uneven pattern of development in the health sector as well. Moreover, issues related to women's health and nutrition, particularly in the remote hilly areas where access to basic health facilities is denied, need to be addressed urgently.

Access to health care in the rural parts of mountain districts continues to be poor. Given the constraints of terrain and topography and the small and scattered nature of rural settlements, increasing access poses a major challenge. While private sector investment on health facilities has been on the rise, it has its limitations. It tends to be concentrated in curative facilities, often quite expensive ones, mainly in the urban areas. The poor are unable to afford the high cost of private medical care. This makes a strong case for increasing public expenditure on health. Innovative solutions to the problem would also have to be sought. Partnerships with communities and NGOs as well as committed private enterprises could be fruitfully tried, but public expenditure would have to continue to play a leading role. The challenge before the State policy therefore is to develop institutions that can offer cost effective solutions to problems of access and availability of health facilities for the rural mountainous regions.

Improving service delivery in the Social Sector is one of our priority areas. Non availability of doctors especially in hill districts is a challenge before the state. It is heartening to note that Govt. of India is also introducing a rural health system which will help the state in manning the rural health centres like PHCs/CHCs. On its part the state has successfully launched emergency mobile van 108 service on PPP mode in all the districts of the State.

AYUSH Gram Yojana

As stated earlier, Uttarakhand is a repository of biotic wealth. It is a popular belief from the Epic period of Ramayna that Hanuman collected Sanjeewani Buti at the behest of renowned Vaidya (Doctor) Sushain from this Himalayan region to revive Laxman from the deadly unconsciousness.

This rich system lost its significance during the invasion by outside rulers during the medieval period of history. However, in the modern context it is strongly felt that the Indian Medical System of health needs to revived and strengthened as it not only prescribed curatives but also preventives.

Realizing this the State Government has initiated and innovative Scheme consisting of traditional systems of Ayurveda, Yoga, Unani, Siddha and Homeopathy (AYUSH) which will promote research, development and propagation of these systems. It is interesting to note that Indian system of medicine is gradually getting acceptance among people. It is proposed as a first step, to establish such centres on Yatra routes. This will not only be helpful in providing health services but will also generate local employment. As Uttrakhand has rich tradition of Yoga Sadhna and Ashrams, their participation will also be sought apart from other private stakeholders.

Social Infrastructure: Women's Development

Women, especially rural women, are a particularly vulnerable group in Uttarakhand. Since the returns from agriculture are low in the hills, and remunerative employment opportunities are lacking, men-folk migrate in large numbers from the mountain areas to the cities and towns all over the country in search of employment. Their families are left behind and are dependent on remittances sent by these members. This phenomenon has earned the region the sobriquet of a 'Money Order Economy'. Male out-migration from the region has occurred on a significant scale and this can be seen from the fact that the overall sex ratio for the state in 2001 was 964 females per 1000 males, while in 8 of the 13 districts (all in the mountain area) it exceeded 1000. Even the men who don't migrate in search of work do not work in the fields. They are constantly in search of work in off-farm occupations.

As a result of this out-migration of a large section of the able bodied men, the women constitute the main workforce in agriculture. They also take care of the cattle, collect fuel wood and fodder from forests, often situated at considerable distance from the villages involving four to five hours of walking both ways, and do all household chores. Their life is an unending drudgery of hard work. Their condition is made worse by the fact that they also suffer from poor nutrition, which makes them vulnerable to many health hazards including chronic anaemia and tuberculosis. There is also considerable gap in the male and female literacy rates. In order to ensure food security in the face of such adverse conditions the women turn to subsistence agriculture. This perpetuates the vicious cycle of low productivity, no surplus and low income from agriculture.

In order to break out of this vicious cycle and achieve successful commercial agriculture (for example, in horticulture), there has to be more thrust given to women's development in the hill areas. This will have to focus on women's health

and education, but more importantly, it has to involve them in the planned programmes that encourage a shift to commercial agriculture. In particular, they need to be much more involved in the government's agricultural extension services and the institutions that help in marketing of agricultural produce. The State Government is also trying various innovative schemes to reduce women's drudgery, such as creation of fodder Banks, biogas, individual toilets and rainwater harvesting.

Agriculture & Allied Activities

In all 17 development 5 blocks including Hardwar (6), Udham Singh Nagar (7), Nainital (Haldwani & Kashipur), and Dehradun (Doiwala & Sahaspur) fall in the plains while rest 78 belong to hill region.

The estimated total reported area under plains is about 13% of the State while about 40% of net shown area belongs to the plains region. Similarly out of total net irrigated area in the State about 80% falls under this region.

While percentage of irrigated area to net sown area is 90 percent in plains, only about 10 percent is reported in hill region. This clearly indicates the unfavourable situation of hill agriculture as shown in the following table :

Districtwise Area sown and percentage of Irrigation

Sl. No.	Districts	Area Sown (Ha)		% of Irrigation	
		Gross	Net	Gross	Net
1	Uttarakashi	47491	30819	19.50	16.10
2	Chamoli	45440	32560	7.80	5.60
3	Tehri Garhwal	90946	59120	16.40	13.00
4	Dehradun	73679	48508	45.10	46.40
5	Pauri Garhwal	124674	81491	12.40	9.90
6	Rudraprayag	27999	19516	15.40	11.10
7	Hardwar	168066	120581	87.00	89.00
8	Pithoragarh	79992	45902	9.60	9.10
9	Almora	124938	80951	7.80	6.20
10	Nainital	81733	47730	49.50	54.70
11	Udham Singh Nagar	260538	149861	95.70	97.20
12	Chamapwat	39295	23965	10.00	9.10
13	Bageshwar	47576	26567	23.90	21.90
	Total	**1212367**	**767571**	**45.3**	**44.7**

The strategy for the agriculture sector envisions introduction of HYVs as well as changing the cropping patterns. Krishi Vigyan Kendras (KVKs) have been established in almost all the districts, with the expertise of Pantnagar University, for assisting farmers for the rapid growth of agriculture. In addition, efforts are being made to gradually replace the subsistence level crops with high return alternate crops. In order to encourage the implementation of consolidation of holding the State Government is committed to facilitate, encourage and implement voluntary exchange of land.

Sugar cane being the most important cash crop in the State, especially in the plain areas, there is a need to rationalize the pattern of cane management and increase its productivity. Steps will be taken to import/procure early maturing and high yielding varieties and simultaneously increase the crushing capacity of

sugarcane. Modernization of State managed Sugar Factories is also on the anvil. Focus shall also be on raising average sugar recovery to 10 percent from 9.45 percent at present.

Horticulture

Currently, more than three-fourth of the population of the state and a very large portion of the population in the hilly areas depend on agriculture for their livelihood. Thus any attempt at inclusive growth has to increase the incomes from this sector. Agricultural products consists largely of cereals like wheat, rice and madua (finger millet), although horticultural products including fruits and vegetables also form a significant part of the net sown area. The yield from crops like rice and wheat is not very high in the hilly areas of the state. This is largely due to the mountainous terrain that inhibits the use of modern technology in agriculture. As a result, and given the predominance of marginal and sub-marginal land-holdings, most of the cultivators tend to be subsistence farmers. Many cannot even meet their full years requirement of foodgrains.

It is important to encourage the farmers in the hilly regions to shift from the cultivation of cereals to horticultural products as this sector has the potential to become an engine of growth. Firstly, the varied climate of the region makes it an ideal location for growing temperate, sub-tropical and tropical fruits that fetch a high value in the domestic urban and international markets. Secondly, the climate also allows the region to grow off-season an exotic vegetables that get a high price in the plains. Finally, and perhaps most importantly, with rising incomes the consumption pattern of the average Indian is shifting towards fruits and vegetables and hence the demand for these products is likely to increase over time. Unfortunately, despite these advantages, horticulture is not providing the farmers with higher incomes, due to the absence of necessary infrastructure, institutions and incentives.

The development of horticulture depends crucially on three types of factors:

(i) Natural conditions
(ii) Infrastructure and institutions
(iii) Incentives for horticultural producers

The natural factors include climate, soil, slope and aspect of the land and the impact of natural calamities. The development of horticulture also depends on various kinds of infrastructure and institutions e.g., irrigation, roads and transport, warehouses, cold storages, financial institutions (for credit and crop insurance on reasonable terms) and last but not the least, marketing institutions. The incentives that the state can give to the small farmers to shift to horticultural production can also encourage the development of this sector. The most important justification for providing such incentives is that the small and marginal farmers who are dependant on subsistence agriculture have no savings and are not considered creditworthy. This makes it very difficult for them to switch over to horticulture due to the higher input costs involved. Thus the state needs to provide these farmers with subsidized inputs like seeds, fertilizers, insecticides etc. The second reason for providing incentives is to take care of the uncertainties due to market failure and natural calamities. The most common form of market failure is the lack of competition among the purchasers of these products leading to a low price and profit for the farmer. The

state should provide minimum support prices in order to make sure that the poor farmers get a remunerative price. Finally the farmers need to be protected from natural calamities with crop insurance. In case the premium is too high for the small farmers, then the state has to subsidize it to make it affordable. The State Government has launched an Apple Insurance scheme, based on weather stations which will encourage farmers to invest in this activity.

There is a lot of potential for the development of horticulture in the state of Uttarakhand. The varied climate conditions make it ideal for the development of diversified horticultural products including fruits and vegetables. However, there are a number of constraints and bottlenecks that are currently proving to be a dampener for the development of these crops, particularly in the hilly regions of the state. These are:

- Lack of an effective marketing and storage infrastructure that can enable them to grow fruits and vegetables and sell them at a profitable price.
- Lack of irrigational infrastructure.
- Low returns from horticulture
- Lack of adequate knowledge about the most suitable and remunerative crops and about the scientific practices that can ensure the success and high yields of these crops on the part of small and marginal farmers
- High cost of acquiring high yielding seeds and planting material, fertilizers, insecticides, pesticides etc., partly due to their high prices and partly due to their outlets being far off from the villages and farms.
- Vagaries of nature e.g. unseasonal or heavy rains, hailstorms, drought etc.

It is clear that in order to develop the horticultural sector in the state, all the problems listed above have to be addressed with appropriate policies. It must also be clearly understood that the overall policy package must try to solve all the problems simultaneously, as any one set of problem, if not addressed adequately, can significantly dampen the development of the sector.

The lack of marketing institutions and infrastructure has to be dealt with immediately by the government. The objective of this policy should be to provide the farmers with alternative options to sell their products, so that the portion of the profit going to the middlemen is minimized and the farmer gets a better price for his produce. There are three types of institutions that the government needs to create or strengthen for this purpose.

1. A Horticultural Marketing Board that will help, particularly the small and marginal farmers, to grow horticulture crops and market them at remunerative prices.
2. Strengthen the farmers cooperative associations and encourage them to corporatise themselves so that they can employ professionals to help them market their products.
3. Allow and encourage contract farming between farmers and fruit and vegetable retailing firms, so that the role of the middlemen can be minimized.

It must be understood that while the first institution, i.e. the marketing board, should primarily target the poor and marginal farmers, the medium and large farmers can use the second and third type of institution more effectively. It may be useful at this stage to point out, that though the state has declared itself to be an "Organic State", it will be useful to the farmer only when the produce can be marketed at a higher price with the help of organic certification.

The problems faced by farmers regarding inadequate information about best crops and best practices can be solved by a continuous process of scientific and market analysis that will determine the most remunerative crop or group of crops for a particular region i.e. water shed in the context of the hills. The institutions for the dissemination of knowledge about these crops and the scientific methods of horticulture have to be strengthened. There is the related issue of the timely supply of appropriate inputs particularly quality planting material to the farmers so that the best practices can be successfully followed.

The small and marginal farmers need both scientific and financial help for their fight against natural calamities. For calamities that are relatively moderate in impact, small and marginal farmers must be supplied with poly-houses, poly-tunnels, hail nets etc. However, for calamities that are severe, the only protection for farmers can be through crop insurance. The financial infrastructure must be strengthened and encouraged to provide insurance cover for various kinds of horticultural crops.

Given the enormous potential and possibilities in horticulture and floriculture, the following initiatives have been taken:

- Divestment of government control in a number of Government gardens by inviting brand leaders to set up their operations aimed at technology dissemination, extension and marketing support.
- KVKs have been set up covering all the districts.
- Progressive change in the rootstocks of fruit and flower plants by bringing in modern and proven cultivars; and emphasis on high yielding, hybrid varieties of off season vegetables.
- A college for agro-horticulture management has been set up in Garhwal district; and major emphasis on processing and value addition in the agro-horticulture sector proposed.
- A litchi export-processing zone has been set up in the Ramnagar area and the trial exports of litchi to Europe has been successful.
- A state of the art fruit processing plant, managed by NDDB, set up at Ramgarh.
- A Floriculture Park proposed to be set up with the help of APEDA.
- Regional office of NHB has been established in Dehradun for closer coordination.

In addition to processing/export complexes and Zones, the emphasis will now be on preparing infrastructure development projects for post harvest management of fruits and vegetables, which would assist individuals and groups of farmers in marketing their produce in the premier markets.

Medicinal and aromatic plants is a major thrust area and income generating activity for the local farmers. The State Medicinal and Aromatic Plant Board has

been constituted which provide policy guidance. The Herbal and Medicinal Plants Research and Development Institute at Gopeshwar is the apex implementing agency for the preparation of an integrated action plan for conservation, propagation/cultivation, processing and marketing of herbs, medicinal and aromatic plants. Close linkages will also be developed, in this process, with the tourism sector. The forest policy as well as the horticulture policy has to work in tandem to ensure that there is a scientific exploitation of this natural wealth and bio-diversity, lest the very wealth be endangered or squandered away.

Fisheries

Uttarakhand has a large wealth of warm and cold water fish which are not only a food supplement for the people and an income generating activity but can also be developed into a potentially very attractive tourism activity. The mahseer and trout fishing spots in Uttarakhand can attract visitors from all over the country and abroad. Through an integrated and multi faceted policy, our endeavour would be to popularise and expand this activity for the farmers as well as stock the rivers with the game fishing varieties. Strict control over undesirable practices such as dynamiting the fish would be exercised.

Forests

The recorded forest area in Uttarakhand is 64.8% even though the vegetation cover is only 43.5 percent. More important, over 5411 hectares of forest areas have a canopy density of less than 40 percent. Maintenance of this forest cover is important not only for Uttarakhand but for the whole country. . Based on scientific calculations Uttarakhand forests are giving free direct and indirect Ecosystem Services (ESS) worth of ` 21294 crore annually to the nation [1]. Obviously in order to maintain about 65 percent of its total geographical area the state has to invest significant amount of its annual budget on the one hand and has to suffer from many disabilities forced by the Forest Conservation Act. Our vision is to not only maintain and increase this forest cover to the desired levels but also to develop a harmonious and eco-friendly relationship between the people and forests.

The strategies that the State Government has followed, have actively involved the village communities in protection and management of the forest wealth. Thus, besides the institutions of Van Panchayats, the newly created institution of Joint Forest Management has provided the institutional framework for this interaction. In view of the prominent role of women in agriculture and forestry, an interesting and encouraging experiment has been creation of Van Panchayats /Joint Forest Management Committees which consist entirely of women. The Protected Areas (PA's) Network constitutes about 18.69% of the forest area and a similar protective role is played by the Eco-development Committees in and around the protected areas.

Ref. 1- Valuation of Forest Ecosystem Services in Uttarakhand-Madhu Verma paper presented in XIII World Forestry Congress, Buneous Aires, Argentina, Oct, 2009.

To encourage cultivation of Bamboo and Jatropha (Bio-fuel) a separate Board has been created and plantation on mass scale has been introduced from the year Tenth five year plan period.

Tourism

The third sector that the Uttarakhand is striving to develop vigorously during the Eleventh Plan period is tourism. Tourism is the third largest economic activity in the world, surpassed only by oil and motor vehicles, and the largest activity in the services sector. While more than two-thirds of the global tourist arrivals and receipts are accounted for by developed countries, the contribution of tourism to third world economies is by no means insignificant. It is also one of the fastest growing sectors of the world economy. Moreover, domestic tourism is also on the rise in India. The high growth rate of the Indian economy in the last few years and the accelerating income of the middle class have given a considerable boost to this sector. As a result, the demand for this sector is at an all time high. The Uttarakhand economy is ideally situated to take advantage of this situation and scale up its tourism sector. Unlike most of other hill states in the country, Uttarakhand holds the pride of a state with peaceful law and order environment. The two inputs that are necessary for the development of this sector, i.e., natural and human capital, are abundantly available in the state. Thus, it has the potential to match the rise in tourism demand with an increase in supply of tourism services.

While industrial and most services related activity naturally flourish in areas that are already developed in terms of infrastructure, urbanization, etc, tourism can be developed in relatively underdeveloped areas, provided they have something of interest to the tourist. Thus, in comparison to industry and these other services sectors, the tourism sector is particularly suitable for promoting inclusive growth.

The development of the tourism sector can help the local economy in a number of ways. The most important impact is the creation of employment for the local people in hotels, restaurants and other kinds of lodgings as well as in the tour-operating sector. More importantly, employment will also be created through indirect channels in a variety of sectors including local handicrafts etc as this sector has wide backward and forward linkages. Apart from employment creation, the sector can also increase the demand for fruits, vegetables and milk etc. produced in the villages around tourist spots, for the consumption of the tourists. More importantly, a thriving tourism industry links up the hill areas with the rest of the country and reduces social and economic isolation of the people. The state has launched an ambitious self employment oriented scheme the Vir Chandra Garhwali employment scheme to encourage local youths to have their stake holding.

There are, of course, some potentially negative effects of tourism as well. The biggest problem with unregulated and unplanned growth in tourism is the environmental degradation that it can cause due to overuse of the natural capital. This will not only have an adverse impact on other productive activities in the mountains, but can destroy the future prospects of the tourism sector as well. The other problem that unregulated tourism creates is that it puts a heavy burden on the urban infrastructure of tourist destinations, choking up roads, civic amenities, etc. This can put the tourist and the local population to severe hardship in the peak tourist seasons.

The optimal tourism policy will have to assess the volume and quality of tourism that will not cause environmental degradation or overuse of urban infrastructure in the tourist destinations, and hence will be sustainable in the long run. At Present tourism in the State has been given the status of industry so as to avail the benefits of many concessions.

Development of High-value tourism

In order to promote high-value tourism in the state, the sector has to provide a high quality tourism experience. The main attraction for tourists in the state is, of course, the Himalayas providing the myriad opportunities. The experience of watching the snow capped peaks from a close range is a sublime one, and the tourism infrastructure must make sure that this experience can be provided to the tourists without compromising on comfort, and in new and innovative ways. Of course, a high value tourist would want other forms of recreation as well, and this means that the state must offer a package of activities that will attract the tourist. The forest areas and the protected sanctuaries are ideal for the development of nature tourism. The upper ranges of the mountain can be used to develop adventure tourism with activities like skiing, paragliding etc. The mountain rivers are also appropriate for the promotion of rafting, kayaking etc. Most importantly, all these activities must be coordinated with the hotels and tour operators so that tourists find it simple and easy to opt for these activities. However, the component of environmental and socio-economic security needs to be ensured simultaneously.

Tourism infrastructure and Hotels

The development of tourism requires a lot of physical and human infrastructure. The most important physical infrastructure for a hilly state like Uttarakhand is a network of good quality roads that connect all the tourist destinations. The human capital needed in this sector includes tour guides, trekking attendants and instructors for activities like skiing, paragliding, rafting etc. These jobs need technical expertise that may be imparted through vocational training centers. Overall, the tour operators and tourists agencies must be encouraged to corporatize and become more organized and professional.

Other than infrastructure, the most important factor for the development of high value tourism is the availability of quality hotels. While this sector should be developed through the private sector, there are some issues here that need policy intervention. The first problem is the availability of land. There may be a number of problems including land-use laws, forest & environmental clearance etc., and the state must act as a facilitator**.**

Promoting Uttarakhand as a brand

Uttarakhand has the proud distinction of having peaceful law and order situation with clean environment.

For the successful development of high-value tourism, it is important to reach out to the potential tourists who are ready to spend substantial amounts of money for the services in this sector. For this, it is important to build quality tourism infrastructure but equally importantly, it is necessary to make sure that the potential tourist has adequate information about the facilities available in the state. The most

effective way to attain this objective is to promote the state and its tourism sector as a brand. This will involve innovative campaigns through the media and the internet, focusing on the factors that attract various types of tourists.

Promoting international tourism

The development of the tourism sector has to give special focus to the encouragement of international tourism. Unlike standard manufacturing industries, international tourism does not have a unique base as an industry. It is essentially a collection of a wide range of service-based activities comprising mainly of three important sub-sectors, i.e., (i) the International Tour Operators and Travel Agents based mostly in the first world countries (ii) the Civil Aviation and Transport Industry that carries tourists to their destinations and (iii) Hotels and Accommodation sector in places of tourist interest.

International tour operators are basically intermediaries between the producers and consumers of tourism related services. Their main function is to reduce information and transaction costs for the tourists and promotional expenditures for the suppliers of tourism services. However, rising profitability of tour operators owing to increasing competitiveness of the civil aviation market has led to a highly monopolistic international tour operator industry. Thus, a small number of tour operators have very large share of clients in the US and Europe. On the other hand, in the civil aviation industry, the gradual movement from a regulated to a deregulated regime in the nineteen nineties has led to a cutthroat price competition and minimum profits in the international airline market. The growth of foreign tourists to any country is also greatly influenced by the nature of its hotel industry. The present structure of international hotel industry is highly skewed in favour of multinational corporations who are mainly based in developed countries.

Tourism and inclusive growth

It must be clearly understood that the development of high value tourism may not automatically lead to better livelihoods and incomes for the local people. If the tourism sector does not integrate itself with the hill economy, then the demand created by this sector will lead to increase in incomes in the plains or in other parts of the country. The policy package for inclusive growth must ensure that the forward and backward linkages from this sector ensure growth in the local economy. There are two kinds of interventions that can be undertaken to achieve this objective. The first is a fiscal intervention where the state can collect revenues by taxing the sector and spending it on the development of the local economy. The second form of intervention is as a facilitator, ensuring that the goods and service of the local people and their assets are used by the tourism sector. These linkages between the tourism sector and the local economy can take many forms. The development of tourism requires land for various purposes and the state can encourage local landowners to earn an income by leasing their land. The state can enable the local farmers to fulfill the demand for fresh fruits, vegetables and dairy products consumed by the tourists. Non-farm employment can be created for the hill people by developing the production of handicrafts and ethnic products that can be sold to the tourists. The tourism sector can be encouraged to provide employment to the local people in the hotels and the tour operative business. Employment can also be created for the local

people as tourist guides and instructors of adventure sports activities. Sometimes, market failures block the development of some of these activities or prevent the local people from getting a reasonable return from them. It is necessary for the state to intervene in these situations and deal with the market failures with appropriate policy.

In brief the State has the vision of making "Dev Bhoomi" the most preferred tourist destination and establishing it on the global tourism map. Combined with the awesome beauty that nature has endowed Uttarakhand, which holds a vast potential for adventure, nature, leisure and eco- tourism, the vision does not look unrealistic. There is also no doubt that tourism would be a key GDP driver, and the strategy will be to develop this sector with the maximum possible involvement of the local host communities, and in a manner that generates opportunities for significant employment and income generation .

Integrated and optimal development of Pilgrimage Tourism, Cultural Tourism, Nature and Eco-tourism, Leisure Tourism, Corporate Tourism, Adventure Tourism and promotion of tourism related Handicraft and Souvenir industry are going to be the main thrust areas.

The Tourism Development Board has been created as a high level body to function as a promoter, adviser, regulator and licensing authority for tourism development in the State. It is hoped that this arrangement will also help to build institutional linkages with the tourism trade and industry. The results are encouraging, as the State is getting accolades at the national level and has won several awards.

Industry

The vision is to make Uttarakhand an attractive destination for environment friendly industries. According to the Industrial Policy, the State shall leverage the strengths given by nature to promote food and fruit processing, medicinal & herbal plants and horticulture & floriculture based industries. In the plains districts, capital intensive and high-value addition industries would be encouraged. Apart from providing a conducive and transparent atmosphere for business, Uttarakhand would facilitate and initiate sector specific measures to enable its industry to compete globally.

Udyog Mitra has been set up in the State under the Chairmanship of the Chief Minister for providing a forum for continuous interaction with the industry associations and to enable timely policy interventions and other measures as may be necessary.

Industrial development which has been witnessed in the period after the creation of the State has been mostly concentrated in the plains for obvious reasons of accessibility and connectivity.

Given the constraints arising from geographic and terrain conditions, the need to provide suitable fiscal incentives related to income tax, central excise, transport subsidy etc. to offset the comparative disadvantages of high cost of production have been recognized. As a result the Central Government had announced a package of concessions for industries established in the State. The package included the following incentives:

Fiscal Incentives to new Industrial Units and to existing units on their substantial expansion

(I). New industrial units and existing industrial units on their substantial expansion as defined, set up in Growth Centres, Industrial Infrastructure Development Centres (IIDCs), Industrial Estates, Export Processing Promotion Zones, Theme Parks (Food Processing Parks, Software Technology Parks, etc.) and other areas as notified from time to time by the Central Government, are entitled to:

(a) 100% (hundred percent) outright excise duty exemption for a period of 10 years from the date of commencement of commercial production.

(b) 100% income tax exemption for an initial period of five years.

(II) All new industries in the notified location would be eligible for capital investment subsidy @ 15% of their investment in plant & machinery, subject to a ceiling of Rs. 30 lakh. The existing units are also entitled to this subsidy on their substantial expansion, as defined.

(III) Thrust Sector Industries are entitled to similar concessions as mentioned in (I) & (II) above in the entire State of Uttarakhand and Himachal Pradesh without any area restrictions.

In continuation to the above Industrial Policy, the State has also taken initiatives which provide infrastructure facilities and single window facilities to the potential entrepreneurs. As a follow up, a multipurpose body SIDCUL has been created to facilitate entrepreneurs, and also act as the nodal agency for passing on subsidies to entrepreneurs. However, the above package which was initially awarded upto the year 2013 was reduced to 2007. Again on the pursuance of the State the centre agreed to extend it upto 2010 only. At this critical juncture withdrawal of this package is a big jolt to the progress of the State while other bigger states are enjoying the benefits of similar concessions in their Special Economic Zones (SEZs) in addition to the benefits of a shared and better quality infrastructure.

Development of Industrial Infrastructure

(i) The funding pattern under the Growth Centre Scheme currently envisaging a Central assistance of Rs. 10 crore per centre has been raised to Rs. 15 crore per centre.

(ii) The financing pattern of Integrated Infrastructure Development Centres (IIDC) between Government of India and SIDBI will change from 23 to 41, and the GOI funds would be in the nature of a grant, so as to provide the required infrastructural support.

Other Incentives

(i) Deen Dayal Hathkargha Protsahan Yojana and other incentives of Ministry of Textiles; The funding pattern between Government of India and the State would be changed from 50:50 to 90:10 under this Scheme. Ministry of Textiles is extending its package of incentives, as notified for North-Eastern States, to the States of Uttarakhand and Himachal Pradesh also.

(ii) Ministry of Food Processing Industries has included Uttarakhand also in difficult areas category.

(iv) Pradhan Mantri Rozgar Yojana (PMRY); Ministry of Agro & Rural Industries has provided the States of Himachal Pradesh and Uttarakhand relaxation under PMRY with respect to age (i.e. 18-40 years from 18-35 years) and subsidy (@ 15% of the project cost subject to a ceiling of Rs.15,000/- per entrepreneur).

However, as also admitted in the Mid Term Appraisal report of the Eleventh Five Year Plan, poor infrastructure hurts small and medium industry the most since these are the categories that can not afford their own infrastructure. On the other hand, the Eleventh Plans focus on inclusive growth laid greater emphasis on the expansion of Small and Medium industry, as they generate most of the employment in industry since they are less capital intensive and dispersed.

It is also observed in the some document that skill development for inclusive industrial growth must address the vast number in the unorganized sector to improve then productivity. It would require revamping technical and vocational training with the help of industry associations. PPP will be necessary in running and managing training institutions to meet the gap in skills. It is even more important in case of a newer state like Uttarakhand. The state has already made the beginning this direction.

Urban Development

Urban planning, development and infrastructure concerns have an overarching and cross-sectoral concern with tourism and ever growing urbanization. Development of the urban infrastructure also has a direct bearing as an engine of economic growth for the State. The following would be the main prongs of the strategy for urban development:

1. Harmonized construction with landscape,

2. Adequate water supply, proper sewerage system, Solid Waste Management, street lighting & convenient transportation.

3. Providing low-cost housing to all segments - especially the lower income groups by involving private sector participation.

Employment Strategy

Creation of employment opportunities including self employment, on a sufficiently large scale has to be an important feature of the Eleventh Five Year Plan. Since Uttarakhand has fairly high levels of literacy the challenge is to create different kinds and levels of employment opportunities, including self-employment, in order to meet the demands and aspirations of the people. The Planning Department, Government of Uttarakhand has estimated the rate of unemployment in the State to be 21.63% in the terminal year of the Tenth Five Year Plan i.e. 2006-07, and the increment of unemployed persons to be 3.10 lakh. The unemployment rate is quite similar to some other high literacy States like Kerala and Tamil Nadu.

With the growth in the industry and the services sectors, employment opportunities are also growing. In the absence of proper manpower planning and training the possibility of a mismatch between employment opportunities and skills available with the job-seekers is a distinct possibility. Hence this underlines the need for human resource development and skill upgradation in line with the changing demands of technology and emerging employment opportunities in these sectors. In order to tackle these employment issues some new programmes are being proposed which will be taken up in a Mission Mode.

Mission Mode Projects

The State Government has initiated some new projects to address certain issues and problems specific to the hill region in Uttarakhand, to be implemented in Mission Mode. Their broad objectives are to promote inclusive growth by providing productive employment to the people, reduce the drudgery of rural women, and help in conserving the environment which is necessary for the sustainability of the overall development process. These are cross sectoral programmes overarching as they touch several sectors. This is evident from the following scheme.

Atal Aadarsh Gram Yojana

Under its new initiatives for the integrated development of village economy an innovative Mission Mode Project 'Atal Aadarsh Gram Yojana' has been launched by the State Government. The scheme is based on growth centre approach with the following objectives.

i) To bridge the gap in socio-economic infrastructure in the rural areas of the state.

ii) To saturate selected central villages with all basic infrastructural facilities and services of the state.

Thus with the overall development of the selected village (one each in 670 Nyaya Panchayat) it will also act as catalyic to the surrounding villages. These villages will prove to be a focal point of rural development.

The scheme aims to:

a) Cover these villages by a primary school, Aanganbadi centre & ANM centre, electrification, rural housing, safe drinking water, rural connectivity by 31st March, 2010.

b) Ensure middle school with a girls hostel (if the school is away from the village by more than 5 kms.), rural marketing centre, agricultural input centre cooperative bank branch or mobile banking facility, internet kiosk, roads, fair price shop, stockman centre, cow welfare house (Gau Sadan) fodder bank, bus stop (private partnership), food warehousing facility, mobile horticulture unit, Barat Ghar (under SCSP/TSP) and milk collection centre by 31 March 2011.

c) Water mills (Gharat) and other alternative energy development units (including Biogas and Biomass Classification), Aayush centre, running water channels for fisheries development, value addition centre for milk & horticultural produce, upgraded horti-nursery, fodder species plantation in panchayat lands, para-vet service centres, shopping complexes etc. will be established according to geographic and economic potential. The private sector participation will be encouraged for such schemes.

d) The computerized khasra/Khatauni will be made available to the farmers.

The financing of these schemes will be made by the line departments within their on going schemes by dovetailing and convergence.

Thus saturation of such villages is proposed to be completed by March 2011.

Public Private Partnership

PPP Scenario

Uttarakhand had embarked on PPP journey as early 2003 with its first project of Inter State Bus Terminus (ISBT) in Dehradun. First few experiences have brought mixed results and have provided valuable learning for all the stakeholders.

In order to bring systematic approach and procedures in PPPs Uttarakhand joined GOI-ADB PPP Initiative "Mainstreaming of PPP in States" program with DEA, Government of India in 2007. Uttarakhand has received 2 experts from ADB under this scheme and Uttarakhand PPP Cell has been formed under the Department of Planning. This has helped the state in.

- Formulating draft PPP Policy for the state
- Creating PPP Handbook for government employees
- Capacity building of various departments in PPP processe
- Developing a bid documentation process
- Developing appraisal framework for PPP projects
- Developing a pipeline of PPP Projects

Government of Uttarakhand has taken steps to create a PPP enabling framework. Apart from taking part in the GOI-ADB PPP Initiative "Mainstreaming of PPP in States" program, state has also introduced:

- Competitive and Transparent Procurement Process for PPP Partner selection by adding a clearly laid down process in Uttarakhand Procurement Rules 2008.
- Adoption of panel of Transaction Advisors of DEA, GoI with addition of state's two joint venture transaction advisors. This has been done to ensure quality at the project development stage.
- State Viability Gap Funding Scheme which shall be provided the viability gap funding over and above the GoI's VGF scheme (if required). State VGF scheme also brought social sector like health and education into the purview of VGF and also has made extra funding provisions for projects in SC/ST areas and hill areas.

Uttarakhand PPP Projects

Various government entities have made reasonable progress in formulating PPP projects in last few years as a result of government's sustained efforts to create PPP enabling environment in the state. Up to the financial year 2010-11, in all 10 projects - 2 in energy, 5 in social sectors, and one each from tourism, transport and urban development departments were awarded to successful bidders.In the financial year 2010-11, -24 projects have reached the bidding stage. Based on project cost, value of these projects was INR 1905 Crores approximately. Due to various reasons 13 projects have not reached the contract award stage and cancelled.

47 projects are currently at various stages of development. These projects have been termed as projects in pipeline. At project development stage concept notes, pre-feasibility, detailed project reports are prepared after in-principle approval from the government. These 47 projects are worth approximately INR 3640 crores on the basis of project cost. Many of these projects require government to finance project development cost and annual grants (specially for social, agriculture, rural development projects). It is beyond the financial capacity of the state to meet some of these financial commitments through its own resources. As Uttarakhand is a "special category" state, at par with North-eastern states and Sikkim, Government of India is requested to give special support funding for PPPs as outlined in "Road Ahead" section.

Table1: Sectoral Snapshot of PPP Projects

Project Pipeline (Numbers)					
Sector	**Total**	**Implementation**	**Bidding**	**Pipeline**	**Cancelled**
Energy	12	2	1	9	1
Tourism	22	1	9	12	2
Transport	5	1	1	3	0
Agriculture	7	0	2	5	3
Social	22	5	6	11	2
IT	0	0	0	0	2
Roads	2	0	1	1	0
Urban	11	1	4	6	3
Total	**81**	**10**	**24**	**47**	**13**
Investment (` crore)	**5545**	**505**	**1400**	**3640**	**-**

Road Ahead

In the Year 2010-11 projects in bidding stage and pipeline stage are expected to mature into contract awards. This can be made possible with a few small changes in government's approach to infrastructure. Uttarakhand PPP Cell has summarized a few lessons learnt in the past and suggestions for the future road map for Infrastructure and PPPs.

- **Improving PPP Enabling Framework**
  - Releasing PPP Policy for the state
  - Creating Infrastructure regulatory systems and institutions
  - Introducing procurement methods which allow private sector participation in project formulation stages
- **Infrastructure Mapping of the state needs to be done at the earliest which would result in :**
  - Identify as is situation of physical and social infrastructure with special focus on "Hill Development Deficit"
  - Identify gaps and inter-linkages of infrastructure
  - Develop Infrastructure Indices for each sector which then could be used for measuring performance of infrastructure delivery periodically.
  - Provide overall and sectoral strategy for developing infrastructure keeping in mind current gaps and future needs.
  - A comparative study of state's infrastructure vis-a-vis Northeastern States, Himachal Pradesh and all India Level.
- **Training & Capacity Building**
  - At the government level, political functionaries also should be sensitized regarding concept and processes of PPP

- In the Administrative Department, the level of section officer need to be made familiar with PPP process and their roles
- At the Departments / Directorates PPP Cell or equivalent personnel trained for PPP need to be nominated
- ULBs should also be provided training for PPP
- State's administrative training Mechanism also made part of National PPP training capacity building program

– **Financing**
  - Awareness and communication among potential PPP partners to attract private investment
  - Investor meets based on overall and sectoral strategies emerging from infrastructure mapping exercise suggested earlier.
  - Inviting Financial Institution for Participation

– **Consumer / Citizen**
  - Communication of benefits of PPP like improved service quality and availability of services
  - Communication regarding user charge requirements for sustainability of infrastructure and services
  - Communication regarding job creation aspect of PPPs
  - Communication regarding Public Monitoring Service Levels of PPP Projects

– **Employees**
  - It is important to educate employees of various Departments regarding the positive impact of PPPs for job growth in the state

In order to realize the potential of PPPs and enacting abovementioned programs Uttarakhand would need to create "Uttarakhand Infrastructure Development Fund" (UIDF)with following objectives:

- Funding of technical and financial pre-feasibility and feasibility studies**,** preparation of reports and bid documents and any other activities that need to be undertaken prior to offering proposed infrastructure projects for private sector participation including facilitation to select projects to assess viability gap funding and other such schemes from Government of India.
- To provide direct financial support to the projects for enhancing project viability as considered by the Government on recommendation high level committees (Institutional mechanism proposed in draft PPP policy of the state)
- For capacity building and training**.**
- For the activities like multi-sector infrastructure mapping etc.

State has already brought projects worth ` 1500 crores to bidding stage with its own resources and funds are needed to finance at least project development cost of projects worth ` 3640 Crore which are at the pipeline stage. Even at a modest estimate of 3% of project cost for project development cost around ` 100 Crore would be needed to keep the momentum going.

It is important to mention here that due to special situation of the state, there haven't been many PPP projects in important sectors like Road, Rail, Civil Aviation and Energy. Government of India, like in the case of North Eastern state, Centre may initiate some projects in such important, sectors in PPP mode with state also as a party.

Considering the precarious financial situation of the state and also pressure of adherence to FRBM act, it is requested to Government of India to give special grant allocation of ` 100 crore atleast as a corpus fund of the Uttarakhand Infrastructure Development Fund (UIDF). This is very critical to maintain the momentum of the PPP in the state which was kickstarted with the efforts of DEA and the state.

As mentioned earlier, Uttarakhand has taken many initiatives in social sector PPPs where value for money is being realized by way of engaging private sector to deliver services in the health, education and social welfare department projects. These projects cater to both paying and non-paying customer segments and hence leading to performance related grant component for the private sector operator. This creates additional annual funding requirement, spread over the concession period of the project. This funding is different from the viability gap funding, which is essentially designed to provide a grant for capital components of the project.

(Figure ` in Lakh)

	Estimated Project cost	**Project**	**Estimated Grant Value**				
Sectors		**Development Cost**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**
Health	10,950	380	2,505	2,505	2,505	2,505	2,505
Education	18,800	940	457	457	457	457	457
Social Welfare	235	12	238	238	238	238	238
Rural Development	100	5	30	30	30	30	30
Water	80,000	800	200	200	200	200	200
Grand Total	**1,10,085**	**2,136**	**3,430**	**3,430**	**3,430**	**3,430**	**3,430**

Government of India may consider giving a grant support atleast Rs. 35 Crore annually for such PPP projects in social sector which demonstrate value for money in overall delivery of services. This would act as a positive catalyst for PPPs in social sector.

CHAPTER – 4

Approach to the Eleventh Five Year Plan

Introduction

There has been a significant shift in the focus of economic policy in India in the last few years, with issues of equitable and inclusive growth getting more importance. This is clearly revealed in the Planning Commission's perspective – from "high growth" during the Tenth Five Year Plan to "inclusive growth" in its Approach Paper to the Eleventh Five Year Plan. The government of Uttarakhand too is embarking to promote an "inclusive growth" strategy during the Eleventh Five Year Plan. This implies (i) maintaining the tempo of growth of the economy witnessed after the inception of the state, especially during the Tenth Plan period and (ii) spreading the benefits of growth to all sections of the population and geographical regions of the state.

A policy framework to generate inclusive growth for a state like Uttarakhand has to be consistent with the geography of the area. In other words, policies that might give successful results for any other state in India situated in the plains, may not prove to be fruitful in this hilly state. Uttarakhand, it needs to be understood, is primarily a mountainous state with only about ten percent of its total geographical area in the plains. With more than three-fourths (78 percent) of its total population dependent on agriculture for livelihood, the economy of Uttarakhand is predominantly dependent on mountain agriculture. Consequently only a few specific sectors have growth potential in these backward areas and the policy framework has to focus primarily on these sectors. For example, sectors like horticulture (both fruit and vegetable cultivation) have a comparative advantage in the region due to its agro-climatic conditions. Similarly, given its natural resources and scenic beauty, the hilly regions are ideally suited for the development of the tourism sector. Lastly, and perhaps most importantly, the chances of success of these specific sectors depend significantly on physical and social infrastructure. Thus the inclusive growth policies must emphasize the development of these sectors in the hill region of the state.

In the current milieu of economic liberalization and market reforms, the policies for inclusive growth have to be based on an active participation of the private sector in these areas. The policies for the targeted sectors must try to encourage market led growth strategies, wherever possible. However, the private sector is usually reluctant to enter into areas like infrastructure, partly due to the public utility nature of these projects, and partly due to long gestation periods involved. The state has to play an active role in these areas, sometimes through the public sector and sometimes in the form of public-private partnerships.

There is another very important role that the state needs to play in this whole process. The ecology of the area is already in a fragile state due to unplanned development in the past. There is a chance that rapid development without due recognition of this problem may lead to the destruction of the natural resource base of the area. Since the livelihood of the weaker sections in the hill areas completely depend on these natural resources, their destruction will make the process of inclusive growth more difficult in the long run. Thus the state must ensure that the growth process in general and private participation in particular does not destroy the ecology of the area.

An elaborate exercise for preparing state's approach to Eleventh Five Year Plan was conducted in collaboration with the Institute of Economic Growth, New Delhi. At the State level a separate committee was constituted to give it a concrete shape. The issues emerging from this exercise are given in the following paragraphs.

Growth Projections for the Eleventh Plan Period

The Uttarakhand economy has been growing at significantly higher rates in the last few years, following its inception as an independent state in 2000-01. This has led to expectations of continued high growth rates during the Eleventh Plan period as well. However, any objective projection of the future growth rates has to be based on a careful analysis of the long-term trends in the economy.

The trends in sectoral and sub- sectoral growth in the Uttarakhand economy since 1993-2004 show two distinctly different kinds of growth dynamics. There are six sub-sectors that exhibit steady and unchanging growth dynamics for the whole period. These are (i) Agriculture (ii) Forestry (iii) Fishery (iv) Mining (v) Real Estate, Ownership of Dwellings and Business Services and (vi) Banking and Insurance. On the other hand, the remaining seven sub-sectors show a distinct jump in growth rates since the time the state was established, i.e., 2000-01. These are (i) Manufacturing (ii) Construction (iii) Electricity, Gas and Water (iv) Trade, Hotels and Restaurants (v) Transport, Storage and Communications (vi) Other Services and (vii) Public Administration. These high rates of growth are partly due to the small base of these sectors while other factors like better administration and governance, together with fiscal incentives for private participation in these sectors, are also important. While some of these factors will remain significant even in the long run, others will have a more temporary impact on the growth rates. Clearly the capacity to sustain high growth rates will depend on whether the long-run factors remain more relevant than the temporary factors in the future.

The overall and sectoral growth in the new State indicate a robust trend as may be seen from the following table :

Table : Overall and Sectoral Growth*

	CAGR between 1999-00 and 2008-09 (%)			
	Primary Sector	**Secondary Sector**	**Tertiary Sector**	**Overall**
Uttarakhand	2.6	16.3	8.5	9
All India	2.9	7.6	8.9	7.2

** Calculated from CSO data, at factor cost by industry of origin at constant prices (1999-00)*

In order to generate growth projections that capture this changing economic behaviour exhibited by the state following its inception, it is useful to define alternative growth scenarios. In fact, most feasible outcomes for Uttarakhand for the Eleventh Plan period can be taken care of by three alternative scenarios. These may be termed as the Optimistic Scenario, the Pessimistic Scenario and the Realistic Scenario. These scenarios are defined for the sub-sectoral growth behavior

and then aggregated to generate the sectoral (agriculture, industry and services) and aggregate GSDP growth behavior for Uttarakhand.

Steadily growing sectors

A single scenario, i.e., the Realistic Scenario, captures the growth dynamics for the six sub-sectors that exhibit steady growth for the period 1993-04 to 2005-06. In this scenario, the sectors are assumed to grow at the same (constant) rate at which they have grown in the post-reform period. The average annual projected growth rates during the Eleventh Plan period (2007-12) in these sub-sectors are given below:

Sl. No.	Sub-sector	Average annual projected growth rate 2007-2012 (%)
1	Agriculture	1.86
2	Forestry	0.5
3	Fishery	2.68
4	Mining	5.38
5	Real estate, Ownership of dwellings, Business services	4.89
6	Banking & Insurance	10.03

Sectors with a jump in growth rates after attainment of statehood.

In the sub-sectors that exhibit higher growth rates after the inception of the state in 2000-01, all three scenarios (Optimistic Scenario, Pessimistic Scenario, Realistic Scenario) are required to capture the growth dynamics in the period 1993-04 to 2005-06. For these sectors, the Optimistic Scenario assumes that the high growth rates achieved after 2000-01 are not due to temporary factors and hence can be sustained throughout the Eleventh Plan period. The Pessimistic Scenario, on the other hand assumes that the high growth rates were due to highly short-lived factors, and hence the economy will immediately (from 2006-07) revert to the long-run (constant) growth rate (exhibited during the period 1993-04 to 2005-06) and continue to grow at that rate throughout the Eleventh Plan period. The Realistic Scenario recognizes that both the Optimistic and the Pessimistic Scenarios are based on extreme assumptions and the most realistic outcome will lie somewhere in between. Specifically it assumes that instead of falling immediately, the growth rates keep falling steadily from the high rates in the recent past, so that by the end of the Eleventh Plan period (2011-12) they have reached the long-run rates.

The average annual projected growth rates in these sub-sectors during the Eleventh Plan period (2007-2012) are as follows:

Sub-sector	Average annual projected growth rate 2007-2012 (%)		
	OS	PS	RS
1. Manufacturing	13.68	2.49	6.22
2. Construction	18.95	14.08	15.7

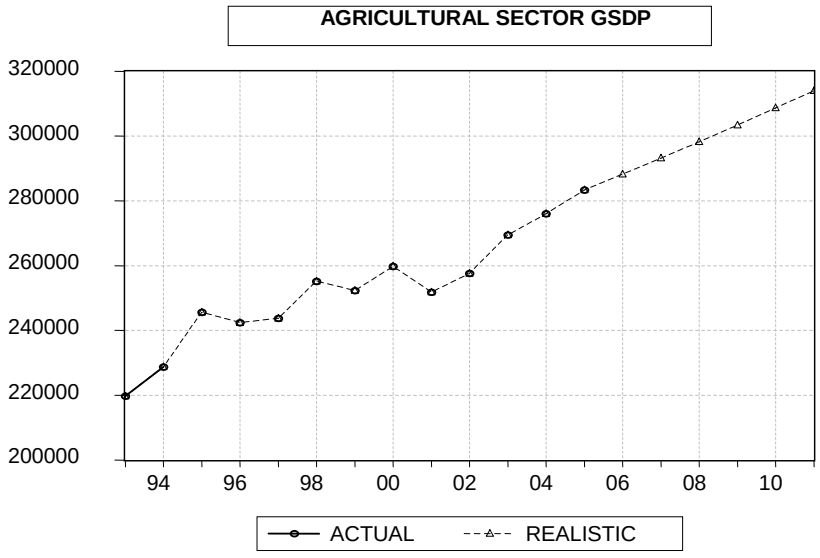
3. Electricity, Gas & Water	11.96	3.84	6.55
4. Transport, Storage & Communications	11.87	7.56	8.99
5. Trade, Hotels & Restaurants	7.83	5.89	6.54
6. Other services	20.1	9.7	13.17
7. Public administration	21.88	8.01	12.63

***Note**: OS refers to optimistic scenario; PS to pessimistic scenario and RS to realistic scenario*

Sectoral and Aggregate Growth Projections

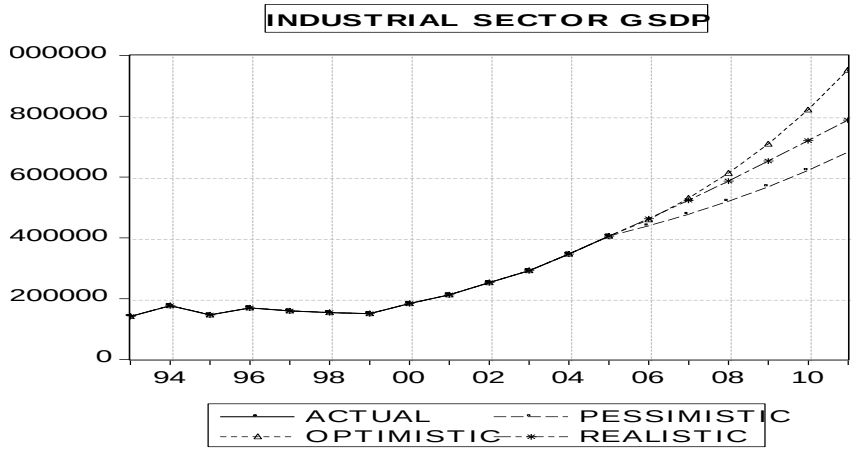
The output and growth projections of the agricultural sector, the industrial sector, the services sector and aggregate GSDP are based on the projections from the thirteen sub-sectors. The projected agricultural sector output is equal to the sum of the projected output from (i) Agriculture (ii) Forestry and (iii) Fishing. The projected industrial sector output is equal to the sum of the projected output from (i) Mining (ii) Manufacturing (iii) Construction and (iv) Electricity, Gas and Water. The projected services sector output is equal to the sum of the projected output from (i) Transport, Storage and Communications (ii) Trade, Hotels and Restaurants (iii) Real Estate, Ownership of dwellings and Business Services (iv) Banking and Insurance (v) Other Services and (vi) Public administration. The projected aggregate GSDP is equal to the sum of the projected output from the (i) agricultural sector (ii) industrial sector and (iii) services sector. The graphical projections of sectoral and aggregate output for the Eleventh Plan period are presented below. The corresponding average projected growth rates are also provided.

(i) *Agricultural Sector GSDP*



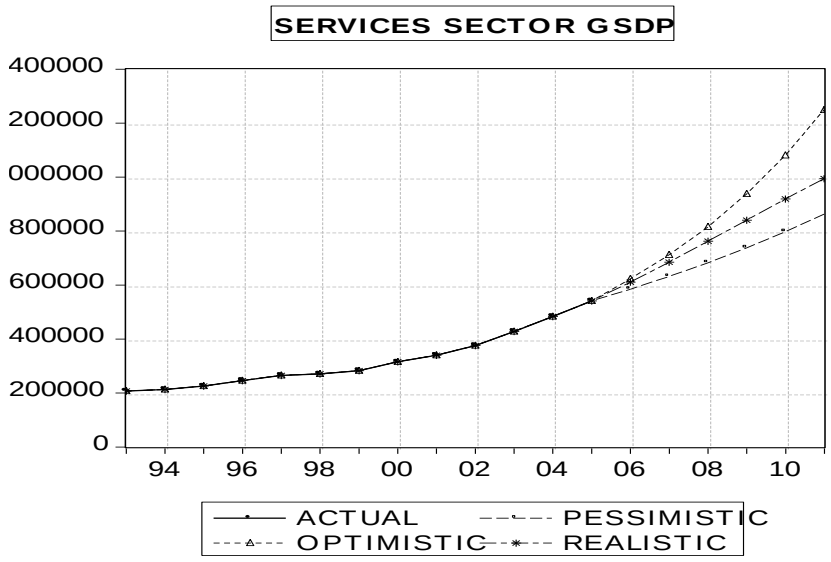
Eleventh Plan average projected growth rate 1.72 % (Realistic Scenario)

(ii) Industrial Sector GSDP



Eleventh Plan average projected growth rate (i) 11.23 % (Realistic Scenario) (ii) **15.67 %** (Optimistic scenario) (iii) **9.18 %** (Pessimistic scenario)

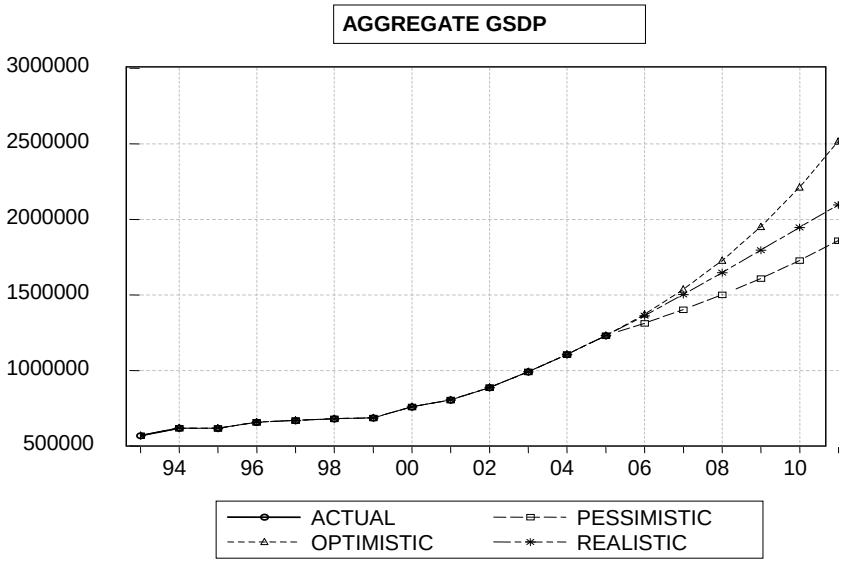
(**iii) Services Sector GSDP**



Eleventh Plan average projected growth rate (i) 10.24 % (Realistic Scenario)

(ii) 14.92 % (Optimistic scenario) **(iii) 8.09 %** (Pessimistic scenario)

(v) Aggregate GSDP



Eleventh Plan average projected growth rate **(i) 9.01 %** (Realistic Scenario) **(ii) 12.90 %** (Optimistic scenario) **(iii) 7.21 %** (Pessimistic scenario)

It is clear from the projections presented above that the growth prospects are very positive for the state of Uttarakhand. The realistic scenario, which describes the most plausible outcome in the future, pegs the growth rate of GSDP at around 9 percent. Even with the pessimistic scenario, the growth rate is above 7 percent, which is a high growth rate by any standards. Interestingly the performances of the state has so far been on the projected lines. This performances particulary in industrial sector has been well appreciated by the Planning Commission in its Mid Term Appraisal (MTA) of the Eleventh Five Year Plan. The problem, however, is that the trends depicted by the above scenarios do not lead to inclusive growth. For example, the agricultural sector, which provides livelihoods to three-fourths of the population in the state, is pegged to grow at 1.72 percent only. This clearly shows that the industrial and services sector led growth, which benefits largely the plains, is not going to be very inclusive in nature. In other words, if inclusive growth is to be promoted, then current trends will not be sufficient and focused development planning will be necessary to encourage growth in those sectors that provide livelihoods to the weaker sections and backward areas.

Inequalities in the Uttarakhand economy

As with the rest of India, there are various forms of social inequalities in Uttarakhand that manifest themselves in the form of unequal opportunities and quality of life for certain social groups. These groups include the scheduled castes, scheduled tribes, and women. The scheduled castes in Uttarakhand, like elsewhere in the country, have suffered due to a deep-seated process of discrimination and exploitation over a long period of time. These problems are compounded by the fact that the hill society of Uttarakhand has traditionally been an upper caste dominated society, in which the dalits were relegated to an extremely low social position. To a large extent, similar problems afflict the tribal population as well (though they

constitute only 3 per cent of the population as compared to 18 per cent in the case of the scheduled castes) with the added complication that their social isolation is combined with physical isolation as well. The main tribal groups of Uttarakhand are the Bhotiyas, Tharus, Boxas, Jaunsaris and each of these groups have distinct characteristics and needs. In addition, there is also a very small forest-dwelling tribal group known as Rajis (or Ban Rawats) numbering a few thousand, who live in the areas bordering Nepal in Pithoragarh district. Thus, beside geographical marginalisation in general they are economically and socially marginalized also.

More than these social inequalities however, it is the geographical inequality between the hills and the plains of Uttarakhand that divides the state most critically. This geographical inequality manifests itself in the form of inter-district inequality. Four of the thirteen districts, namely, Nainital, Haridwar, Dehradun and Udham Singh Nagar, are in the plains or have large parts in the plains. Compared to the other nine districts, these districts are ahead in terms of various indicators of development.

Micro Water Shed based development strategy

The region is divided over 1100 Miro water sheds which have distnict geo physical, economic and social characters. These watersheds are under constant threat of mass wasting and erosion caused by depleting forest cover, unscientific agronomic practices and hydrological imbalances. The ever increasing population, the need to provide a better quality of life to the people and the pressure on natural resources is further compounding the problem. The most of agricultural area in hills is rainfed. The challenge in rainfed areas is to improve rural livelihoods through participatory watershed development approach in sustainable manner.

Niche Characteristics

As also stated in Uttarakhand Development Report (NCAER) Uttarakhand has a long history, with a sustainable civilization that dates back to ancient times and a wealth of landscape with mountains and lakes that evoke a deep sense of spirituality. It has enough to offer to the adventure seeker, spiritual and casual tourists alike. The world renowned Chardham, *Bygyals* for trekking, Valley of Flowers, high snow clad peaks for mountaineering, growing river rafting and other adventure activities provide the region a niche in the development of tourism which need to be developed with a holistic approach.

With distinct geographical features the State is endowed with great bio-diversity. It is uniquely suitable to grow herbal and medicinal plants besides cultivation of variety of fruits, vegetables, flowers tea etc. Hill rajma, potato, amaranthus, tea etc. need to be developed as organic branded items with assured market and price.

With high literacy rate and congenial environment for learning and research, the potential for developing educational centers, high end IT centers etc. need to be established and sustained to make it a knowledge hub.

Last but not the least, the state has the distinction of maintaining a peaceful law and order situation which is a pre requisite for sound economic development.

Based on the above analysis the main strengths, weaknesses, opportunities and threats are summarized in the following chart :

SWOT Analysis for the economy of Uttarakhand

Strength	Weakness	Opportunity	Threats
High Literacy Rate	Hilly, difficult and Land locked terrain	Tourism development (without disturbing social, cultural value and environment)	Vulnerability of Natural calamities seismically the state falls under high risk category. Long international borders with China and Nepal put pressure on security and other offensive activities.
Good Health indicators	Fragmented marginal and scattered land holdings	High potential for Horticulture (including Tea, Herb, medicinal Plant)	Endangered flora and fauna
Low Population density	Rainfed agriculture	Large hydro power potential	Migration of able bodied workforce
Perennial surface water resources (rivers)	Limited urbanization and thin local market	Climate and location advantage for higher learning and research	Regional disparities
Rich forest cover and biodiversity	Small sized and scattered villages	Available benefits of special category state	Skewed industrialization
High Grade natural resources of tourist hot spot	Low access to roads/Low connectivity of rail and air	New State and committed machinery	Emergency of extremist forces across the border.
Growing registered Mfg.	Geo-Physically fragile.	Abundance of solar energy potential	International border provides transit route for illegal activities.
Peaceful social and industrial environment	Inadequate infrastructure to support high value tourists.		Reducing glaciers
Large number of Es-Defence personnel as work force. Pollution free environment	check on mineral resource exploitation due to environmental constraints		

This is only illustrative and can be extended and modified further.

Development of the hilly areas for inclusive growth in Uttarakhand- Challenges, Issues and Interventions required :

The State has made rapid strides after its creation on 9-11-2000. The management of State Finances, increase in power production, rapid industrialzation in selected areas, setting up of new universities and Medical colleges are some of the highlights. The State is growing at the average annual rate of about 10%. This growth, however, is highly skewed and largely concentrated below the imaginary line of 50-60 kms from Vikasnagar (Dehradun) to Khatima (Udham Singh Nagar). Thus there seems a regional bias in the above growth and achievements. The hill region has lagged behind in most of the Socio-economic development indicators and thus forfeiting the objective of inclusive growth. The State Government is aware of this situation and on the direction of Hon'ble Chief Minister has prepared a 10 year road map i.e. VISION-2020. However, in order to fulfill the targets of VISION-2020 and objectives of inclusive growth creation of necessary infrastructure is inevitable. This would require heavy investment which is beyond the capacity of this small new state and can not be managed without the cooperation and generous attitude of the Govt. of India. Some of the issues and possible intervention is suggested below :

1. Uttarakhand is a land locked State, which creates disadvantage in competing with other states, particularly in exportable goods and importing critical raw material. The rural mass has fragmented land with small land holding generating marginal or no income leading to constrained use of innovating methods. On top of that village and smaller town level industrialization is very poor.

2. The Uttarakhand economy, which was growing at about 3.5 percent in the post reform period before attaining statehood, has achieved average growth rates in excess of 10 percent after 2000-01. It is clear that the achievement of statehood has helped Uttarakhand to transform itself from a low growth to a high growth economy. However, most of the growth has been restricted to the plains, while the hilly areas have continued to grow slowly due to a number of structural problems. Thus the challenge for inclusive growth policies is to generate faster development in the hilly areas of the state. The main problem, of course, is the mountainous geography of the state. The soil in these regions is, in general, quite shallow, gravelly and not very fertile. Agriculture takes place mostly in the valleys or scattered pieces of land on the hills that have the requisite fertility. Not surprisingly, the net cropped area is only about 12 percent of the area of the state. Given the topography and the terrain, irrigation becomes a crucial limiting factor in agricultural performance.

3. Another problem is the population density, which is very low in these areas. The three districts of Uttarkashi, Chamoli and Pithoragarh have some of the lowest population densities in the country. This can be attributed to the fact that a large part of the land in these districts is under forests and uninhabitable snow/glaciers area. If this area is accounted for the population density in hill districts is around 466 per sq. km. Thus, on the one hand, the State is constrained to make alternate use of two-third forest area, on the

other hand, it suffers in allocation of Central funds due to so called lesser population density. This paradox needs to be taken into account while making allocation of central funds under different schemes. As per estimates based on watershed atlas of India (2000), out of a total snow/glacier area (1316640 ha.) in the State, 93 percent falls in these three districts. Further, the majority of land under forests is another reason for apparent low density of population.

4. Although about 26 percent population is stated to urban population in the State as a whole, it is distressing to note that more than 82.5 percent of this urbanized population is concentrated in the plains of 4 districts. Rest 17 percent also largely belong to the district headquarter towns of the remaining 9 districts. This speaks of high disparity in this regard and special efforts and earmarked funds are required for the smaller towns of the hill area so that they do not get marginalized due to population norms. Development of such towns will also check out migration from hills.

As stated earlier in road infrastructure that the road and communication infrastructure development in the villages and towns of 9 blocks of 5 districts under BADP should be undertaken under BADP to avoid their marginalization on account of population norms. Hence enhancement to allocation under BADP is solicited.

5. About 84% of the village settlements (nearly 90% in Pauri Garhwal, Pithoragarh, Chamoli, Tehri Garhwal and Almora) have population sizes that are less than 500 and hardly 0.5% of the villages in most districts have population sizes that are more than 2000. The sparse and scattered population prevents the development of market-based institutions, which need a minimum scale in order to operate. The lack of roads and other means of transportation further compounds this problem. Railways and air connectivity is limited to the Terai region. The Hill region is left with only one option i.e. roads. However, the construction of roads in hills itself is costlier than that in plains on the one hand and on the other longer roads are constructed to connect localities/villages due to uninhabited forest lands between them. Further, due to fragility huge amount is required for maintaining these roads in view of the monsoon damages. Thus, in the current scenario, transportation is difficult and costly.

6. Uttarakhand hills offer huge for high value tourism, especially adventure tourism. However, to give it a right momentum, following infrastructure urgently needs to be created.

6.1 Construction of Greenfield Airport : To make Uttarakhand a tourist destination for domestic and foreign tourists, such airports are necessary. The Centre has developed such airports in the North East and Sikkim States. However, Uttarakhand is still denied of such favours. Hence, we seek the help of Planning Commission in forwarding our case to the Ministry of Civil Aviation, GOI. For this purpose land is available at Gaucher (Chamoli), Nani-Saini (Pithoragarh) and Chinyalisaud (Uttarakhashi).

6.2 To give boost to the high value tourism a professionally trained manpower for different field of tourism is a perquisite. For this, a Tourism & Adventure University at Pithoragarh preferably from Central funding may be considered. This sector has high employability and as such this University would also cater the demand of other States.

7. Although the State in its endeavor to extend medical and health services has opened CHCs/PHCs/SAD but the non availability of doctors and praramedical staff, specially in the remote hills, is with holding the delivery of services. Hence, establishment of two state Ayurvedic colleges, one each in Kumaon and Garhwal division can provide the solution so as to ensure minimum health coverage.

The structural problems described above makes these areas completely unsuitable for large scale, mechanised, input-intensive modern agriculture. Even smaller scale, localized cash crops are not remunerative in the current situation because transportation and transaction costs are prohibitively high for a small farmer. Moreover, these cash crops also require higher levels of investment but the overall backwardness of these places prevents the development of financial institutions that may provide credit to these farmers. Since the return from agriculture is low and remunerative employment opportunities are not available in the region, the men-folk either join the army and para-military forces or migrate in large numbers from the mountain areas to the cities and towns all over the country in search of employment. A significant consequence of this pattern of migration and male preference for off-farm employment is the lack of quality manpower in the agricultural sector.

In order to change this situation of economic and social backwardness in the rural mountainous regions of Uttarakhand, it is important to adopt a strategy based on long term planning that will take steps to counter all the problems described above. However, given the fiscal and administrative constraints of the state, it is more sensible to identify a few sectors at a time and attempt vigorous development in these sectors before moving on to other sectors. The first step in such a strategy is to identify (a) sectors that are impeding the growth process, and (b) sectors in which this region has a comparative advantage. The current condition of the infrastructure sector is clearly a constraint on the development in this area and must be the focus of the strategy for inclusive growth. As far as comparative advantage is concerned, two sectors that have great potential are horticulture and tourism.

Major Issues

Based on the recommendations of the 12th Finance Commission, the Central Government decided to pass on the external assistance on back-to-back basis to the states along with the service cost and exchange rate fluctuations. This scheme of borrowing would have put the Special Category States in a rather difficult position, as on one hand they have a narrow resource base and on the other, they are located in environmentally fragile and sparsely populated areas where the cost of providing basic services is very high. In the context of Uttarakhand the problem is further compounded, as it is still in the formative stage and requires heavy investment for development of infrastructure which is vitally important for overall economic

development of the region. Fortunately the argument of the State Government was accepted and the decision was reversed.

Now the recommendation of the 13th Finance Commission are at hand. The State has been deprived of allocation for meeting non-plan revenue deficit appreciating the performance of the State. The liabilities of the 6th Pay Commission are still pending. The State is doing its utmost to maintain financial discipline. But what needs to be considered here is that the State has started from a low level of development due to which progress indicators are depicting a healthy picture in the starting years. However, it is apprehended that this may slow down over a period of time due to limitations of construction and industrial activities. Further, the growth seen in the previous years have largely been due to boom in construction sector which is limited largely to the State Capital town or industrial locations at Hardwar and Udhamsingh Nagar. Thus, hill districts remain isolated from the benefits of growth.

The validity of the Industrial Package has come to its end as it was curtailed up to March 2010 against the original period of 2013. This, however, needs to be reconsidered in view of the fact that industrial investment has been picking up and gradually gathering momentum in the State. Withdrawing of this package would definitely make a roll to the economy at this stage. The State is afraid of losing an estimated investment of Rs. 660 crore which is in the pipeline as a first blow. It is also feared that the already establishment units may also shift to other favourable places. Hence, this vehemently needs to be extended at least upto the year 2020.

The State has been accorded the status of Special Category State by the Government of India which entitles the State to get funding at 90:10 ratio under Centrally Sponsored Schemes. However, till today this ratio varies from 50:50 to 90:10 for different schemes. This needs to be looked into and be rationalized accordingly so that the State is not deprived of the benefits of its Special Category Status.

An alarming development in the form of Maoist extremism across the border in a neighboring country, and its spread to our State has been seen in the recent past. For coping up with this threat and insulating our border areas, development of infrastructure facilities and opportunities for gainful employment needs to be given a rapid pace, especially in the border areas. However, in view of the strategic developments taking place across the border, to check these newly ensuing threats along the border and from the defence point of view astrong communication infrastructure is a felt need of the State, and the nation.

The State is prone to natural calamities in their different forms. It witnessed a record rainfall of last 50 years during the last monsoon causing a massive damage to the life and property and consequently the State has to divert its resources to the disaster by rehabilitating affected families and restoring essential services.

Equitable growth implies overall growth and distribution as whole, to all sections of the population and geographical regions of the state. It is evident that most of the higher growth rates achieved by the State in the initial years, have been limited to the plains, while the hill areas have grown slowly due to infrastructural limitations. Thus, modification and rescheduling of the current schemes, in view of the objective of equitable growth, is needed according to the regional backwardness

prevailing in the hill districts of the State, keeping in mind that overall growth does not have any adverse effects.

There are same norms of all the States under RMSA while the actual cost of construction is almost double in hill regions but the GoI. norms do not provide additional allocation for this which puts pressure on the State to meet out this additional cost. Secondly the increasing number of CSS cuts the direct funds meant for States on the one hand & on the other, after the project period it leaves behind a list of liabilities. Thus on the one hand the state is deprived of getting more direct funds from the centre while on the other, they are burdened by the carried over liabilities of the handed over centrally sponsored schemes.

Although efforts to bridge this gap are being made but despite creation of infrastructural facilities like, roads, electrification, health, education, horticulture and tourism ensuring the delivery of benefits is a challenge and it is compounded by the shortage of committed manpower like doctors, teachers, engineers, technicians etc. for obvious reasons of remoteness and backwardness. To overcome this vicious cycle special plan provisions are required.

The Planning Commission may continue to support the State in its endeavour at least for a decade more to establish a sound, viable, vibrant State, which contributes to the national economy.

CHAPTER – 5

Plan in Outline

Before the creation of the new State of Uttarakhand the practice of treating the hills as a separate unit for 'planning and development' and having a "Sub-Plan" for the same has long been followed in which problems peculiar to the hill areas were always given due weightage but, understandably, not to the desired and fullest extent. With the formation of the new State, the old linkages between these areas are gradually being redefined and this necessitate more careful planning on the part of the State, to address the issue of regional inequality as with the passage of time the in disparities have aggravated and sharpened. The dream of developing Uttarakand into an ideal hill state can be achieved only by reorienting and prioritizing outlays for setting right the levels of developments whether infrastructural or social.

10th Five-Year Plan, Annual Plan 2007-08, 2008-09, 2009-10 & 2010-11

The Tenth Five Year Plan was the first attempt by the new State to formulate a Five year plan independently. The annual plan 2006-07 the last year of the 10th year Plan served as the base year for the 11th Five Year Plan. An attempt was made to compensate the shortfalls and to raise the over all growth rate of the State's economy to the extent feasible. This has resulted in pushing up the growth rate of the economy significantly. The State Government is taking continuing steps for this purpose, more particularly, for attracting large private investment in various sectors. In fact, the government initiated a series of measures in critical areas to streamline the present processes, practices and procedures so that the irritants to development are removed. This resulted in enhancing actual plan outlay of ` 11741 crore from the agreed outlay of ` 9000 crore for the Tenth Five Year Plan.

11th Five Year Plan

In view of the performance of the State and the rising expectations of the people, while preparing Five Year Plans and subsequent Annual Plans, emphasis has been laid on the formulation of a realistic Plan based on the expected resources and achievable targets. To get an idea of the relative priorities attached to various sectors in allocating plan funds, the sectoral distribution of plan outlay during the 10 Five Year Plan is stated in the following table :

Classification of Plan Outlay

(`. in Crore)

Major Heads of Development	Eleventh Plan (2007-12)	2007-08	2008-09	2009-10	2010-11	2011-12
	Proposed Outlay	Outlay	Outlay	Outlay	Outlay	Approved Outlay
Economic Services	**25124.75**	**2287.14**	**2385.70**	**2714.12**	**2972.00**	**3553.61**
1. Agriculture & Allied Activities	4480.66	371.17	461.98	382.69	532.91	666.48
2. Rural Development & Panchayati Raj	2498.29	317.81	339.83	371.18	470.32	568.74

Irrigation & Flood Control	2612.24	135.87	613.68	690.39	614.16	535.97
4. Energy	4874.87	390.44	223.43	466.48	427.13	403.96
5. Industry & Minerals	318.30	26.55	21.27	20.44	24.61	28.28
6. Transport	8222.53	799.29	607.89	682.71	795.52	1163.14
7. Science, Technology & I T	579.29	97.62	41.03	20.17	27.97	41.98
8. General Economic Services	1538.57	148.39	76.59	80.06	93.74	145.06
Social Services	16244.06	1993.03	1805.20	1926.59	2234.05	2696.94
Out of which:-						
Education ,Culture, Sports Youth Welfare	4244.46	646.25	603.12	382.20	588.41	790.87
Medical & Public Health	2148.82	285.65	275.79	180.48	303.10	423.76
Water Supply & Sanitation	2535.30	275.65	362.92	296.61	427.61	546.37
Awas & Urban development	3438.41	391.54	177.88	797.58	458.45	340.67
Social Security & Welfare	2070.67	242.67	269.52	269.72	283.53	595.27
General Services	**643.38**	**98.46**	**94.46**	**87.60**	**92.14**	**194.66**
State Govt. Resources	**42012.19**	**4378.63**	**4775.00**	**4728.31**	**5312.55**	**6445.21**
Extra Budgetary Resources				**1072.50**	**1487.45**	**1354.79**
Total	**42012.19**	**4378.63**	**4775.00**	**5800.81**	**6800.00**	**7800.00**

Thus about 45.56 percent outlay to Economic Services, 34.58 percent to social services and about 2.50 percent is approved for General Services.

The State has been able to enhance significantly the actual outlay from the approved outlay during the 10th Five Year Plan on the basis of better expendability of available funds. Similar trend is visible during the past four years of the Eleventh Five Year Plan. However, it needs to be mentioned here that while the State Government attempted to mobilize the extra budgetary resources during the last two years to enhance the plan size the central assistance has not been up to that level as a result of which there exists a large gap between the 11th Five Year Plan outlay and the approved annual plans of the four years. As 2011-12 is the last year of the 11th FYP it is expected that the Planning Commission will consider this fact while deciding the size of the annual plan 2011-12.

The Planning Commission in its review observed that Uttarakhand's performance has been remarkable among all the states with regard to expenditure of plan funds during the Tenth Five Year Plan. The total expenditure during the Tenth Five Year Plan rose to ` 11297.38 Crore against the original approved outlay of ` 7630.00 crore (at constant prices) or ` 9000.00 Crore at current prices. Year wise

approved outlay, revised outlay and expenditure is given in the following table :

Approved Outlay and Expenditure during Tenth Five Year Plan and Eleventh Five Year Plan (Annual Plan 2007-08 to 2010-11)

(`. in Crore)

Sl.N.	Year	Projected Outlay	Expenditure
10th Plan (2002-07)			
1	2002-03	1534	1449.44
2	2003-04	1607.75	1677.79
3	2004-05	1867.37	1916.74
4	2005-06	2714.97	3003.31
5	2006-07	4017.26	3250.00
	Total	**11741.35**	**11297.28**
11th Five Year Plan (2007-12)			
1	2007-08	**4378.63**	3944.88
2	2008-09	4775.00	3653.57
3	2009-10	5800.81 (4700.00 from Budgetary support)	3514.09
4	2010-11	6800.00 (5312.55 from Budgetary support)	4474.10
5	2011-12 (Approved)	7800.00 (6445.21 from Budgetary support)	-

As mentioned earlier also the State was deprived of the recommendations of the 11th Finance Commission which put strain on our resources during first 3 years of the 10th Plan. However, with the recommendation of the 12th Finance Commission the situation eased relatively and the State has been able to record positive balance from current revenues, thus improving its own resources.

Externally Aided Projects

The State negotiated four new externally aided projects with the Asian Development Bank (ADB) for roads & bridges, urban infrastructure, power sector and tourism development. These projects have come into existence and an outlay of ` 962.61 crore has been agreed upon by the Planning Commission, GoI for the year 2011-12.

Resources Position

The resource projection for the Annual Plans from 2007-08 to 2011-12 is summarized in the table below. The estimated BCR for the year 2009-10 is (-) ` 1159.56 crore. Reduction in BCR during 2008-09 and 2009-10 has been mainly due to the implementation of the 6th Pay Commission Recommendation.

Scheme of Financing Estimates for the Annual Plan 2011-12

` in Crores

Items	2007-08 Actual	2008-09 Actual	2009-10 (RE)	2010-11 (LE)	2011-12 (Estimates)

A State Government					
1. State's Own Resources	667.10	283.22	(-)642.26	180.32	6445.21
a. Balance from Current Revenues	671.90	299.78	(-)1338.12	(-)326.36	546.26
b. MCR (excluding deductions for repayment of loans)	(-)206.05	-66.56	470.46	258.38	47.75
c. Plan Grants form GOI (TFC)	68.25	50.00	140.40	66.48	249.38
d. ARM		-	85.00	181.82	100.00
e. Adjustment of Opening balance	133.00	-	-	-	-
2. State Government's Budgetary Borrowings (i-ii)	1103.11	1424.58	1721.75	1734.00	1803.00
I) Borrowing (a to i)	1280.76	1680.52	2020.70	2141.53	2364.00
a. Net Accretion to State Provident Fund	157.90	389.60	500.00	200.00	240.00
b Gross small savings	230.16	188.98	700.00	600.00	1000.00
c. Net Market Borrowings	733.35	884.43	600.00	975.53	688.06
d. Gross Negotiated Loans (i to iv)	150.78	199.39	220.70	368.00	416.00
i) NABARD	149.42	192.13	205.70	350.00	400.00
ii) REC		-	-	-	
iii) HUDCO		-	-	-	
iv) Other (specify) (NCDC)	1.36	7.26	15.00	16.00	16.00
e. Bonds /Debentures (Non–SLR Based)	–	–	–	–	–
f. Loans portion of ACA of EAPs (old)	–	–	–	–	–
g. Loans for New EAP	8.57	18.12	-	-	20.00
h. Other Loans from GOI					
i. Other Loans if any (to be specified)					
II) Repayments (a to d)	177.65	255.94	298.95	407.53	561.06
a. Repayments to GOI Loans	32.63	33.52	34.25	45.33	45.33
b. Repayments to NSSF	34.82	75.00	104.50	150.00	291.63
c. Repayments to Negotiated Loans	53.00	90.22	103.00	155.00	166.90
d. Others Repayments	57.20	57.20	57.20	57.20	57.20
3. Central Assistance (a+b+c)	**2026.82**	**1897.07**	**2592.24**	**3388.30**	**3698.82**
a. Normal Central Assistance	924.69	839.15	1049.37	1154.38	1237.05
b. ACA for EAP (Old)	122.53	161.02	500.00	969.52	962.00
c. ACA for New EAP	233.10	-	-	-	-
d. Others	746.50	896.90	1042.87	1264.40	1499.77
Total: State Government Resources (1+2+3)	**3792.41**	**3604.87**	**3671.73**	**5302.63**	**6445.21**
Resource of Public Sector Enterprises (PSEs)					

1. Internal resources	**(-)217.52**	**33.39**	**(-)53.12**	**38.48**	**32.23**
2. Extra Budgetary Resources	**970.13**	**424.97**	**996.66**	**1397.45**	**1279.00**
Total PSEs	**970.13**	**458.36**	**996.66**	**1435.93**	**1311.23**
Local Bodies Resources					
1. Urban Local Bodies	**45.22**	**52.30**	**61.87**	**75.00**	**26.50**
2. Rural Local Bodies	**10.94**	**12.36**	**13.97**	**15.00**	**17.06**
Total Local Bodies	**56.16**	**64.66**	**75.84**	**90.00**	**43.56**

Investment Requrements

At its 52nd meeting the NDC resolved that the Eleventh Plan should be based on a growth strategy that would accelerate the present 8% average annual growth rate to a level of 10% in the terminal year of the Plan. In order to achieve growth of this magnitude it is estimated that the level of investment in infrastructure would have to rise from the 4.55 per cent of GDP to about 8 per cent. This implies that the level of outlays on infrastructure would have to be doubled during the 11th Plan period. In a new and mountainous state like Uttarakhand the investment requirements on infrastructure would be even higher because of the already low base and the relatively higher costs owing to the nature of the terrain and topography. The issue of resource constraint that this implies is further compounded by the pressing demand from various social sectors on plan and budget resources. Under such constraints, the role and need for harnessing private investment in infrastructure projects through Public Private Partnership (PPP) assumes greater importance.

With the target of 9.9% growth rate that the State is expected to achieve during the Eleventh Plan, it is estimated that a total investment of Rs. 73,000.00 crore would be necessary.* Of this about Rs. 45,000.00 crore would be required from private sector. However, for meeting the huge requirement of funds for the infrastructure sector, the strategy would comprise maintaining the role of public investment and facilitating private sector to supplement it.

Growth with Social Justice

Growth with social justice has been the prime objective of planning in India. The scheduled castes and scheduled tribes belong to the poorest of the poor sections of the society and, therefore, priority has been assigned to their rapid development.

The scheduled castes have, for historical reasons, remained socially and economically backward for generations. Uttarakhand is no exception in this respect. The representation of SCs in the secondary and tertiary sectors of the economy is extremely low. Though they are mainly engaged in agriculture and allied activities, most of them are landless agricultural labourers who own meagre land holdings. This fact is brought out clearly in the table given below. In the entire State of Uttarakhand SCs, who constitute 18 per cent of the population, own 14 per cent of the holdings accounting for only about 8 per cent of the area.

Land holdings of Scheduled Castes

S.N.	District	Population of SCs	No. of operational holdings	Area under holdings owned

		(%) 2001	owned by SCs (%)	by SCs (%)
1	Almora	22.30	16.65	10.74
2	Bageshwar	25.90	16.06	10.45
3	Chamoli	18.20	12.19	6.83
4	Rudraprayag	17.70	11.22	6.22
5	Dehradun	13.50	10.99	9.27
6	Nainital	19.40	17.85	11.00
7	Pauri Garhwal	15.30	12.10	5.72
8	Pithoragarh	23.00	17.00	11.34
9	Champawat	17.00	15.53	10.98
10	Tehri Garhwal	14.40	10.06	5.22
11	U.S. Nagar	13.20	6.50	2.96
12	Uttarkashi	22.90	24.05	17.77
13	Haridwar	21.70	16.44	9.51
	State	**17.89**	**14.15**	**8.02**

Source: Agriculture Census, 2000-01 & Census 2001

** Uttarakhand Development Report, Planning Commission, GOI. page 119.*

In view of the constitutional provisions contained in the Directive Principles of the State policy under Article 46 enjoining on the state the duty of promotion and protection of the interests of SCs, concerted efforts have been made under the various Plans to raise their social and economic status.

Scheduled Caste Sub-Plan (SCSP)

In the first four Five Year Plans, welfare programmes were drawn up and implemented for improving the educational and economic status of the scheduled castes. By the end of the Fifth Five Year Plan, however, was realized that the strategy for their development would have to be based on intensive social and economic efforts so that they could acquire the ability to reap the full fruits of programmes of economic development. As a result the approach of Special Component Plan (SCP) – now renamed the Scheduled Caste Sub-Plan (SCSP) – was adopted in the Sixth Five Year Plan (1980-85) in the form of earmarked allocations. Accordingly, development of Scheduled Castes was made an integral part of various sectoral programmes of the plan and emphasis was laid on the enhancement of their welfare. Based on past experience it was decided to give focused attention to the implementation of SCSP. A paradigm shift was made during the Tenth FYP with regard to formulation and monitoring of SCSP and Tribal Sub-Plan (TSP). The Social Welfare department of the State was made the nodal department for this purpose. Previously the development departments earmarked a proportionate amount from their allocated outlays as the share of SCSP & TSP. Now, on the basis of sectoral compositions, priorities, previous performance and other norms, the Department of Social Welfare selects the schemes under the SCSP and TSP in various departments and allocates the outlay among them. A separate committed planning unit has been established within the social welfare department in the State.

The general principles that guide schemes under SCSP are:

- Outlay for area oriented schemes directly benefiting villages having majority Scheduled Castes population would be allocated under SCSP.
- Priority is given to basic services like primary education, health, drinking water, rural housing, roads, rural electrification and nutrition.
- General wage component schemes would not be included in the SCSP.

The total outlays and allocations under SCSP in the various years of the Ninth and Tenth Plans and proposed outlays during the Eleventh Plan and Annual Plan 2007-08 and onwards are as follows:

Plan wise Earmarking of Outlay and Expenditure under SCSP

(`. in lakh)

Sl N.	Plan Period	Total Plan Outlay	SCP Allocation	Percentage
1	2	3	4	5
1	Tenth Plan (2002-07)	1174135	190672	16.24
2	Annual Plan (2007-08)	437863	74982	17.12
3	Annual Plan (2008-09)	477500	85473	17.90
4	Annual Plan (2009-10)	580081	104415	18.00
5	Annual Plan (2010-11)	680000	122400	18.00
6	Annual Plan (2011-12)	780000.00	140400.00	18.00

During Ninth Five Year Plan period about 15 per cent of the total outlay was earmarked under the SCSP which is broadly commensurate with the percentage of Scheduled Caste population in the State. As is evident from the above table the share of SCSP gone up during the Tenth Plan to about 17 per cent. However, there was a decline in the percentage share of SCP in 2005-06 to 12.33 mainly because the total increased outlay was resource linked and allocated for specific schemes by the Planning Commission. In the Annual Plan 2006-07 the allocation for SCSP was ` 720.00 crore out of the total outlay for ` 4,017.46 crore (18.00 per cent of the total). Despite several constraints SCSP outlay has been ensured in accordance with the SC population in the state.

Tribal Sub Plan

The major tribes living in Uttarakhand are Tharus, Buxas, Bhotias, Jaunsaris and Rajis. Most of them are closely linked with forests and have lower than average standard of living. Some tribes like the Rajis, also have a primitive mode of life. Majority of the tribal groups are living below the poverty line, and exclusively depend on wage employment linked to forest produce crafts and agriculture. Therefore, there is an urgent need to uplift them from their present level of subsistence living. Many of these tribes live in strategically important and sensitive border areas. For the upliftment and welfare of the tribal population the Tribal Sub-Plan (TSP) approach has been adopted. The Social Welfare Department is the nodal department for planning and monitoring of TSP in the State. The

following objectives and strategies for development of these tribal groups have been laid down:

- Earmarking of funds for TSP in proportion to the percentage of scheduled tribe population in the State is being ensured. Higher percentage may have to be earmarked to bridge the gap between the development levels of scheduled tribes and the general population so that the two groups can be brought at par.
- The funds allotted under TSP should be utilized on such schemes/ programmes as would serve the specific needs of the target groups and should, as far as possible, be beneficiary oriented.
- Increased emphasis will be given to the schemes of Basic Minimum Services i.e. safe drinking water supply, primary health care, public housing assistance, link roads, nutrition, streamlining of public distribution system, universal and primary education etc.
- While preparing Tribal Sub-Plan, it should be ensured that the proposed development programmes are based on employment generation/income generation and the potential of increased income of scheduled tribe families should be estimated while formulating the programmes.
- Plan schemes which benefit the scheduled tribe families exclusively would be continued with the condition that the physical targets be fixed against the respective plan outlay. In addition to this, clear physical and financial targets would also be fixed for new schemes proposed.
- Proper and adequate rehabilitation of tribal population displaced by major development projects shall be done in such a way as to ensure that there is an improvement in the standard of living of the affected persons after rehabilitation.
- Since majority of tribals are unskilled and traditional artisans, increased emphasis shall be given to their training in handlooms, carpet weaving, carpentry, black smithy and other allied and hereditary trades.
- Within the broad framework of the Forest Conservation Act 1980, the tribal people should be accorded priority in Joint Forest Management.

In accordance with the above objectives, a separate outlay was allocated and a separate Tribal Sub Plan was formulated during the Ninth Five Year Plan (1997-2002). Allocation for the TSP in the Tenth Plan, proposed outlay for the Annual Plan 2007-08 and onwards are presented in the following table:

Allocation under Tribal Sub-Plan

(` in lakh)

S. N.	Plan Period	Plan Outlay	TSP	Percentage
1	2	3	4	5
1	Tenth Plan (Actual)	1175700	38788	3.30
2	Annual Plan (2007-08)	437863	13409	3.15
3	Annual Plan (2008-09)	477500	14300	2.99
4	Annual Plan (2009-10)	580081	17402	3.00

5	Annual Plan (2010-11)	680000	20400	3.00
6	Annual Plan (2011-12)	780000.00	23400.00	3.00

District Sector Plan

In order to mitigate regional disparities, involve decentralized participation in plan formulation, implementation and monitoring to assess and incorporate local needs and resources and to give broader dimension to planning process the district plan approach was introduced in 1982-83 in Uttar Pradesh. This decentralized system has been continued in the new state.

Under the existing system of decentralized planning, District Plan Formulation and Monitoring Committees have been set up in each district under the chairpersonship of a Minister nominated in charge of the district. All MPs and MLAs from the district and the Chairman of the Zila Panchayat are its members. This Committee is responsible for preparation of the Annual District Plan. Reconstitution of this Committee as per provisions of 73rd & 74th Amendments of the Constitution is under way. Another committee named District Plan Coordination and Implementation Committees under the Chairmanship of District Magistrate looks after the implementation of the District Plan.

The size of the Annual District Plan, within the overall State Plan, for each district is indicated by the State Planning Commission. Based on this outlay the District Plan Formulation and Monitoring Committee assesses the local resources, private investment and funds available form other sources and formulates its annual plan.

District Wise Approved Outlay of District Plan

(` in Lakh)

District	2007-08	2008-09	2009-10	2010-11	2011-12
Nainital	2808	3159	3510	3510	3510
Udham Singh Nagar	2968	3339	3710	3710	3710
Almora	2990	3364	3738	3738	3738
Pithoragarh	2873	3230	3589	3589	3589
Bageshwar	2385	2684	2982	2982	2982
Champawat	2334	2626	2918	2918	2918
Dehradun	3980	4477	4974	4974	4974
Pauri	4800	5400	6000	6000	6000
Tehri	3809	4285	4761	4761	4761
Chamoli	2971	3343	3714	3714	3714
Uttarakashi	3062	3445	3828	3828	3828
Rudraprayag	2326	2617	2908	2908	2908
Haridwar	2694	3031	3368	3368	3368
Total	**40000**	**45000**	**50000**	**50000**	**50000**

Besides the above outlay, certain schemes like Backward Region Grant Fund (BRGF), AIBP etc. are operating through the district level committees and hence may be treated as district plan investments.

ANNEXURE - 1

Infrastructure related indicator in some selected States

Sl. No.	States	% of electrified villages to total villages	Teacher Pupil Rates		Length of Roads	
			JBS	SBS	Per lakh population	Per thousand sq. km
1	Punjab	100.00	44	20	83.5	628.7
2	Haryana	100.00	42	26	120.9	605.1
3	U.P.	88.13	57	35	103.9	755.6
4	Chhatisgarh	95.61	41	47	179.4	289.7
5	Jharkhand	31.07	79	63	13.6	47.9
6	Uttarakhand	98.33	24	17	288.4	478.1
7	Himachal	98.22	23	15	286.6	322.5
8	India	82.27	46	34	142.3	464.2

Source : Statistical Diary, 2008-09, DES Uttarakhand

ANNEXURE - 2

Percentage of Net Area Sown to Total Reported Area, percentage of net Irrigated Area to New Sown Area and cropping intensity in some States (2006-07)

Sl. No.	States	% of Net Sown Area to total reported area	% of Net irrigated area to net sown area	Cropping intensity
1	Punjab	84.30	94.9	188.2
2	Haryana	81.03	84.1	179.8
3	U.P.	68.70	78.6	155.1
4	Chhatisgarh	34.60	17.4	100.0
5	Jharkhand	26.70	21.8	104.9
6	Uttarakhand	13.50	45.1	158.1
7	Himachal	11.90	19.2	174.6
8	India	45.90	43.4	138.10

Source : Statistical Diary, 2008-09, DES Uttarakhand

ANNEXURE - 3

Productivity of main Agriculture Crops in Selected States (2007-08)

Sl. No.	States	Crop K (Qtl./Ha)			
		Rice	Wheat	Potato	Sugarcane
1	Punjab	40.19	45.07	186.98	60.82
2	Haryana	33.61	41.58	176.98	63.29
3	U.P.	20.63	28.17	219.70	57.21
4	Chhatisgarh	14.46	10.59	42.11	2.48
5	Jharkhand	20.18	16.21	-	25.00
6	Uttarakhand	19.94	20.51	92.33	61.98
7	Himachal	15.46	13.76	91.03	21.63
8	India	22.02	28.02	183.31	68.88

Source : Statistical Diary, 2007-08, DES Uttarakhand

ANNEXURE - 4

Land Utilization in Plains and Hills of Uttrakhand (Ha)

Sl. no	Region	Total Reported Area	Forest	Net Area Sown	Net Irrigated
1	Dehradun	124034	68231	16660	7475
2	Hardwar	231078	72431	120237	103103
3	Nainital	135481	99445	16003	9810
4	US Nagar	279447	93738	149006	145226
	Total Plains	**770040**	**333845**	**301906**	**265614**
	Total Hill	**4901664**	**3134073**	**456883**	**75147**
	Grand Total	**5671704**	**3467918**	**758789**	**340761**

For Dehradun 2 Blocks Saharanpur and Doiwala and 2 blocks of Nainital i.e. Ramnagar and Haldwani have been taken as plains.

Net Irrigated area percentage to Net Sown area.

Plains	88%
Hill	16%
Total	**45**%

ANNEXURE - 5

The comparative performance of Productivity before implementation and after implementation of Horti. Techno Mission (HTM)

Sl. No.	Name of the Crop	Productivity 2001-02 (MT/Ha.)	Productivity 2005-06 (MT/Ha.)
1	Fruits	1.61	4.41
2	Vegetables	6.33	11.00
3	Spices	2.96	6.10
4	Flowers (Area Ha)	250.00	713.00

Source : Progress of Horticulture Technology Mission Department of Horticulture, Uttarakhand.