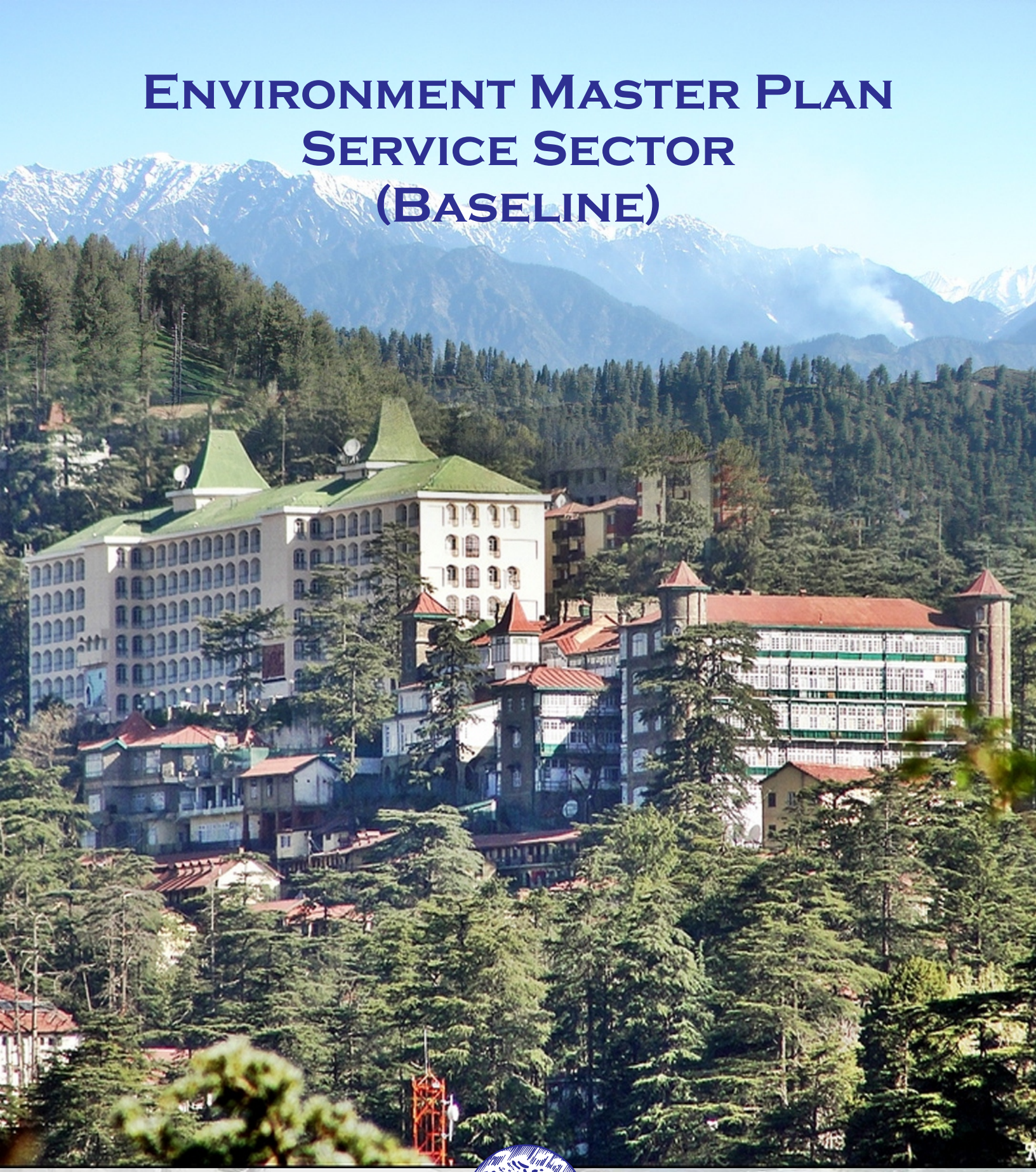
Environment Master Plan
Service Sector
(Baseline)



सत्यमेव जयते
हिमाचल प्रदेश सरकार

Government of Himachal Pradesh
Department of Environment, Science & Technology

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CHAPTER 1 INTRODUCTION

The key objectives of the Environment Master Plan are to enable the State of Himachal Pradesh to:

1. Simultaneously address issues of ecological and environment restoration and bring convergence along with the development activities taking place in the state;
2. Engage and ensure close coordination with all the concerned development departments, both at the state and Government of India level;
3. Decide future financing of investments for development in a sustainable manner, and
4. Develop suitable institutional arrangements in order to implement the Government of Himachal Pradesh's policies and strategies.

Seven tasks have been undertaken for preparation of EMP. The major tasks to achieve these objectives are as follows:

Task 1: Establish Baseline conditions.

Task 2: Conduct a Spatial Vulnerability Assessment and Formulate Planning Principles.

Task 3: Develop Public Consultation and Communication Strategy for the Department of Environment.

Task 4: Develop Sectoral Guidelines.

Task 5: Develop an institutional mechanism for implementation of the EMP.

Task 6: Establish need for training and capacity enhancement.

Task-7: Develop monitoring and Evaluation Protocols.

Task 1: Establish Baseline conditions.

Sectoral baseline reports have been prepared covering 18 subsectors of 3 sectors namely Infrastructure (9), Natural Resources Management (5) and Services (4). These baseline reports have helped in identification of issues relating to ecological and environment and social aspects of each sector.

Sectors covered under EMP for Himachal Pradesh

Infrastructure	Natural Resource Management (NRM)	Services
1.S Roads, highways, rural roads and Transport	10 Agriculture	15 Education, and Vocational training
2 Hydropower (generation transmission, and distribution)	11 Horticulture	16 IT and Telecom
3 Tourism, Ecotourism + Art, Architecture and cultural heritage	12 Animal Husbandry Livestock	17 Livelihoods
4 Industry	13 Forests, Wildlife and Wetlands	18 Waste disposal.
5 Mining and Geology	14 Fisheries	
6 Irrigation and Public Health		
7 Health		
8 Market Infrastructure (including horticulture and agriculture)		
9 Rural and Urban Planning		

Establish Baseline Conditions: The objective of this task is to establish the "scenario, identify critical thrust areas, issues and corrective measures for all the sectors/activities. As per the Scope of Services, Methodology and Tasks given in the agreement, baseline reports of Services sector have been prepared as described below.

Methodology for carrying out baseline data collection involves the following:

1. Deployment and utility of a combination of primary and secondary data was done.
2. Combination of in-house and outsourced inputs were derived and appropriately identified, expertise was drawn from the Department of Environment, Science and Technology and other sectoral departments/ agencies. Secondary data and information were sourced from sectoral and development agencies.
3. Appropriate questionnaires for data collection were developed, administered, data collected and collated.

The data on baseline report for three sectors and subsectors have been collected from concerned line departments of Government of Himachal Pradesh, research and development agencies, academic institutions in Himachal Pradesh, Census of India 2001 and 2011 (as available and applicable for the sectors considered for preparation of EMP), concerned sectoral development plans including Five Year Plans (including 2007- 2012), State and district level agriculture plans, State of Forest report, State of Environment Reports, Statistical Abstracts, Economic Reviews of concerned sector. Baseline data on social and environment policies, Acts, Rules, notifications of Central Government and State Government have been drawn from authoritative texts as given in concerned Gazette notifications. Primary data have been collected through structured questionnaires for eliciting updated data from line departments and collated.

The common parameter for scoping baseline for Services sector is given below:

I	Common Parameter for Scoping Baseline
I	Resource inventory of existing assets of the sector
ii	Pattern of Planning and Development in Sector
iii	Technology/Schemes Adopted In Sector Along With Any Change In Technology
iv	Stakeholder Involvement In Environment Preservation and Restoration
v	Critical Environment Issues/Hotspots Associated With Sector
vi	Environmental Initiatives Taken By Sector to Address Critical Environmental Issues
vii	Environment Related Studies Carried Out In The Sector
viii	Environment Monitoring (Key Parameters Such As Air And Water Pollution) Carried Out For Activities Related To The Sector
ix	Institutional Mechanisms Within the Sector to Address Identified Environment Issues
x	Data / documentation pertaining to addressing demographic issues in the context of the sectors, such as population changes; requirements of populations and changing lifestyles, migratory populations including tourists, transhumants; transit labour population; pressures felt by communities due to degraded environment conditions.
II	Information on Human Resource Management Issues (Which May Have Relevance to Environment Management) in the Sector Such As: Manpower, Vocational Training, Awareness Levels Etc
III	Regulatory Analysis to Identify Any Regulations That Have Environment Implications (Negative Or Positive), and Compliance with the same
IV	In addition to the above listed common parameters, those specific to service sector are as follows: I. Information/data on environment health and quality of life related issues such as water and air borne diseases, changes in vectors, etc.

Baseline reports of subsectors of Services have been prepared namely Education, and Vocational training, IT and Telecom, Livelihoods and Waste disposal as per common parameters for scoping baseline for Services sector.

1.1 Resource Inventory of existing Assets

The department of Technical Education, Vocational and Industrial Training plays a vital role in socio-economic development of the country. It not only propels the socio-economic growth but also sustains it for decades. There has been tremendous growth of industry in Himachal Pradesh in the last few years. There has been consistent demand from industry and also from the service sector for semi-skilled, skilled and highly skilled personnel. Therefore, the department of Technical Education is involved in opening of more and more technical and vocational institutions on the one hand and strengthening / consolidating the existing institutions on the other. Therefore, the Department of Technical Education, Government of Himachal Pradesh has planned to open at least one ITI/ITC in each assembly constituency and one polytechnic in each district. Further to encourage the private sector for opening technical and vocational institutions in the State, the department is extending all possible help to the private entrepreneurs required for this purpose.

At present, the Department has 17 Engineering Colleges (1 in Government sector and 16 in private sector), 13 Pharmacy Colleges (1 in Government sector and 12 in private sector), 9 Polytechnics (8 in Government sector and 1 in private sector), 1 Diploma level Pharmacy College in private sector, 114 ITIs, 120 Industrial Training Centres in private sector and 299 Vocational Training Centres in private sector under SCVT. There is also one National Institute of Technology (NIT) at Hamirpur under the control of MHRD, Government of India and 1 Deemed University namely Jay Pee University of Information and Technology at Waknaghat in district Solan.

In order to maintain quality of technical education in the private institutions, the Department of Education is ensuring that the institutions established in the private sector fulfill the requirements and norms/guidelines of regulatory bodies like; All India Council for Technical Education (AICTE), Pharmacy Council of India (PCI), Himachal Pradesh University, Shimla, National Council for Technical Education (NCVT), Delhi, State Council for Vocational Training (SCVT) etc.

A World Bank aided project with a total outlay of Rs. 7.24 crores, Technical Education Quality Improvement Project (TEQIP) is being implemented in 3 Government Polytechnics namely: Government Polytechnic, Sundernagar, Hamirpur and Kandaghat (Women). Similarly, 10 ITIs namely: Rampur, Una, Solan, Shamshi, Shahpur, Nahan, Mandi, Nadaun (Rail), Shimal and Chimba have been upgraded into Centre of excellence. Out of 10 ITIs, 3 ITIs, namely Solan, Una & Rampur have been covered under centrely sponsored scheme (Domestic Funding) and other 7 ITIs have been conserned under World Bank Assistance. The department has further made a proposal of 9 ITIs to be upgraded under Public Private Partnership (PPP) mode. The detailed project proposals have been sent to the Government of India. The negotiation with the Industry for signing of Memorandum of Understanding (MOU) is under process.

According to the 2001 census, the proportion of total literates in the state that (77.13%) is higher than the all – India average of 65.38 %. As Table 1 shows the literacy rate in Himachal Pradesh increased by 21.38% points from 1981 to 1991 and by 13.37% points during the last 10 years.

Table 1: Literacy Rate, 1951-2001

Year	Persons	Males	Females
1951	7.98	_	_
1961	21.3	_	_
1971	31.96	43.19	20.23
1981	42.48	53.19	31.46
1991	63.86	75.36	52.13
2001	77.13	86.02	68.08

The literacy percentage in Himachal Pradesh has increased from 31.96 % in 1971 to 42.48 % in 1981, 63.86% in 1991 and has now reached 77.13 % as per 2001 census. Table 2 describes literacy rates in districts of Himachal Pradesh.

Table 2 shows that Chamba district has the lowest literacy rate, followed by Sirmaur, Lahaul & Spiti and Kullu. The highest literacy was found in Hamirpur followed by Una and Kangra districts. The other districts with literacy rates above the state average of 77.13 % are Shimla, Bilaspur and Solan.

The rural-urban literacy gap, which exists in all the districts, is the highest in Chamba, Sirmaur and Kullu. It is also very high among females. 34% rural women are illiterate as compared to only 14% urban women. Literacy of rural women in the districts of Chamba, Lahaul & Spiti, Sirmaur and Kullu calls for special interventions, as nearly 40-50% of them in these districts are illiterate.

In brief, Himachal Pradesh has tremendously improved its literacy percentage. However, the literacy of females and SCs, especially in few pockets, needs particular attention8S

Table 2 (a): Literacy Rates in percentage by Districts 2001

State / District	Total		
	Person	Male	Female
Himachal*	77.13	86.02	68.08
Chamba	63.73	77.22	49.70
Kangra	80.68	88.19	73.57
Lahaul & Spiti	73.17	82.76	60.94
Kullu	73.76	84.55	61.24
Mandi	75.86	86.67	65.36
Hamirpur	83.16	90.86	76.41
Una	81.09	88.49	73.85
Bilaspur	78.80	87.13	70.53
Solan	77.16	85.35	67.48
Sirmaur	70.85	79.73	60.93
Shimla	79.68	87.72	70.68
Kinnaur	N.A	N.A	N.A

Table 2 (b): Literacy Rates in percentage by Districts 2001

State / District	Rural		
	Person	Male	Female
Himachal*	75.71	85.20	66.30
Chamba	61.50	75.73	46.81
Kangra	80.31	88.05	73.04
Lahaul & Spiti	73.17	82.76	60.94
Kullu	72.02	83.81	59.43
Mandi	74.71		
Hamirpur	82.62	90.70	75.68
Una	80.93	88.65	73.48
Bilaspur	77.97	86.68	69.42
Solan	74.50	83.66	64.49
Sirmaur	68.69	78.19	58.14
Shimla	75.76	85.46	65.50
Kinnaur	N.A	N.A	N.A

Table 2 (c): Literacy Rates in percentage by Districts 2001

State / District	Urban		
	Person	Male	Female
Himachal*	89.59	92.49	85.91
Chamba	89.84		
Kangra	87.11	90.46	83.45
Lahaul & Spiti	-	-	-
Kullu	88.31	92.05	83.49
Mandi	91.08	94.26	87.55
Hamirpur	89.97	92.66	86.86
Una	82.71	86.99	77.99
Bilaspur	90.66	93.11	87.84
Solan	88.67	91.44	84.05
Sirmaur	88.89	92.33	84.87
Shimla	92.34	34.25	89.77
Kinnaur	N.A	N.A	N.A

Source: Census of India, Provisional Population Totals, Paper 2 of 2001, Himachal Pradesh.

*N.A. - Not available * Excludes Kinnaur district*

Growth of Educational Institutions: The decadal growth of educational institution has been described in table 3. It reveals that the total number of institutions in 1970-71 were 4960, 7735 in 1980-81, 13342 in 2000-01 and 13858 in the year 2000-01. The growth has been observed to be about three times from the year 1970-71 to 2000-01. The highest number of schools (high School and above) in all categories was found in Kangra followed by Mandi and Shimla districts (Table 4). As per data 2010-11, the highest number of primary and middle schools were also found in Kangra, Mandi and Shimla (Table 5). Table 6 and

Table 7 reveals that, the number of primary/ junior basic schools have increased from the year 1997-98 to 2005-06 but number of teachers have decreased during the same period. The number of schools above primary level and number of teachers in middle/ senior basic, high/ higher secondary and college of general education has increased from the year 1997-98 to 2005-06, but average number of teachers per high/ higher secondary school have remained same, while in college of general education, it has decreased from 29 to 26 during the same period. The number of recognized institution and available institution in various sectors in the state of Himachal Pradesh is given in Table 8 and Table 9.

Table 3: Growth in Educational Institutions

Institutions	1970-71	1980-81	2000-01	2001-02
Primary School	3768	6093	10633	10633
Middle School	742	1032	1674	1674
High School	435	582	860	978
Sr. Sec. School	-	3	150	536
College	15	25	25	37
Total	**4960**	**7735**	**13342**	**13858**

Table 4 (a): District wise Educational Facilities (High School & above)

District	Govt. High schools	Govt. sr. sec. schools	Pvt. High schools
Bilaspur	36	80	NA
Chamba	92	81	NA
Kangra	164	236	44
Hamirpur	61	76	NA
Kinnaur	28	29	-
Kullu	65	67	11
Lahaul & Spiti	11	16	-
Mandi	113	201	38
Shimla	111	192	31
Sirmaur	67	80	-
Solan	56	73	-
Una	47	87	15

Table 4 (a): District wise Educational Facilities (High School & above)

District	Pvt. sr. sec. schools	no. of Govt. Colleges	no. of Medical Institutions
Bilaspur	NA	4	NA
Chamba	NA	5	NA
Kangra	44	13	-
Hamirpur	NA	3	NA
Kinnaur	-	1	-
Kullu	-	4	-
Lahaul & Spiti	-	2	-
Mandi	38	8	86
Shimla	12	9	-
Sirmaur	2	5	-
Solan	11	3	10
Una	14	7	31

Source: Department of Education, H. P. (Census, 2001)

Table 5: District wise Educational Institutions (Primary & above)

Sr. no.	District	Primary school	Middle school	High school/ sr sec. school Govt.	Colleges/ Institutions affiliated to H.P.U.
1	Bilaspur	600	125	127	13
2	Chamba	1125	238	172	15
3	Hamirpur	505	141	134	28
4	Kangra	1768	389	408	58
5	Shimla	1625	351	307	49
6	Sirmaur	988	206	152	23
7	Solan	769	166	139	42
8	Una	508	119	140	33
9	Lahaul & Spiti	206	38	35	2
10	Kinnaur	190	35	49	2
11	Kullu	744	130	105	9
12	Mandi	1739	365	326	48

Source: Government of HP, 2010-11

Table 6: Educational institutions in (1997-98 to 2005-06)

Year	Primary/ Junior Basic	Middle/ senior Basic	High/Higher secondary &+2	Colleges of General education
1997-98	9,005	1,056	1,339	52
1998-99	10,211	1,474	1,444	57
1999-00	10,408	1486	1,484	65
2000-01	10,499	1,709	1,832	64
2001-02	10,546	1,768	1,954	65
2002-03	10,563	1,833	2,053	69

Year	Primary/ Junior Basic	Middle/ senior Basic	High/Higher secondary &+2	Colleges of General education
2003-04	10,606	2,076	2,140	69
2004-05	10,613	2,012	2,341	69
2005-06	10,613	2,112	..	..

Source: - Education Department, Himachal Pradesh. Deptt. Of Economics & Statistics and H.P.U. Website

Table 7: Teachers in Educational Institutions

Year	Primary/ Junior Basic	Middle/ Senior Basic	High/Higher Secondary &+2	Colleges of General Education
1997-98	25,591	5,680	16,901	1,531
1998-99	27,976	5,620	18,190	1,581
1999-00	28,185	6,666	19,162	1,633
2000-01	28,030	7,542	22,484	1,542
2001-02	27,249	7,836	24,667	1,706
2002-03	25,899	9,498	26,854	1,739
2003-04	27,078	17,685	26,854	1,646
2004-05	25,941	18,331	29,906	1,825
2005-06	25,346	18,557	..	..

Source: - Education Department, Himachal Pradesh.

Note: The number of teachers for the years 2003-04, 2004-05 and 2005-06 in case of Middle also includes teachers of High/Sr. Secondary Schools who teaches up to class viii.

Table 8:

Sr. No.	Type of Institutions	2002-03	2003-04	2004-05
1	Universities (State Universities)	4	4	4
2	Art & Science Colleges	69	69	69
3	Medical Colleges	3	3	7
4	Colleges of Education	4	7	23
5	Colleges of Agri//Horti	–	–	–
6	Sanskrit Institutions	20	20	20
7	Teachers Training Schools	12	12	12
8	Law Colleges	–	–	–
9	Polytechnic Institutions	6	6	6
10	Dental Colleges	4	4	4

Source: Education Department, Himachal Pradesh

Table 9: Number of Educational Institutions in Himachal Pradesh

Schools	Numbers
Primary schools	10634
Middle schools	1709
High/Sr. Sec. schools	1832
Universities	One Central University, 4 Government (State) Universities, 11 Private University
Art/Science/ Commerce Colleges	64
Number of Recognised Institutions for Higher Education	
Medical colleges	7, Indira Gandhi Medical College, Shimla, Rajiv Gandhi Ayurvedic College Paprola, H.P. Dental College Sundernagar, Solan Homopathic Medical College & Hospital, Kumashotti, Disst. Solan, Pkal college of Nursing, Eternal University; Baru sohib, Distt. Sirmour Bhojia Dental College & Hospital, Baddi, Solan and Dr. Rajendra Prasad Government Medical College, Tanda, Kangra
Colleges of education	1
Colleges of agriculture/ horticulture	3
Sanskrit institutions	17
District Institutes of Education and Training	12
Law colleges	1
Polytechnic institutions	5
Dental colleges	4viz. Govt. Dental College, Shimla; DAV Dental College, Solan; Bhojia Dental College & Hospital Dental College Sundernagar (Himachal Pradesh).
Number of Government Universities	
	1 Indian Institute of Technology , Mandi, 3 Himachal Pradesh

Schools	Numbers
	University, Summer Hill Shimla; Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni, Solan & C.S.K. Himachal Pradesh Krishi Vishvavidyalaya, Palampur, Himachal Pradesh, Technical University

Source: Education Department, Himachal Pradesh, 2001

Accessibility to Schools: The state has almost achieved the prescribed norm of having a primary school at a distance of one km in almost all the districts barring areas with scattered habitations like Kullu, Chamba, Kinnaur and Lahaul and Spiti. Average radial distance per primary and middle school is given in table 10. In the state, the average distance from primary schools is 1.29 km, which is more than the government norms, while the average distance from middle schools is 2.36 km, which is less than the government norm of three km. However, it is felt that the distance norm prescribed by the Government of India does not reflect the actual picture in the hilly terrain as the real distance covered in hilly areas is much more due to scattered nature of habitations. Unlike in terrain is difficult. The State Government is, however, trying to provide universal accessibility to primary schools.

Table 10: District-wise Accessibility to Primary and Middle Schools

District	Average Radial Distance Per Primary school (km.)	Per Middle school (km.)
Bilaspur	0.79	1.48
Chamba	1.39	2.69
Hamirpur	0.84	1.28
Kangra	1.01	1.73
Kinnaur	3.28	5.39
Kullu	1.59	3.30
Lahaul & Spiti	4.59	8.87
Mandi	0.86	1.63
Shimla	1.01	1.85
Sirmaur	0.97	1.96
Solan	0.90	1.66
Una	0.97	1.57
Himachal Pradesh	**1.29**	**2.36**

Source: Department of Education, Government of Himachal Pradesh. C f Human Development Report, HP, 2002

Quality of School Education: Teacher-pupil ratio is an important indicator of the quality of school education. Table 11 indicates that the teacher-pupil ratio at all levels in educational institution in Himachal is fairly adequate, but regional variations exist. The ratio was lowest in Kullu (1:39), followed by Una (1:38) at the primary level and lowest in Bilaspur and Una at the secondary level. Lahaul & Spiti, however, has the highest number of teachers. The state has a better pupil-teacher ratio than at the all-India level and Punjab and Haryana at the primary and the upper primary level.

Table 11: Teacher-pupil Ratio in 1997-98

State	Primary	Upper Primary	secondary
Haryana	47	34	23
Himachal Pradesh	**30**	**18**	**30**
Kerala	30	29	29
Punjab	40	18	28
India	**42**	**37**	**29**

Source: National Human Development Report, Planning Commission, GoI, 2002

According to data for the years 2002, the state imparts technical education at all levels of degree, technician and craftsman through different institutions. The enrolment of students in all level of programmes was less than the available seats. The details are given in Table 12.

Table 12 (a): Number of Institutions and Intake Capacity of Technical Institutions

Level of Programme	Institutions		Sanctioned Annual Intake	
	Gov.	Self-financing	Govt.	Self-financing
Degree	—	3	—	460
Diploma	7	—	820	—
Certificate Course	52	5	4000	276

Table 12 (b): Number of Institutions and Intake Capacity of Technical Institutions

Level of Programme	Student Enrolment in the Year 2002-03		No. of Courses
	Govt.	Self-financing	
Degree	—	400	7
Diploma	560	—	11
Certificate Course	3310	—	36

Source: Department of Technical Education, H.P, 2002

Table 13 describes courses offered in seven disciplines at the degree level (civil, electrical and mechanical engineering, electronics and communication engineering, architecture, computer science and information technology).

Table 13: Details of Courses Offered

Name of the Institutions	Courses offered
N.I.T. Hamirpur	Civil, Electrical, Mechanical, Electronics & Communication, Computer Science and Architecture
I.I.T.T. College of Engg. Kala Amb.	Electrical, Electronics & Communication, Computer Science and Engineering
Institute of Engineering and Emerging Technology, Baddi (2002)	Electrical, Electronics & Communication, Mechanical, Computer Science and Information Technology
Green Hill Engineering College,	Electronics and Communication
Kumar Hatti, Solan, H.P.	Electrical, Mechanical, Computer Science and Engineering

Source: Department of Technical Education, H.P, 2002

Polytechnics: There are 30 institutions, which provide technical education leading to diploma degree in the state. Ten of these institutions are run by the government and twenty are private. The courses offered in the polytechnics cover eleven disciplines at the diploma level. These disciplines are civil, electrical, mechanical, and instrumentation engineering, information technology, automobile, architecture assistantship, computer engineering, pharmacy, electronics and communication engineering and modern office practice. The maximum number of polytechnics provide courses in computer engineering (5) and electronics and communication engineering (3). Two polytechnics provide courses in civil, electrical and mechanical engineering, pharmacy and modern office practice. Further, there is provision for instrumentation engineering in only one polytechnic which is Government Polytechnic Kangra, H.P. (Table 14).

Table 14: Details of Courses being Offered

Name of the Institutions	Courses Being Offered
Govt. Polytechnic College Sundernagar (1959)	Civil, Electrical, Mechanical, Automobile and Architecture Assistantship
Hamirpur (1963) Govt. Poly. College	Civil, Electrical, Mechanical, Information Technology and Computer Engineering
Govt. Poly. College for Women Kandaghat (1984)	Electronics & Communication, Computer, Pharmacy and Modern Office Practice
Govt. Poly. College Kangra (1992)	Electronics & Communication, Computer and Instrumentation Engineering
Govt. Poly. College Rohroo (1984)	Electronics & Communication, Pharmacy and Modern Office Practice
Govt. Poly. College Ambota (1999)	Computer Engineering and Architecture Assistantship
Govt. Poly. College Talwar (2001)	Civil Engineering, Automobile Engineering

Source: Department of Technical Education, H.P.

The Government Polytechnic Colleges at Hamirpur and Kandaghat, Sundernagar, Ambota, Kangra, Chamba, Pragatinagar have introduced a diploma course in information technology at Hamirpur and computer science and engineering at seven government polytechnic. Government Polytechnic, Sundernagar has been upgraded as Institute for Physically Disabled persons. Polytechnic College Sundernagar has the capacity of running diploma and degree courses keeping in view their infrastructure strengthened with the World Bank Assistance.

Table 15 shows the type of courses to be given priority/added in polytechnics. This analysis based on the study carried out by CRRID in 2002. Majority of the polytechnic faculty / Principals / students strongly recommended that the main focus should continue to be on branches such as mechanical, information technology, electronics and computer engineering, instrumentation, electronics and communication, pharmacy and automobile engineering. The new areas they recommended are fashion designing, chemical engineering, biotech courses, repair and maintenance, hotel management, textile technology, production engineering, garment technology, food products and processing, precision engineering, interior decoration, plastic technology, metallurgy, paper technology (including waste-paper recycling), rain-water utilisation and advanced course in refrigeration and air-conditioning.

Table 15: Branches to the Given Priority/Added in Polytechnics

Branch/Course to be Given Priority	Branch/Course to be Added
Mechanical Engineering, IT, Electronics, Computer Engineering, Instrumentation Technology, Electronics and Communication, Pharmacy, Automobile Engineering.	Fashion Designing, Chemical Engineering, Biotech Courses, Textile Technology, Repair and Maintenance-Advance Course, Production Engineering, Hotel Management, Garment Technology, Food Processing, Food Products, Precision Engineering, Interior Decoration, Plastic Technology, CNC Training, Metallurgy, Hybrid AC/DC High Voltage, Transmission Courses, Rain Water Utilisation, Paper Technology, Advanced Course in Ref. & AC.

Source: Field Study, CRRID, 2002.

Note: The courses have been listed as per the priority indicated by the respondents

Industrial training Institutes (ITIs): There are 84 industrial training institutes in the state, including one for the physically handicapped, which has been established in Sunder Nagar, and 16 for women, apart from four in the private sector and one for motor drivers in the Heavy Earth Moving Machinery Operators School in Amb (table 16). Out of the 100 ITIs selected by the Government of India for information technology, three are located in Himachal, at Shahpur, Mandi and Nahan.

The ITIs are being equipped with the latest equipment and technical infrastructure under the World Bank aided Skill Development Project. A project has been submitted to the Government of India for seeking assistance from the World Bank under the Vocational Training Programme (Phase-II). So far, the National Open School has given accreditation to 15 ITIs and one polytechnic college to help provide vocational training through distant education.

Table 16: Details of ITIs

ITI - Co-educational	33	Bilaspur, Chamba, Jubbal, Mandi, Nahan, Nalagarh, Nadaun, Rampur, Neharn-pukhar, Paonta Sahib, Reckong- peo, Shimla, Solan, Shamshi, Shahpur, Una, Nurpur Jogindernagar, Paplog, Bagsaid, Rajgarh, Berthi, Bhoranj Rajgarh, Berthi, Bhoranj, Karsog, Udaipur & Saliana,Shilai, Sainj, Bani, Dhameta, Kuamrsain, Bangana
ITI for Physically Handicapped	1	Sundarnagar
ITIs for Women	16	Dharamsala, Palampur, Fitter, Tractor Mechanic Horticulture Shimla, Nahan, Reckong peo, Bilaspur, Nalagarh, Mandi, Kullu, Una, Hamirpur, Chamba, Deegal,

		Kausali, Chopal & Jawali
Motor Drawing and Heavy earth Moving Machine operator training scheme	1	Amb
ITCs Under Private sector	4	Pragpur, Luhari, Parwanoo, & J.P. ITC Samirpur
VTC under SCVT scheme	1	Matu Private UTC Nurpur
Food Craft Centre under SCVT scheme	1	Hamirpur

Source: Department of Technical Education, HP, 2002

Note: Five Food Craft Institutions and 15 Para Medical Training Centres have also started working in the year 2003

Available data indicate that the most common trades taught at most of the ITIs in Himachal are electrician, motor vehicle mechanic, welder, fitter, COPA, draftsman, carpenter and electronic mechanic. Trades, which were found in only one or two ITI's are mason, bleach dye and printing, stenography, tractor mechanic, fruit and vegetable processing, pump mechanic, instrument mechanic, weaving of woollen fabrics, watch and clock repairer, upholstery, diesel mechanic, plastic processing operator and sheet metal, refrigerator and air conditioner. All women's ITIs, except one, provide training in embroidery and needlework and cutting and tailoring. It might be worthwhile considering a wider range of courses for women including interior decoration, beautician, music and dance, handloom and handicrafts, herbal cosmetics, sculpture-making and weaving of woollen fabrics. According to field survey CRRID, 2002, the majority of the respondents felt that the number of courses offered at the ITIs were not only inadequate but also of low relevance. Table 17 provides information on the branches that could be added/given priority.

Table 17: Branches to be given Priority/Added in ITIs

Branch/Course to be given Priority	Branch/Course to be Added
IT Based Courses (Computer Application and Data Processing, Programming, Computer Operator), Mechanical Motor Mechanic, Electrician, Motor Driving Trade, Welder, Fitter, Tractor Mechanic, Diesel Mechanic, Dress Making and Cutting/Embroidery, Mechanical and Construction Engineering, Carpenter, Turner, Refrigeration and AC, Plumber, Electronic Mechanic, Para Medical Courses, Foods Craftsman, Cutting & Tailoring.	Garment Manufacturing/Textile, Fashion Designing, Maintenance of Electrical and Electronic Machinery and Appliances, Beautician, Floriculture, Horticulture, Painting and Polishing, Agricultural Equipment, Fabric Printing, Electro Plating, Woodwork/Wood Carving, Cinematography, Hosiery, Leather Trade, Cement.

Source: Field Study, CRRID, 2002

Note: The courses have been listed according to the priority indicated by the respondents

General and University Education

After independence, special attention was given for the expansion of educational facilities to achieve the goal of 100 percent literacy. Despite its limited resources, the State Government is making effort to improve the standard of education, not only quantitatively but qualitatively as well. Sincere and untiring efforts of the State government have resulted in a phenomenal progress in the field of education. Table 18 indicates expansion of educational institutions in the state during the last five decades.

Table 18: Expansion of Educational Institutions in Himachal Pradesh

Sr. no.	Plan Period	no. of schools opened			
		Middle school	High school	Sr. secondary school	College
1	1st Plan (1951-56)	51	15	-	**1**
2	2nd Plan (1956-61)	84	42	-	4
3	3rd Plan (1961-66)	169	35	-	2
4	Annual Plans (1966-69)	229	62	-	3
5	4th Plan (1969-74)	339	118	-	2
6	5th Plan (1974-78)	149	77	-	1
7	Rolling Plans(1978-80)	107	44	-	-
8	6th Plan (1980-85)	147	218	-	2
9	7th Plan (1985-90)	275	200	150	4

Sr. no.	Plan Period	no. of schools opened			
		Middle school	High school	Sr. secondary school	College
					(Including 3 Evening Colleges)
10	Annual Plans (1990-91)	18	19	-	
11	Annual Plans (1991-92)	1	2	-	
12	8th Plan (1992-1997)	164	164	101	14
13	9th Plan (1997-2002)	928	284	255	4
14	10th Plan (2002-07)	987	324	454	27
15	11th Plan (2007-12)				
16	Annual Plan (2007-08)	196	189	248	3
17	2008-09	200	10	7	-
18	2009-10 (upto Nov. 09)	50	44	32	-

Source: Planning Deptt. Website

Literacy: Himachal Pradesh has made a significant progress in the field of literacy which increased from 31.96% (excluding age group of 0-4 years) in 1971 to 77.13% in 2001. However the increase in the population of literates in earlier decades is not much but in subsequent decades the literacy rate has grown rapidly. The proportion of literate which was 63.86% in 1991 increased to 77.13% in 2001 census. Table 19 depicts the decadal growth of literacy rates.

Table 19: Literacy Rates 1951-2001 (%)

Year	Person	Male	Female
1951	NA	NA	NA
1961	NA	NA	NA
1971	32.00	43.20	20.20
1981	42.48	53.19	31.46
1991	63.86	75.36	52.13
*2001	76.50	85.30	67.40
2011	83.78	90.83	76.6

Source: Planning Deptt. Website

Literacy and education becomes an important tool for economic growth and effective decision making which ultimately result in empowerment of the women. According to table 20, overall literacy percentage according to 2001 Census was 77.13% and according to 2011 Census was 83.78%. It has recorded 44.54% increase within a period of 30 years between the periods 1971 to 2001. Whereas male literacy rate has shown an increase of 42.10%, female literacy has recorded an unprecedented increase of 47.20% which has increased more than three times (20.23% to 67.40%) in females. Despite sharp increase in female literacy, it is still far below the male literacy percentage.

Table 20: Male-Female Literacy Per-centage-Census (1971-2011)

Literacy Percentage	1971	1981	1991	2001	2011
Total	31.96	42.48	63.86	77.13	83.78
Male	43.20	53.19	75.36	85.30	90.83
Female	20.23	31.46	52.13	67.40	76.6

Source: Planning Deptt. Website

Appendix 1 describes the literacy in the state at district and sex level, functional level & institutional level. As per 2001 census of Himachal Pradesh Hamirpur district had the highest literacy rate of 83.16%. While Chamba had the lowest literacy rate of 63.73%. The state had maximum number of literates at matric level. As per census 2001, Hamirpur district had maximum male (90.2%) and female (75.7%) literacy, while Chamba had minimum percentage of male (76.4%) and female (48.8%) literates. Since year 2001 to 2005, 100% of population in the age group of 6 to 11 years showed complete enrolment in the state. The proportion of untrained teacher to trained teacher reduced from 37% to 4% for male teachers and 41% to 12% for female teachers. Actual intake of B.Ed. students increased from 325 in 1994 95 to 3060 in 2003-04, which indicates increase in trained personnel for teaching in the state. The outturn of these personnel also increased from 90% in 1994 – 95 to 96% in 2003-04. Total number of arts, science and commerce college increased from 52 to 69, an increase of 30% from 1994-95 to 2004-05. During the same period, the number

of teachers increased from 1298 to 1833 indicating an increase of 40%. Total enrolment of students in these colleges during the same period increased from 50,062 to 82,288 indicating an increase of 64%. However, ratio of 2 teachers to 100 enrolment remained same during the same period. At graduate level, the outturn of students was highest for arts stream and lowest for commerce stream during 1994-95 to 2004-05. The same trend was observed for master's level during the same period. Intake capacity of engineering colleges increased from 192 to 288, with highest intake and enrolment capacity in civil, electrical and mechanical engineering same trend was observed for the outturn of students. Sundernagar showed the highest number of intake and enrolment of students, while Gagret showed the lowest number of intake and enrolment of students in Government Polytechnics during 1994-95 to 2004-05. Maximum number of drop outs have been recorded in Hamirpur from 1994-95 to 2004-05. Number of dropouts in women polytechnic decreased from 16 to 8 from 1994-95 to 2004-05, while intake capacity increased from 75 to 150 and enrolment increased from 166 to 372 during the same period.

Table 21: Year-wise Enrolment & Out turn under BAMS in Ayurvedic College Paprola District Kangra, Himachal Pradesh 1994-95 to 2004-2005

Year of Academic Session	Total Enrolment	Drop out	Out turn
1994-95	20	5	22
1995-96	20	-	11
1996-97	20	8	19
1997-98	30	4	22
1998-99	51	9	11
1999-2k	50	4	14
2000-01	50	4	23
2001-02	50	6	13
2002-03	50	5	22
2003-04	50	4	35
2004-05	50	1	42

Source: Department of Ayurveda , H.P.

District wise Status of Education in the State is described below.

Bilaspur: A person who can read and write in any language is considered as literate in Census. All the children in the age-group 0-6 years have been recorded as illiterate. As per 2001 Census, Bilaspur district reported 231,733 literates and 109,152 illiterates. The proportion of literates is 77.8% of the total population excluding population in the age-group of 0-6 years. Among males, it is 86.0% and females it is 69.6 %. The gap between males and females literacy rate comes to 16.5% in the district.

The literacy among the urban population is considerably high and percentage of urban literates comes to 89.1% against 77.0% in the rural areas. Similarly, the proportion of male literates in both urban and rural areas is more than the females. 85.6% rural males are literates while the proportion of female literates comes to 68.5% resulting in a gap of 17.0%. Urban male literates constitute 92.3% of total urban males excluding age- group 0-6 while among the urban females, literacy rate is 85.4% showing literacy gap of 6.9% between males and females. At tehsil/sub-tehsil level, the proportion of total literates excluding the population of 0-6 year varies between 80.2 % in Ghumarwin tehsil and 72.2% Naina Devi sub-tehsil. In urban areas, Bilaspur Sadar ranks at the top with 91.5% and lowest position is occupied by Jhanduta (83.3%) tehsil. In rural literacy, Ghumarwin tehsil ranks highest (79.9 %) which Naina Devi (71.6 %) ranks lowest. The gap of 22.8 % in male and female literacy is highest in Naina Devi tehsil and lowest 14.6 % in the Ghumarwin Tehsil (Table 22).

Table 22 (a): Number and percentage of literates and illiterates by tehsils in Distt. Bilaspur, 2001

Sl. No.	Name of Tehsil	Total / Rural / Urban	Number of literates and illiterates					
			Number of literates			Number of illiterates		
			Persons	Males	Females	Persons	Males	Females
1	Ghumarwin(T)	Total	84,727	44,555	40,172	35,715	14,127	21,588
		Rural	80,408	42,177	38,231	34,313	13,489	20,824
		Urban	4,319	2,378	1,941	1,402	638	764
2	Jhanduta(T)	Total	55,088	29,863	25,225	26,411	10,823	15,588
		Rural	53,662	29,074	24,588	25,826	10,552	15,274
		Urban	1,426	789	637	585	271	314
3	Naina Devi(S.T)	Total	25,695	15,421	10,274	15,627	6,136	9,491
		Rural	24,761	14,803	9,958	15,400	6,019	9,381
		Urban	934	618	316	227	117	110
4	Bilaspur Sadar(T)	Total	66,223	37,899	28,324	31,399	12,439	18,960
		Rural	55,563	32,067	23,496	29,001	11,307	17,694
		Urban	10,660	5,832	4,828	2,398	1,132	1,266
	District Total	**Total**	**231,733**	**127,738**	**103,995**	**109,152**	**43,525**	**65,627**
		Rural	**214,394**	**118,121**	**96,273**	**104,540**	**41,367**	**63,173**
		Urban	**17,339**	**9,617**	**7,722**	**4,612**	**2,158**	**2,454**

Table 22 (b): Number and percentage of literates and illiterates by tehsils in Distt. Bilaspur, 2001

Sl. No.	Name of Tehsil	Total / Rural / Urban	Percentage of literates			Gap in male-female literacy rate
			Persons	Males	Females	
1	Ghumarwin(T)	Total	80.2	87.7	73.1	14.6
		Rural	79.9	87.6	72.8	14.8
		Urban	85.3	89.5	80.7	8.7
2	Jhanduta(T)	Total	77.6	85	70.3	14.7
		Rural	77.4	85	70.1	14.8
		Urban	83.3	86.4	79.7	6.7
3	Naina Devi(S.T)	Total	72.2	83.1	60.3	22.8
		Rural	71.6	82.7	59.7	23
		Urban	90.3	92.9	85.6	7.3
4	Bilaspur Sadar(T)	Total	77.3	86.2	67.9	18.2
		Rural	75.1	84.8	64.9	20
		Urban	91.5	94.3	88.2	6
	District Total	**Total**	**77.8**	**86.0**	**69.6**	**16.5**
		Rural	**77.0**	**85.6**	**68.5**	**17.0**
		Urban	**89.1**	**92.3**	**85.4**	**6.9**

Availability of university education in the district: There are three govt. degree colleges in the district, two in Ghumarwin and one in Bilaspur. One Sanskrit College is functioning in

Naina Devi sub-tehsil. These colleges cater to the needs of the rural as well as the urban areas of the district.

Scheduled Castes and scheduled tribes population: Of the total population in Bilaspur district, 25.4% population belong to Scheduled Castes while 2.7% population belongs to Scheduled Tribes. The Scheduled Tribes population in the district is mainly concentrated in Ghumarwin (T), Jhanduta (T) and Naina Devi (S.T.).

The data has also been analysed by distribution of 965 villages in twelve ranges of literacy rate. Ranges of literacy from 0 to 30% have no village and population. The maximum number of 470 villages falls in the range of 71-80% and constitutes 48.7% of the total 965 inhabited villages having population of 54.2% of total rural population. It is followed by 81-90% range of literacy rate claiming 271 villages (28.1%) having population of 28.3%. There are 8 villages (0.8%) with 53 persons where literacy is cent-percent. The literacy range of 61-70% falls in 164 (17.0%) villages with 15.7% of total rural population. Range of 31-40% literates has only 3 villages having population of only 19 persons (Table 23).

Table 23: Distribution of villages by literacy rate range, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	Population	Percentage distribution of population
0	0	0.0	0	0.0
1-10	0	0.0	0	0.0
11-20	0	0.0	0	0.0
21-30	0	0.0	0	0.0
31-40	3	0.3	19	0.0
41-50	8	0.8	396	0.1
51-60	31	3.2	4,503	1.4
61-70	164	17.0	49,951	15.7
71-80	470	48.7	172,792	54.2
81-90	271	28.1	90,247	28.3
91-99	10	1.0	973	0.3
100	8	0.8	53	0.0
District total:	**965**	**100.0**	**318,934**	**100.0**

Table 24 presents distribution of villages by literacy range for Scheduled Castes population at district level as per 2001 Census. In all, there are 809 inhabited villages having Scheduled Castes population and highest number of 318 villages forming 39.3 % of total villages having literacy rate of 71 to 80%. The population of these villages is 45,690 accounting for 55.5% of total Scheduled Castes population in the district. Next position is occupied by the range of 61-70 % with 207 villages which is about 25.6% villages. The population of villages in this group constitutes 25.5% of total Scheduled Castes living in the district. In 121 or 15.0% villages, literacy rate varies between 81-90% claiming 9.8% population. The range of 91-99% literates is found in 9 villages where population is 381 persons only. 20 villages in the district are such where literacy is cent-percent though inhabited by only 137 scheduled castes persons.

In lower literacy ranges, numbers of villages are small. A literacy range of 41-50% is found in 38 villages having 1.3% of the total population with 1080 Scheduled Population Castes. A range of 21-40 % is comprises of 10 villages with 0.3 % population. 6 villages with population of 13 persons fall in the zero range of literacy while a range of the 1-20 % does is not found in any village. Literacy among the Scheduled Castes is significantly high and as many as 83.2 % of total villages fall in higher literacy range of 61 % and above.

Table 24: Distribution of villages by literacy rate range for scheduled castes population, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	scheduled Castes Population	Percentage distribution of population
0	6	0.7	13	0.0
1-10	0	0.0	0	0.0
11-20	0	0.0	0	0.0
21-30	2	0.2	53	0.1
31-40	8	1.0	138	0.2
41-50	38	4.7	1,080	1.3
51-60	80	9.9	5,808	7.1

61-70	207	25.6	20,982	25.5
71-80	318	39.3	45,690	55.5
81-90	121	15.0	8,060	9.8
91-99	9	1.1	381	0.5
100	20	2.5	137	0.2
District total:	**809**	**100.0**	**82,342**	**100.0**

Table 25 shows the distribution of villages by literacy rate range for Scheduled Tribes at district level as per 2001 Census. Of the total 139 villages having some Scheduled Tribes population, 7 villages do not have any literate Scheduled Tribes population. Total Scheduled Tribes population in these villages is only 10 persons. No village falls with in the limit of literacy ranges of 1-10, 11-20 and 31-40% in this district. The literacy range of 21-30% contains two villages having total population of 11 persons only. 22 or 15.8% villages fall in the literacy range of 41-60% containing 20.7% of total Scheduled Tribes population of the district. A literacy range of 61-70% and 71-80% is found in 36 villages each accounting for 25.9% of total villages in each of the range though proportion of population in first range comes 48.3% while range of 71-80% literacy covers 27.0% of total rural population in the district. The range of 81-99% covers 13 villages with 2.8% Scheduled Tribes population. The last range cent-percent is found in 23 villages having 1.0% Scheduled Tribes population.

Table 25: Distribution of villages by literacy rate range for Scheduled Tribes Population, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	scheduled tribes Population	Percentage distribution of population
0	7	5.0	10	0.1
1-10	0	0.0	0	0.0
11-20	0	0.0	0	0.0
21-30	2	1.4	11	0.1
31-40	0	0.0	0	0.0
41-50	7	5.0	337	3.8
51-60	15	10.8	1,506	16.9
61-70	36	25.9	4,311	48.3
71-80	36	25.9	2,406	27.0
81-90	10	7.2	164	1.8
91-99	3	2.2	86	1.0
100	23	16.5	87	1.0
District total:	**139**	**100.0**	**8,918**	**100.0**

Chamba: The literacy rates have been worked out by excluding population of 0-6 years. As per 2001 Census, the proportion of literates to total population excluding 0-6 years comes to 62.9% in the district. This proportion in rural area is 60.6% against 89.5% in urban areas. In the district, the literacy rate of males (76.4%) is much higher than that of females (48.8%). Among the tehsils, Dalhousie tehsil tops with 74.8% literates followed by Sihunta sub- tehsil (68.4%). Chaurah tehsil with 49.2% literates stands at the bottom in the district. Out of 10 tehsils, the literacy rates of 5 tehsils are higher than that of district average. It is observed that in urban areas of district, the literacy rates are higher than the rural areas.

The total literacy rates of rural and urban areas are 60.6% and 89.5% respectively. The proportion of male and female literates in rural areas is 74.9% and 45.9% respectively. In urban areas this proportion is 93.6% and 84.8% respectively. The gap between male and female literacy is very high which comes to 27.6% in the district, as a whole. A similar situation is found at tehsil level. However this gap in urban literacy is low which comes to 8.8 points against the rural areas, where the gap between male and female literacy is 29.0 points. District and tehsil-wise literacy rates besides the number of literates and illiterates for total, rural and urban areas are given in Table 26.

Table 26 (a): Number and percentage of literates and illiterates by tehsils, 2001

Sr. No.	Name of Tehsil	Total / Rural / Urban	Number of literates and illiterates					
			Number of literates			Number of illiterates		
			Persons	Males	Females	Persons	Males	Females
1	Pangi (T)	Total	9,162	6,013	3,149	8,436	3,246	5,190
		Rural	9,162	6,013	3,149	8,436	3,246	5,190
		Urban	0	0	0	0	0	0
2	Chaurah (T)	Total	26,894	18,410	8,484	39,421	15,809	23,612
		Rural	26,894	18,410	8,484	39,421	15,809	23,612
		Urban	0	0	0	0	0	0
3	Saluni (T)	Total	21,464	14,141	7,323	20,266	7,269	12,997
		Rural	21,464	14,141	7,323	20,266	7,269	12,997
		Urban	0	0	0	0	0	0
4	Bhalai (S.T)	Total	10,598	6,781	3,817	11,659	4,453	7,206
		Rural	10,598	6,781	3,817	11,659	4,453	7,206
		Urban	0	0	0	0	0	0
5	Dalhousie (T)	Total	27,440	16,363	11,077	14,625	5,453	9,172
		Rural	19,989	12,021	7,968	12,687	4,518	8,169
		Urban	7,451	4,342	3,109	1,938	935	1,003
6	Bhattiyat (T)	Total	22,301	13,389	8,912	16,275	6,184	10,091
		Rural	18,521	11,228	7,293	15,229	5,757	9,472
		Urban	3,780	2,161	1,619	1,046	427	619
7	Sihunta (S.T)	Total	20,627	11,764	8,863	15,074	5,764	9,310
		Rural	20,627	11,764	8,863	15,074	5,764	9,310
		Urban	0	0	0	0	0	0
8	Chamba (T)	Total	87,856	53,548	34,308	71,543	27,372	44,171
		Rural	71,464	44,585	26,879	67,608	25,686	41,922
		Urban	16,392	8,963	7,429	3,935	1,686	2,249
9	Holi (S.T)	Total	7,592	4,609	2,983	6,922	2,916	4,006
		Rural	7,592	4,609	2,983	6,922	2,916	4,006
		Urban	0	0	0	0	0	0
10	Bharmaur (T)	Total	12,235	7,515	4,720	10,497	4,219	6,278
		Rural	12,235	7,515	4,720	10,497	4,219	6,278
		Urban	0	0	0	0	0	0
District Total:		Total	246,169	152,533	93,636	214,718	82,685	132,033
		Rural	218,546	137,067	81,479	207,799	79,637	128,162
		Urban	27,623	15,466	12,157	6,919	3,048	3,871

Table 26 (b): Number and percentage of literates and illiterates by tehsils, 2001

Sr. No.	Name of Tehsil	Total / Rural / Urban	Percentage of literates			Gap in male/ female literacy rate
			Persons	Males	Females	
1	Pangi (T)	Total	60.3	74.6	44.2	30.4
		Rural	60.3	74.6	44.2	30.4
		Urban	0	0	0	0
2	Chaurah (T)	Total	49.2	65	32.1	32.9
		Rural	49.2	65	32.1	32.9
		Urban	0	0	0	0
3	Saluni (T)	Total	60.8	77.7	42.7	35
		Rural	60.8	77.7	42.7	35
		Urban	0	0	0	0
4	Bhalai (S.T)	Total	56.7	72.3	41	31.3
		Rural	56.7	72.3	41	31.3
		Urban	0	0	0	0
5	Dalhousie (T)	Total	74.8	86.1	62.8	23.3

Sr. No.	Name of Tehsil	Total / Rural / Urban	Percentage of literates			Gap in male/ female literacy rate
			Persons	Males	Females	
		Rural	70.8	84.2	57	27.2
		Urban	88.6	91.7	84.5	7.2
6	Bhattiyat (T)	Total	67.5	80.1	54.5	25.6
		Rural	64.3	77.8	50.8	27.1
		Urban	88.5	94.4	81.8	12.6
7	Sihunta (S.T)	Total	68.4	80.2	57.2	23.1
		Rural	68.4	80.2	57.2	23.1
		Urban	0	0	0	0
8	Chamba (T)	Total	64.8	77.8	51.3	26.5
		Rural	60.8	75.2	46.2	29
		Urban	90.2	94.3	85.6	8.7
9	Holi(S.T)	Total	60.9	71.2	49.8	21.4
		Rural	60.9	71.2	49.8	21.4
		Urban	0	0	0	0
10	Bharmaur (T)	Total	63.1	75.1	50.3	24.8
		Rural	63.1	75.1	50.3	24.8
		Urban	0	0	0	0
District Total:		Total	62.9	76.4	48.8	27.6
		Rural	60.6	74.9	45.9	29.0
		Urban	89.5	93.6	84.8	8.8

Availability of University education in the district: There are Five Government Colleges in the district situated in Chowari, Chamba, Bharmour, Tissa, Salooni. Government Degree Collage of Chowari caters to the needs of Bhattiyat, Dalhousie and Sihunta sub-tehsil while the rest of tehsils/ sub-tehsils are served by the Government Degree Collage Chamba.

Scheduled Castes and scheduled tribes Population, 2001: As per census 2001, out of the 460,887 total population of the district, 92,359 persons constituting 20.0% of the total population belong to the Scheduled Castes and 117,569 persons accounting for 25.5% belong to Scheduled Tribes. The percentage of Scheduled Castes population constitutes 20.2% of rural population and 18.0% of urban population of the district. The proportion of Scheduled Tribes is 27.1 in rural 5.4% in urban areas respectively. The Scheduled Tribes population in the district is mainly concentrated in Pangi, Sihunta, Holi and Bharmaur tehsils/sub-tehsils.

Table 27 reveals number of literates, illiterates and the literacy rates in rural areas at community development (C.D.) block level in the district. 60.6% of the total rural population excluding the age-group of 0-6 years are literates in the district. The corresponding proportion of male and female literates comes to 74.9% and 45.9% respectively which shows very wide gap of 29.0% in male and female literacy. At C.D. block level, Bhattiyat C.D. block has the highest rural literacy rate of 67.8% while 80.7% males and 55.0% females are literates in this block. The lowest literacy rate in rural areas is noted in Tissa C.D. block (48.9%). There are wide variations in male and female literacy in all the C.D. blocks of the district. The maximum difference of 33.8 points is found in Salooni C.D.
block.

Table 27 (a): Number and percentage of literates and illiterates by sex in C. D. Blocks, 2001

Sr. No.	Name of Community Development block	Number of literates and illiterates					
		Number of literates			Number of illiterates		
		Persons	Males	Females	Persons	Males	Females
1	Pangi	9,162	6,013	3,149	8,436	3,246	5,190
2	Tissa	23,961	16,406	7,555	35,520	14,298	21,222
3	Salooni	34,995	22,926	12,069	35,826	13,233	22,593
4	Chamba	35,497	21,065	14,432	29,159	10,918	18,241
5	Bhattiyat	59,137	35,013	24,124	42,990	16,039	26,951
6	Mehla	35,967	23,520	12,447	38,449	14,768	23,681
7	Bharmaur	19,827	12,124	7,703	17,419	7,135	10,284
District (Rural) Total		**218,546**	**137,067**	**81,479**	**207,799**	**79,637**	**128,162**

Table 27 (b): Number and percentage of literates and illiterates by sex in C. D. Blocks, 2001

Sr. No.	Name of Community Development block	Percentage of literates			Gap in male/female literacy rate
		Persons	Males	Females	
1	Pangi	60.3	74.6	44.2	30.4
2	Tissa	48.9	64.6	31.9	32.7
3	Salooni	58.6	75.2	41.3	33.8
4	Chamba	64.9	78.4	51.9	26.6
5	Bhattiyat	67.8	80.7	55	25.7
6	Mehla	57.3	72.5	41.1	31.4
7	Bharmaur	62.2	73.5	50.1	23.4
District (Rural) Total		**60.6**	**74.9**	**45.9**	**29.0**

According to Table 28, there are no literates in 8 villages (0.7%) of the district. Population of these villages is only 170 persons. 5 villages (0.5%) have all the literate population. 318 villages accounting for 28.4% of the total villages are in the literacy range of 51-60% and 319 villages (28.5%) fall in the literacy range of 61-70%. The lower literacy rate from 1% to 50% is observed in 286 villages (25.0%). The higher literacy ranges of 71 to 100% covers 187 villages (16.8%). The ranges of 51-70% have the maximum number of 637 villages forming 56.9% of the total inhabited villages.

Table 28: Distribution of villages by Literacy Range, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	Population	Percentage distribution of population
0	8	0.7	170	0.0
1-10	3	0.3	255	0.1
11-20	12	1.1	2,643	0.6
21-30	28	2.5	5,444	1.3
31-40	67	6.0	25,747	6.0
41-50	176	15.7	58,176	13.7
51-60	318	28.4	118,789	27.9
61-70	319	28.5	121,734	28.5
71-80	133	11.9	65,929	15.5
81-90	39	3.5	25,221	5.9
91-99	10	0.9	2,226	0.5
100	5	0.5	11	0.0
District total:	**1,118**	**100.0**	**426,345**	**100.0**

Table 29 reveals that about 89.5% of the total urban population excluding age group 0-6 is literates in the district. The corresponding proportion of male and female literates comes

to 93.6% and 84.8% respectively, which shows a wide gap of 8.8% in male and female literacy. At town level, Bakloh block has the highest urban literacy rate of 92.7%. The lowest literacy rate of 86.0% in urban area is noted in Chowari Khas Nagar Panchayat. The maximum difference of 14.2% is found in Chowari Khas Nagar Panchayat.

Table 29 (a): Number and percentage of literates and illiterates by sex in urban agglomerations / towns, 2001

Sr. No.	Name and urban status of Urban Areas /Town	Number of literates and illiterates					
		Number of literates			Number of illiterates		
		Persons	Males	Females	Persons	Males	Females
1	Dalhousie (CB)	1485	867	618	479	238	241
2	Dalhousie (M.C.)	5966	3475	2491	1459	697	762
3	Bakloh (CB)	1503	875	628	307	128	179
4	Chowari Khas (NP)	2277	1286	991	739	299	440
5	Chamba (M Cl)	16392	8963	7429	3935	1686	2249
District (Urban) Total		**27623**	**15466**	**12157**	**6919**	**3048**	**3871**

Table 29 (b): Number and percentage of literates and illiterates by sex in urban agglomerations / towns, 2001

Sr. No.	Name and urban status of Urban Areas /Town	Percentage of literates			Gap in male-female literacy rate
		Persons	Males	Females	
1	Dalhousie (CB)	88.3	91.7	83.9	7.9
2	Dalhousie (M Cl)	88.6	91.7	84.7	7
3	Bakloh (CB)	92.7	96.8	87.5	9.3
4	Chowari Khas (NP)	86	92.8	78.6	14.2
5	Chamba (M Cl)	90.2	94.3	85.6	8.7
District (Urban) Total		**89.5**			**8.8**

During 2001 census, the literacy percentage has come to 56.6%, as a whole, for the district. Among males, 70.1% and females, 42.8% are literate. Chamba block has shown highest percentage of 65.5% literates followed by Bhattiyat 62.4% and lowest 46.9 are found in Tisa. Male literacy 78.9% is highest in Chamba block. In case of female literacy, Chamba block has achieved first rank with 52.2%. Gap between male and female literacy 29.9% which is highest in Salooni block whereas in the district the gap is about 27.3% given in table 30.

Table 30(a): Number and percentage of scheduled castes literates and illiterates by sex in C.D. blocks, 2001

Sr. No.	Name of C.D.block	Number of literates and illiterates					
		Number of literates			Number of illiterates		
		Persons	Males	Females	Persons	Males	Females
1	Pangi	400	266	134	436	180	256
2	Tissa	5,964	3,983	1,981	9,583	4,033	5,550
3	Salooni	7,587	4,971	2,616	10,348	4,111	6,237
4	Chamba	9,923	5,963	3,960	8,123	3,058	5,065
5	Bhattiyat	8,174	4,950	3,224	7,270	2,910	4,360
6	Mehla	6,161	3,947	2,214	7,259	2,891	4,368
7	Bharmaur	2,418	1,461	957	2,504	1,037	1,467
	District (Rural) Total:	**40,627**	**25,541**	**15,086**			

Table 30 (b): Number and percentage of scheduled castes literates and illiterates by sex in C.D. blocks, 2001

Sr. No	Name of C.D.block	Percentage of literates			Gap in male/female literacy rate
		Persons	Males	Females	
1	Pangi	56.1	69.5	40.6	28.8
2	Tissa	46.9	60.8	32.1	28.7
3	Salooni	51	65.7	35.8	29.9
4	Chamba	65.5	78.9	52.2	26.7
5	Bhattiyat	62.4	74.2	50.2	24
6	Mehla	55.6	69.7	40.9	28.8
7	Bharmaur	59	70.6	47.1	23.5
	District	**56.6**	**70.1**		**27.3**

Sr. No	Name of C.D.block	Percentage of literates			Gap in male/female literacy rate
		Persons	Males	Females	
	(Rural) Total:				

Table 31 reveals that there are no literates among Scheduled Castes in 8 villages (1.1%) of the district. Scheduled Castes population of these villages is only 31 persons. 24 villages (3.2%) have all the literate Scheduled Castes population and the population of these villages is only 0.1 % of total Scheduled Castes in the district. The largest number of 172 (22.7%) villages having 23.1% population fall in the literacy range of 51-60%, followed by 163 (21.5%) villages in the literacy range of 41-50%, 156 (20.6 %) villages in the literacy range of 61-70%. The villages falling in this last two ranges have 20.8 and 24.0 % population of total Scheduled Castes of the district. The lower literacy rate of 1% to 40% is observed in 121 (16.0%) villages of the district accounting for 14.5 % Scheduled Castes population. The higher literacy ranges of 71% to 100% covers 139 (18.4%) villages containing 17.8% of total Scheduled Castes. The ranges of 41-70% have the maximum number of 491 (64.8%) of the total inhabited villages and 67.9% of Scheduled Castes population.

Table 31: Distribution of villages by literacy range for scheduled castes population, 2001

Range of literacy rate for villages	Number of inhabited villages	Percentage distribution of villages	Scheduled Castes Population	Percentage distribution of population
0	8	1.1	31	0.0
1-10	2	0.3	176	0.2
11-20	15	2.0	790	0.9
21-30	29	3.8	2,736	3.2
31-40	75	9.9	8,779	10.2
41-50	163	21.5	17,882	20.8
51-60	172	22.7	19,864	23.1
61-70	156	20.6	20,665	24.0
71-80	91	12.0	11,685	13.6
81-90	22	2.9	3,427	4.0
91-99	2	0.3	45	0.1
100	24	3.2	70	0.1
District total:	759	100.0	86,150	100.0

Table 32 reveals about 82.4% of the total Scheduled Castes urban population excluding the age group of 0-6 years are literates in the district. The percentage of males and females come to 89.3% and 75.0% respectively. This shows a gap of 14.3% between male and female literacy in the district (urban). At the town level Dalhousie Cantonment Board (C.B.) has the highest literacy of 85.3% while 91.4 % males and 77.9% females are literate in the town. The lowest literacy in the urban area is noted in Dalhousie Municipal Council. where 79.8% are literate. There are variations in the male and female literacy in all the towns. The maximum difference of 24.5% is found in Chowari Khas Nagar Panchayat. and the lowest i.e. 9.5% is found in Dalhousie Municipal Council.

Table 32 (a): Number and percentage of Scheduled Castes Literates and Illeterates by sex in towns, 2001

Sr. No.	Name and urban status of Town	Number of literates and illiterates					
		Number of literates			Number of illiterates		
		Persons	Males	Females	Persons	Males	Females
1	Dalhousie (CB)	233	138	95	78	30	48
2	Dalhousie (M C)	557	322	235	220	99	121

Sr. No.	Name and urban status of Town	Number of literates and illiterates					
		Number of literates			Number of illiterates		
		Persons	Males	Females	Persons	Males	Females
3	Bakloh (CB)	227	125	102	84	26	58
4	Chuari Khas (NP)	374	233	141	141	50	91
5	Chamba (M C)	3113	1686	1427	1182	470	712
	Chamba (Urban)	**4504**	**2504**	**2000**	**1705**	**675**	**1030**

Table 32 (b): Number and percentage of Scheduled Castes Literates and Illeterates by sex in towns, 2001

Sr. No.	Name and urban status of Town	Percentage of literates			Gap in male/female literacy rate
		Persons	Males	Females	
1	Dalhousie (CB)	85.3	91.4	77.9	13.5
2	Dalhousie (M C)	79.8			9.5
3	Bakloh (CB)	82.2	92.6	72.3	20.3
4	Chuari Khas (NP)	82.6	93.6	69.1	24.5
5	Chamba (M Cl)	82.6	89.4	75.8	13.7
	Chamba (Urban)	**82.4**	**89.3**	**75**	**14.3**

Table 33 shows rural literacy percentage is 56.7% for the district. Literacy rate among males is 71.2% and female is 42.3% are literate. Bharmaur Community Development (C.D.) block has recorded the higher percentage of 61.8% literates followed by Bhattiyat block with 60.1%, its lowest is found in Tisa (43.2%). Male literacy is highest in Bhattiyat (76.7%) and female literacy in Bharmaur (49.9%). Gap between male and female literacy is highest in Salooni CD block (35.9%) followed by Mehla (32.3%) where as in the district the gap is 28.9%.

Table 33 (a): Number and percentage of scheduled tribes literates and illiterates by sex in Community Development Blocks, 2001

Sr. No	Name of C. D. block	Number of literates and illiterates					
		Number of literates			Number of illiterates		
		Persons	Males	Females	Persons	Males	Females
1	Pangi	7,794	4,904	2,890	7,543	2,785	4,758
2	Tissa	1,757	1,194	563	3,119	1,355	1,764
3	Salooni	1,936	1,319	617	2,239	845	1,394
4	Chamba	5,352	3,366	1,986	8,253	3,356	4,897
5	Bhattiyat	15,053	9,309	5,744	14,901	5,368	9,533
6	Mehla	7,523	4,865	2,658	10,262	3,824	6,438
7	Bharmaur	15,876	9,596	6,280	14,093	5,726	8,367
	District (Rural) Total:	**55,291**	**34,553**	**20,738**			

Table 33 (b): Number and percentage of scheduled tribes literates and illiterates by sex in Community Development Blocks, 2001

Sr. No.	Name of C. D. block	Percentage of literates			Gap in Male / female literacy rate
		Persons	Males		
1	Pangi	59.2	74.2	44.1	30.2
2	Tissa	43.2	55.7	29.3	26.4
3	Salooni	54.9	72.2	36.3	35.9
4	Chamba	48.1	61.8	35	26.7
5	Bhattiyat	60.1	76.7	44.5	32.2
6	Mehla	50.7	67.2	34.9	32.3
7	Bharmaur	61.8	73.2	49.9	23.3
	District (Rural) Total:	**56.7**	**71.2**	**42.3**	**28.9**

Table 34 shows that, there are no literates among the Scheduled Tribes in 18 (2.5%) villages having ST population of 413 in the district. About 33 (4.6%) villages having a population of 94 have 100% Scheduled Tribes population. The largest number of 181 (25.1%) villages fall in the literacy range of 61-70% followed by 179 (24.8%) villages in literacy range of 51-60%, 117 (16.2%) villages in 41-50%. Scheduled Tribes populations living in above categories of literacy range of villages are

34.5%, 31.9% and 15.4% respectively. The lower literacy range of 1-40% is observed in 94 (12.9%) villages of the district. The literacy ranges of 41 to 70% have the maximum number of 477 (66.1%) villages covering 81.8% of Scheduled Tribes population of the district showing significant improvement in literacy at village level.

Table 34: Distribution of villages by literacy range for Scheduled Tribes population, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	scheduled tribes Population	Percentage distribution of population
0	18	2.5	413	0.4
1-10	6	0.8	615	0.5
11-20	19	2.6	2,382	2.1
21-30	32	4.4	3,561	3.1
31-40	37	5.1	4,015	3.5
41-50	117	16.2	17,793	15.4
51-60	179	24.8	36,911	31.9
61-70	181	25.1	39,904	34.5
71-80	74	10.3	8,058	7.0
81-90	18	2.5	1,495	1.3
91-99	7	1.0	460	0.4
100	33	4.6	94	0.1
District total:	**721**	**100.0**	**115,701**	**100.0**

Kangra: The literacy rates have been worked out by excluding population of 0-6 years. As per 2001 Census, the proportion of literates to total population excluding 0-6 years comes to 80.1% in the district. This proportion in rural area is 79.7 % against 86.6 % in urban areas. In the district, the literacy rate of males is 87.5% which is higher than female literacy rate of 73.0%. Among the tehsils, Rakkar sub-tehsil tops with 83.4% literacy which is followed by Deragopipur tehsil and thural sub-tehsil each having a literacy rate of 82.6%. Multhan sub-tehsil with 56.9% literacy stands at the bottom in the district. Out of 19 tehsils, the literacy rates of 8 tehsils are higher than that of district average. It is observed that in urban areas of district, the literacy rates are higher than the rural areas.

The gap between male and female literacy is high, which comes to 14.5% in the district, as a whole. However, this gap in urban literacy is 7.3% while in rural areas, it is 14.9%. The highest gap of 34.5% literacy between males and females has been recorded in Multhan sub-tehsil.

Availability of University education in the district: Palampur Agriculture University i.e. CSKHPKV is located in this district which not only caters to the needs of this area but also other parts of the state. Besides this University, Dr. Rajender Parsasd Medical College at Tanda and Ayurvedic

Medical College at Paprola are important institutions imparting medical education to the students of the state. Government Degree College of education at Dharamsala provides education in teaching. In addition to these professional colleges, district has 58 other degree colleges both in private and public sectors.

Scheduled Castes and Scheduled Tribes Population, 2001: Out of the 1,339,030 total population of the district, 20.9% of the total population belongs to the Scheduled Castes and 0.1% to Scheduled Tribes. The percentage of Scheduled Castes population constitutes 21.2% in rural population and 15.0% in urban population of the district. The proportion of

Scheduled Tribes is 0.1% and 0.3% in rural and urban areas respectively. The Scheduled Tribes population in the district is mainly concentrated in Dharamsala and Baijnath tehsils. In case of Scheduled Castes, highest percentage is found in Jaisingpur (32.5%), which is followed by Baijnath (29.1%) tehsil while lowest, is found in Kangra (9.4%) tehsil.

About 79.7% of the total rural population excluding the age-group of 0-6 years is literate in the district. The corresponding proportion of male and female literates comes to 87.4% and 72.5% respectively, which shows a wide gap of 14.9% in male and female literacy. At C.D. block level, Pragpur C.D. block has the highest rural literacy rate of 82.6% with 89.2 % males and 76.5% females literates in the block. The lowest literacy rate of 75.2% in rural areas is noted in Baijnath C.D. block. There are wide variations in male and female literacy in all the C.D. blocks of the district. The maximum difference of 19.0% is found in Baijnath C.D. block and the lowest gender gap in literacy of 11.6% recorded in Indora C.D. block. In six C.D. blocks, the literacy rate is 80.0% and above has been observed, which shows that much progress has been made in rural literacy.

The distribution of villages by literacy rate varies in the district. There is no literate in 3 villages (0.1%) of the district where population of these villages is only 10 persons. 13 villages (0.4%) have all the literate population. The maximum number of 1,487 villages fall in each literacy range of 71-80% and 81-90% which together account for 82.2% of total villages and contain 87.9% rural population. This indicates that literacy in rural areas has made much progress during the last decade.

About 358 villages (9.9%) fall in the literacy range of 61-70%. The lower literacy rate of 1 to 60% is observed in 161 villages (4.5%) of the district. The higher literacy ranges of 91-99% covers 110 villages (3.0%).

About 86.6% of the total urban population excluding age group 0-6 is literate in the district. The corresponding proportion of male and female literates comes to 90.1% and 82.8% respectively, which shows a wide gap of 7.2% in male and female literacy. The lowest literacy rate of 78.1% in urban area is recorded in Palampur M.C. and Kangra M.C. has highest literate urban area having 91.7% literacy and is closely followed by Mant Khas with 91.0% literates. There are wide variations in male and female literacy in all the towns of the district. The maximum difference of 9.8% is found in Yol Cantonment Board.

As per 2001 census, the literacy percentage has come to 74.0% among Scheduled Castes, as a whole, for the district. Among males, 82.7% and females 65.5% are literates. Pragpur C.D. block has shown highest proportion of 78.1% literates and is followed by Kangra 76.3% and Dera 76.2% while lowest is recorded in Rait 67.1%. Male and female literacy is also highest in Pragpur C.D. block having 85.3% males and 70.8% females literates. There is a gap in male and female literacy in the entire C.D. block. The highest gap has been observed in Rait 23.0% C.D.block and lowest in Indora 14.2%, whereas in the district, the gap is 17.1%.

There are 2,580 villages in the district having some population of Scheduled Castes. There is no literate among Scheduled Castes in 17 villages (0.7%) of the district. Scheduled Castes population of these villages is only 59. 83%. These villages (3.2%) have all the literate Scheduled Castes population. The population of these villages is only 0.2% of total Scheduled Castes in the district. The largest number of 1,066 (41.3%) villages having 54.1% population fall in the literacy range of 71-80% which is followed by 525 (20.3%) villages in 61-70% and 524 (20.3%) villages in 81-90% literacy range. The villages following in last two ranges have 19.2% and 18.7% population of total Scheduled Castes of the district. The lower literacy rate of 1 to 40% is observed in 53 (2.0%) villages of the district accounting for 0.6 per cent

Scheduled Castes population. The higher literacy ranges of 71% to 100% covers 1,718 (66.5%) villages containing 73.6% of total Scheduled Castes.

About 78.8% of the total Scheduled Castes in urban areas excluding the age group 0-6 are literates in the district. The percentage of males and females come to 85.8% and 71.3% respectively. This shows a gap of 14.5% between male and female literacy in the district (urban). At the town level Kangra M.C. has the highest literacy of 88.2%. While 90.8% males and
85.7% females are literates in the town. The lowest literacy in the urban area is noted in Nurpur M.C. and Yol Cantonment Board where 77.0% are literate in each town. There are variations in the male and female literacy in all the towns. The maximum difference of 19.7% is found in Deragopipur N.P. and the lowest of 5.1% in Kangara M.C.

The literacy percentage among the Scheduled Tribes is 59.8% as a whole for the district rural. Among males 65.4% and females 53.1% are literate. Nurpur, Dera and Bhawarna C.D. block have 100% literacy but the total population of Scheduled Tribes is very less in these towns. Panchrukhi block has 92.9% literates. The lowest 20% has been reported in Nagrota Suriyan. Gap between male and female literacy is 12.4% at district level. The Kangra district has very small population of Scheduled Tribes.

There are no literates among the Scheduled Tribes in 8 (16.0%) villages having 22 Scheduled Tribes population of the district. 25 (50.0%) villages have all the literate Scheduled Tribes population having 86 persons only. 4 (8.0%) villages fall each in the literacy range of 71-80% and 81-90%. This is followed by 3 (6.0%) villages in 61-70%, 2 (4.0%) villages each in the range of 51-60% and 31-40% respectively. The literacy ranges of 11-20% and 41-50% have one village (2.0%) each.

Out of 9 towns of the district, only 4 towns have Scheduled Tribes population. 90.7% of the Scheduled tribes urban population excluding the age group 0-6 are literate in the district. The percentage of males and females comes to 94.2% and 86.5% respectively. This shows a gap of 7.7% between male and female literacy in the district. At the town level, Mant Khas C.T. has 100% literacy. The lowest literacy of 60.0% has been recorded in Kangra M.C. There are variations in the male and female literacy in all the towns. The maximum difference of 25.0% is reported in Kangra M.C. and the lower of 2.1% is found in Yol Contonment Board.

Kinnaur: As per 2001 Census, the literacy rate in the district is 75.2% (51,913, literates) excluding 0-6 years age group as a whole for the district. Among males 84.3% (31,589 persons) and females 64.4% (20,324 literate) are literates. Kalpa tehsil has the highest percentage of literacy (79.2%) in comparison to other tehsils/sub-tahsils of the district. Nichar tehsil of the district has 76.2% literates followed by Sangla with 76.1%, Morang with 71.6%, Pooh 71.4% and Hangrang tehsil with 65.9%. The gender gap in male and female literacy is 19.9% at district level while in tehsils, it varies between 21.5% in Sangla and 17.4% in Pooh.

About 75.2% of the population is literate excluding the age-group of 0-6 years in the district. The corresponding proportion of male and female literates comes to 84.3% and 64.4% respectively which shows a wide gap of 19.9% between male and female literacy. At CD block level, Kalpa occupies the highest position with 78% followed by Nichar with 76.2% and Pooh block with 70.5% literates.

Availability of university education: In district Kinnaur, there is only one Government Degree College situated at Reckong-peo. It caters to the needs of the district as well as spiti tehsil of Lahaul & Spiti district.

Scheduled Castes and Scheduled Tribes Population: Kinnaur district has a scheduled castes population of 7,625 and 56288 scheduled tribes population constituting 9.3% and 71.8% of total population respectively. Out of 234 inhabited villages, largest number of 83% or 35.5% villages fall in the range of literacy rate of 71-80% followed by 68 (29.1%) in 61-70, 30 (12.8%) in 81-90, 15 (6.4%) in 41-50, 9 (3.8%) in 31-40, 6 (2.6%) in 91-99,
4 (1.6%) villages fall in 100% literacy rate whereas 2 (0.9%) villages fall in the range of 0 literacy rate. Remaining 2 (0.9%) and 1 (0.4%) village fall in the range of literacy rate of 11-20% and 1-10% respectively. On the whole, there are only a few villages in the lower ranges of literacy in the district.

About 72.1% of total population excluding the age-group of 0-6 years is literate in the district. Among the males and females, the proportion is 81.7% and 61.5% respectively, which shows a wide gap of 20.2%. At CD block level, Kalpa block has the highest literacy rates of 75.7%. The lowest literacy rate of 70.5% is noticed in Nichar CD block and Pooh has 70.8% literates. There is a wide variation in male and female literacy rates in all the 3 CD blocks of the district. The maximum difference of 22.1% is found in Nichar CD block.

A total of 14 (10.1%) villages comprising Scheduled Caste population of 80 (1.0%) persons have reported 100% literacy where as in 5 (3.6%) villages, the total Scheduled Castes population of 9 (0.1%) persons is totally illiterate. The large number of 39 (28.1%) villages with a population of 3,230 (42.4%) persons fall in the literacy range of 71-80% which is followed by 34 (24.5%) villages with a population of 2,626 (34.4%) fall in the range of 61-70%. 14 (10.1%) villages fall in the literacy range of 51-60, (2.9%) villages fall in the each range of 31-40% and 91-99% respectively. It is followed by 2 (1.4%) villages in 21-30% and the remaining 1 (0.7%) village fall in the literacy range of 11-20%.

About 74.6% of total population of Scheduled Tribe excluding the age group of 0-6 years is literate. Among the males and females, the proportion is 85% and 64.7% respectively showing a huge gap of 20.3%. Among the CD blocks, Kalpa with 77% literates comes at top whereas Pooh with 71.9% Scheduled Tribes literates stand at bottom. The literacy rate of Nichar is 74.1% among Scheduled Tribes. Gap in males and females literacy rate among all the 3 CD blocks varies between 19.8% and 20.7%.

The distribution of villages by literacy rate for Scheduled Tribes population in the district is about 10 (4.5%) villages while a population of 38 (0.1%) persons falls in the range of literacy rate of 100%. The highest number of 95 (42.4%) villages with a Scheduled Tribes population of 31,912 (56.7%) fall in the literacy rate range of 71-80%, which is followed by 58 (25.9%) with a population of 12,797 (22.7%) persons, 24 (10.7%) villages with a population of 7,573 (13.5%) persons fall in the literacy range 61-70% and 81-90% respectively. 13 (5.8%) villages, 9 (4.0%), 6 (2.7%) and 5 (2.3%) villages fall in the literacy range of 51-60%, 41-50%, 91-99% and 31-40% respectively. 2 (0.9%) villages fall in the literacy range of 11-20% and 1 (0.4%) village fall in literacy range of 1-10% and 21-30% respectively.

In brief, 18 villages out of 240 having Scheduled Tribes population, have literacy rate below 51% while in remaining villages the proportion of literates is more than 50%. Besides three villages have higher concentration of Scheduled Tribes.

Kullu: The general literacy rate for the district as a whole is about 72.9%. It is higher than the rural literacy rate of 71.6% for the district and lower than the urban literacy of 88.0% for the urban areas of the district. At district level, literacy rate for males is 84.0% and females 60.9%, whereas it is 83.2% for males and 59.1% for females in rural areas. In urban areas of the district, it is 91.8% for males and 83.1% for females.

The gap in male /female literacy rate for the district as a whole is 23.1%. For rural areas, it is 24.1% and for the urban areas it is 8.7%. The highest gap in male/female literacy rate is found in the Sainj (T) with 25.8%. It is lowest in Manali (T) with 20.0%. Urban literacy for the district is higher than the rural and district as a whole. In case of tehsils, Manali (T) with 76.8% literacy comes at the top followed by Kullu (T) with 74.5% literacy, Banjar (T) with 72.3% literacy, Ani (ST) with 69.7% literacy, Nirmand (T) with 69.1% literacy and Sainj (ST) with 68.1% literacy. There is no urban area in Sainj (ST), Ani (ST) and Nirmand (T) as given in table 35.

Table 35: Number and percentage of literates and illiterates by tehsils, 2001

Sr. No.	Name of Tehsil	Total /Rural/ Urban	Number of literates and illiterates					
			Number of literates			Number of illiterates		
			Persons	Males	Females	Persons	Males	Females
1	Manali (T)	Total	30,062	18,445	11,617	14,150	5,684	8,466
		Rural	25,491	15,303	10,188	12,456	4,832	7,624
		Urban	4,571	3,142	1,429	1,694	852	842
2	Kullu (T)	Total	114,861	68,411	46,450	64,785	24,972	39,813
		Rural	96,774	58,224	38,550	60,306	22,967	37,339
		Urban	18,087	10,187	7,900	4,479	2,005	2,474
3	Sainj (S.T)	Total	11,764	7,158	4,606	8,918	3,438	5,480
		Rural	11,764	7,158	4,606	8,918	3,438	5,480
		Urban	0	0	0	0	0	0
4	Banjar (T)	Total	23,523	13,975	9,548	15,115	5,628	9,487
		Rural	22,483	13,367	9,116	14,893	5,537	9,356
		Urban	1,040	608	432	222	91	131
5	Ani (S.T)	Total	30,789	18,406	12,383	19,687	7,316	12,371
		Rural	30,789	18,406	12,383	19,687	7,316	12,371
		Urban	0	0	0	0	0	0
6	Nirmand (T)	Total	28,650	17,260	11,390	19,267	7,323	11,944
		Rural	28,650	17,260	11,390	19,267	7,323	11,944
		Urban	0	0	0	0	0	0
	District Total:	**Total**	**239,649**	**143,655**	**95,994**	**141,922**	**54,361**	**87,561**
		Rural	**215,951**	**129,718**	**86,233**	**135,527**	**51,413**	**84,114**
		Urban	**23,698**	**13,937**	**9,761**	**6,395**	**2,948**	**3,447**

Availability of University education in the District: There are four degree colleges in the district; one college is situated in Banjar and one in Kullu town, One at Haripur and one at Anni. Banjar town is having Arts College whereas Kullu town is having one private Arts College and other Government Arts / Science / Commerce College.

Scheduled Castes and Scheduled Tribes Population 2001: Out of the 381,571 total population of the district, 28% of the total population belongs to Scheduled Castes and 3.0% to Scheduled Tribes. The percentage of Scheduled castes population constitutes 29.4% in rural areas and 14.9% in urban areas of the district. The proportion of Scheduled Tribes is 2.7% and 6.7% in rural and urban areas respectively. The Scheduled Tribes population in the district is mainly concentrated in Manali and Kullu tehsils.

Table 36 indicates that, 71.6% of the total rural population excluding the age-group of 0-6 years are literates in the district. The proportion of males and females comes to 83.2% and 59.1% respectively. This show a wide gap of 24.1% between male and female literacy in district. At C.D. block level, Nagar C.D. block has the highest rural literacy rate of 73.5% where 84.0%

are males and 62.1% are females literates in the block. The lowest literacy in the rural areas is noted in Nirmand C.D. block (69.1%). There are wide variations in male and female literacy in all the C.D. blocks of the district. The maximum difference of 25.4% is found in Banjar CD block and lowest is found in Nagar C.D. block (22.0%).

Table 36 (a): Number and percentage of literatesdan illiterates by sex in Community Development Blocks, 2001

Sl. No.	Name of C.D.block	Number of literates and illiterates					
		Number of literates			Number of illiterates		
		Persons	Males	Females	Persons	Males	Females
1	Nagar	55,567	32,995	22,572	31,513	12,061	19,452
2	Kullu	70,337	42,768	27,569	43,903	16,774	27,129
3	Banjar	30,608	18,289	12,319	21,157	7,939	13,218
4	Ani	30,789	18,406	12,383	19,687	7,316	12,371
5	Nirmand	28,650	17,260	11,390	19,267	7,323	11,944
	District (Rural) Total:	**215,951**	**129,718**	**86,233**	**135,527**	**51,413**	**84,114**

Table 36 (b): Number and percentage of literates and illiterates by sex in Community Development Blocks, 2001

Sr. No.	Name of C.D.block	Percentage of literates			Gap in male-female literacy rate
		Persons	Males	Females	
1	Nagar	73.5	84.0	62.1	22.0
2	Kullu	72.4	84.3	59.4	24.9
3	Banjar	70.5	83.0	57.6	25.4
4	Ani	69.7	81.8	57.2	24.6
5	Nirmand	69.1	80.8	56.6	24.1
	District (Rural) Total:	**71.6**	**83.2**	**59.1**	**24.1**

In rural areas of the district maximum number 84% or 48.8% of villages with a population of 191,226 (54.4% of population) falls in the literacy range of 71-80%. About 60 villages or 34.9% of villages with a population of 116,970 (33.3% of population) falls in the literacy rate range of 61-70%. Another 15 villages or 8.7% of villages with a population of 19,266 (5.5% of population) falls in the literacy rate range of 51-60%, 10 villages or 5.8% of villages with a population of 19,996 (5.7% of population) falls in the literacy rate range of 81-90%. There are 2 other villages (1.2%) with a population of 2,919 (0.8%) falls in the literacy range between 41% and 50%. The remaining one village (0.6%) with a population of 1,101 (0.3%) falls in the literacy rate range of 11-20%. 91.0% and do not have any village within their limit. There is much improvement in rural literacy and the proportion of rural literates comes to 72.9%, as a whole, in the district is given in table 37.

Table 37: Distribution of villages by literacy rate range, 2001

Range of literacy rate for villages	Number of inhabited villages	Percentage distribution of villages	Population	Percentage distribution of population
0	0	0.0	0	0.0
1-10	0	0.0	0	0.0
11-20	1	0.6	1,101	0.3
21-30	0	0.0	0	0.0
31-40	0	0.0	0	0.0
41-50	2	1.2	2,919	0.8
51-60	15	8.7	19,266	5.5
61-70	60	34.9	116,970	33.3
71-80	84	48.8	191,226	54.4
81-90	10	5.8	19,996	5.7
91-99	0	0.0	0	0.0
100	0	0.0	0	0.0
District Total:	**172**	**100.0**	**351,478**	**100.0**

Table 38 describes number of literates, illiterates and the literacy rate in urban areas at the town level. 88.8% of the total urban population excluding the age group 0-6 is literates in the district. The proportion of males and females comes to 91.8% and 83.1% respectively. This shows a gap of 8.7% between male and female literacy in the district. At the town level, Banjar (N.P.) has the highest urban

literacy of 93.7% while 98.2% males and 88.0% females are literates in the block. The lowest literacy in the urban areas is noted in Manali (N.P.) where 81.0% are literates. There are variations in the male and female literacy in all the towns. The maximum difference of 14.5% is found in Manali (N.P.) and the lowest i.e. 7.5 is found in Bhuntar (N.P.).

Table 38: Number and percentage of literates and illiterates by sex in urban agglomerations / towns, 2001

Sr. No.	Name and urban status of UA/Town	Number of literates and illiterates						Percentage of literates			Gap in male-female literacy rate
		Number of literates			Number of illiterates						
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1	Manali (NP)	4,571	3,142	1,429	1,694	852	842	81.0	86.1	71.6	14.5
2	Kullu (M.C)	14,719	8,260	6,459	3,587	1,601	1,986	89.6	93.4	85.2	8.2
3	Bhuntar (NP)	3,368	1,927	1,441	892	404	488	89.6	93.0	85.5	7.5
4	Banjar (NP)	1,040	608	432	222	91	131	93.7	98.2	88.0	10.2
District(Urban) Total		**23,698**	**13,937**	**9,761**	**6,395**	**2,948**	**3,447**	**88.0**	**91.8**	**83.1**	**8.7**

Table 39 shows distribution of villages by literacy rate for Scheduled Caste population in the district. There is not a single illiterate inlla the villages inhabited by Scheduled Castes. Two villages (1.2%) have 0.4% of Scheduled Caste population, which falls in the literacy range of 81-90%. The largest number of 73 villages (43.5%) having 54.1% population fall in the literacy range of 61-70%. About 47 villages (28.0%) having 22.8% population fall in the literacy range of 51-60%. In other 28 villages (16.7%) having 18.6% of Scheduled Caste population fall in the literacy range of 71-80 followed by 13 villages (7.7%) having a 3.4% of Scheduled Caste population which fall in the literacy range of 41-50%. The lowest rate of 5 villages (3.0%) having 0.7% of population is observed in 21-40% literacy range. The maximum number of villages fall in the literacy range of 61-70%.

Table 39: Distribution of villages by literacy rate range for scheduled castes population, 2001

Range of literacy rate for villages	Number of inhabited villages	Percentage distribution of villages	Scheduled Castes Population	Percentage distribution of population
0	0	0.0	0	0.0
1-10	0	0.0	0	0.0
11-20	0	0.0	0	0.0
21-30	1	0.6	10	0.0
31-40	4	2.4	720	0.7
41-50	13	7.7	3,520	3.4
51-60	47	28.0	23,569	22.8
61-70	73	43.5	55,949	54.1
71-80	28	16.7	19,246	18.6
81-90	2	1.2	404	0.4
91-99	0	0.0	0	0.0
100	0	0.0	0	0.0
District total:	**168**	**100.0**	**103,418**	**100.0**

Table 40 describes the distribution of the villages by literacy rate for Scheduled Tribe population. There is no literate among the Scheduled Tribe in 4 (4.5%) villages. These villages have Scheduled Tribes population of 6 persons in the district. 21 (23.9%) villages

have 90% literate Scheduled Tribes population. The largest number of 34 (38.6%) villages fall in the literacy rate range of 71-80%. 21(23.9%) Villages fall in the literacy range of 100%. It is followed by 20 (22.7%) villages in literacy rate range of 51-60%, 7 villages (8.0%) in 61-70% and 2 villages (2.3%) in 81-90%. The percentages of Scheduled Tribes living in the above category of villages are 72.5%, 23.7%, 2.8% and 0.1% respectively.

Table 40: Distribution of villages by literacy rate range for scheduled Tribes population, 2001

Range of literacy rate for villages	Number of inhabited villages	Percentage distribution of villages	Scheduled tribes Population	Percentage distribution of population
0	4	4.5	6	0.1
1-10	0	0.0	0	0.0
11-20	0	0.0	0	0.0
21-30	0	0.0	0	0.0
31-40	0	0.0	0	0.0
41-50	0	0.0	0	0.0
51-60	2	2.3	10	0.1
61-70	7	8.0	258	2.8
71-80	34	38.6	6,770	72.5
81-90	20	22.7	2,210	23.7
91-99	0	0.0	0	0.0
100	21	23.9	90	1.0
District total:	**88**	**100.0**	**9,344**	**100.0**

Lahaul & spiti: As per 2001 census (Lahaul & Spiti) district has 21,609 literates comprising 13,726 males and 7,883 females as per 2001 census. The proportion of literates is 73.1% of the total population excluding the population of 0-6 years. The sex wise literacy rate among the males is 82.8% and females is 60.7%. During 1991-2001, the district has made tremendous progress in the field of education and the proportion of literates has increased from 56.8% in 1991 to 73.1% in 2001. The proportion of female literates has increased very sharply from 38.0% in 1991 to 60.7% in 2001, while percentage male literates increased from 71.8% to 82.8% during the period. Gap in male and female literacy is still very wide which comes to 22.1% as per 2001 census. Among the tehsils, Spiti tehsil ranks at the top with 74.1% a literate which is followed by Lahaul tehsil having 73.7% literates and Udaipur sub-tehsil having 71.1% literates. Male literacy is again highest in Spiti (86.4%) and lowest in Udaipur (80.9%) while proportion of male literates in Lahaul comes to 81.5%. In case of female literacy Lahaul ranks first with 63.2% literacy followed by Udaipur with 59.5% and Spiti with 58.7% literacy. The gap in male and female literacy varies between 27.7% in Spiti and 19.6% in Lahaul tehsil is given in table 41.

Table 41: Number and percentage of literates and iliterates by sex in Community Development Blocks, 2001

S.No.	Name of C.D.block	Number of literates and illiterates						Percentage of literates			Gap in male-female literacy rate
		Number of literates			Number of illiterates						
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1	Lahaul	14,815	9,315	5,500	7,730	3,252	4,478	72.6	81.2	61.6	19.6
2	Spiti	6,794	4,411	2,383	3,885	1,463	2,422	74.1	86.4	58.7	27.7
District (Rural) Total :		**21,609**	**13,726**	**7,883**	**11,615**	**4,715**	**6,900**	**73.1**	**82.8**	**60.7**	**22.1**

Scheduled Castes and scheduled tribes population, 2001: A Scheduled Castes population of 2,605 persons constitutes 7.8% of the total population of the district. The sex-ratio among the Scheduled Castes is 880 females per 1,000 males. The literacy rate is 76.0% among the Scheduled Caste population in the district.

The Scheduled Tribes population is 24,238 persons constituting 73.0% of the total population of the district. It is predominantly tribal district of the state. The sex-ratio among the Scheduled Tribes population is 1,028 females per 1,000 males. The sex-ratio is much higher in Scheduled Tribes in comparison to Scheduled Castes. The literacy rate is 73.5% among Scheduled Tribes population in the district.

Out of 287 inhabited villages, largest number of 89 (31.0%) villages fall in the literacy rate range of 71-80% followed by 68 (23.7%) in 61-70%, 36 (12.5%) in 81-90%, 31 (10.8%) in 51-60%, 20 (7.0%) in the literacy rate range of 41-50%. 8 villages (2.8) having a population of 22 falls in the literacy rate range of zero per cent. The population of these villages is only 22 persons.10 (3.5%) villages having a population of 53 have 100% literacy rate given below in table 42.

Table 42: Distribution of Villages by literacy rate range, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	Population	Percentage distribution of population
0	8	2.8	22	0.1
1-10	1	0.4	12	0.0
11-20	3	1.0	28	0.1
21-30	6	2.1	68	0.2
31-40	3	1.0	32	0.1
41-50	20	7.0	410	1.2
51-60	31	10.8	2,633	7.9
61-70	68	23.7	9,277	27.9
71-80	89	31.0	13,178	39.7
81-90	36	12.5	5,842	17.6
91-99	12	4.2	1,669	5.0
100	10	3.5	53	0.2
District total :	**287**	**100.0**	**33,224**	**100.0**

As per 2001 Census, the overall literacy rate is 76.0%. Among males, 86.2% and females 64.0% are literate. Lahaul C.D. block has 76.9% literate and in Spiti, there are 72.7% literates. The gap between male and female literacy is highest in Spiti C.D. block (24.8%), whereas in the district the gap is 22.2% given below in table 43.Table 43: Number and percentage of Scheduled Castes literates and illiterates by sex in Community Development blocks, 2001

Table 43: Number & Percentage of SC Literates & Illiterates by Sex in CD Block, 2001

Sr. No.	Name of C.D.block	Number of literates and illiterates						Percentage of literates			Gap in male/female literacy rate
		Number of literates			Number of illiterates						
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1	Lahaul	1,375	835	540	630	234	396	76.9	86.9	65.4	21.5
2	Spiti	375	238	137	225	79	146	72.7	83.8	59.1	24.8
District (Rural) Total :		**1,750**	**1,073**	**677**	**855**	**313**	**542**	**76**	**86.2**	**64**	**22.2**

Out of 100 inhabited villages where Scheduled Caste population exists, 26 villages (26.0%) with a Scheduled Castes population of 982 (37.7%) persons fall in the literacy rate range of 71-80% followed by 25 (25%) villages with a population of 103 (4.0%) in the range of 100%. Out of remaining 18 villages (18.0%) with a population of 548 (21.0%) persons, 12 (12.0%) villages with a population of 672 (25.8%), 5 (5.0%) with a population of 152 (5.8%), 4 (4.0%) villages with a population of 30 (1.2%) fall in the literacy rate range of 61-70%, 81-90%, 51-60% and 41-50% respectively. 3 villages with a population of 18 (0.7%), 18 (0.7%) and 88 (3.4%) persons fall in the literacy rate range of 31-40% and 91-99% respectively. Only 2 villages with a Scheduled Castes population of 8 (0.3%) persons fall in the literacy rate range of 21-30% given below in table 44.

Table 44: Distribution of villages by literacy rate range for Scheduled Castes population, 2001

Range of literacy rate for villages	Number of inhabited villages	Percentage distribution of villages	Scheduled Castes Population	Percentage distribution of population
0	2	2.0	4	0.1
1-10	-	0.0	-	0.0
11-20	-	0.0	-	0.0
21-30	2	2.0	8	0.3
31-40	3	3.0	18	0.7
41-50	4	4.0	30	1.2
51-60	5	5.0	152	5.8
61-70	18	18.0	548	21.0
71-80	26	26.0	982	37.7
81-90	12	12.0	672	25.8
91-99	3	3.0	88	3.4
100	25	25.0	103	4.0
District total:	**100**	**100.0**	**2,605**	100.0

The literacy percentage has come to 73.55% as a whole for the district rural. Among males 85.6% and females 61.7% are literate. Lahaul C.D. block has shown the highest percentage of 74.1% literates followed by Spiti block with 72.1%. Gap between male and female literacy is highest in Spiti C.D. block (27.3%). The gap in literacy is about 23.9% in the district as given below in table 45.

Table 45: Number and percentage of Scheduled Tribes literates and illiterates by sex in Community Development Blocks, 2001

Sr. No.	Name of C.D. block	Number of literates and illiterates						Percentage of literates			Gap in male/female literacy rate
		Number of literates			Number of illiterates						
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1	Lahaul	10,679	6,079	4,600	5,249	1,813	3,436	74.1	85.3	63.2	22.2
2	Spiti	5,049	2,921	2,128	3,261	1,139	2,122	72.1	86.2	58.9	27.3
District (Rural) Total:		**15,728**	**9,000**	**6,728**	**8,510**	**2,952**	**5,558**	**73.5**	**85.6**	**61.7**	**23.9**

Table 46 describes distribution of villages by literacy rate range for Scheduled Tribes population. Out of 279 villages, where Scheduled Tribes population lives 84 (30.1%) villages with a population of 8,704 (35.9%) persons fall in the literacy rate range of 71-80%, 64 (22.9%) with a population of 5,841 (24.1%) fall in literacy rate range of 61-70%, 45 (16.1%) villages with a population of 5,921 (24.4%) fall in literacy rate range of 81-90%, 30 (10.8%) villages with a population of 2,670 (11.0%) fall in literacy rate range of 51-60%. Remaining 13,9,8,3 and 1 village fall in the range of literacy rate of 91-99%, 100%, 0, 31-40% and 1-10%. 4 villages fall in literacy rate range of 11-20% and 21-30% respectively.

Table 46: Distribution of villages by literacy rate range for Scheduled Tribes population, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	scheduled tribes Population	Percentage distribution of population
0	8	2.9	22	0.1
1-10	1	0.4	12	0.0
11-20	4	1.4	36	0.2
21-30	4	1.4	23	0.1
31-40	3	1.1	46	0.2
41-50	14	5.0	186	0.8
51-60	30	10.8	2,670	11.0
61-70	64	22.9	5,841	24.1
71-80	84	30.1	8,704	35.9
81-90	45	16.1	5,921	24.4
91-99	13	4.7	726	3.0
100	9	3.2	51	0.2
District total :	**279**	**100.0**	**24,238**	**100.0**

Mandi: The total literacy rate for the district is 75.2%. It is higher than the rural literacy rate of 74.1% and lower than the literacy rate of 90.5% for the urban. At the district level, literacy rate of males is 85.9% and 64.8% for females. In rural areas, this proportion is 85.3% for males and 63.3% for females, while in urban areas it is 93.8% for males and 86.8% for females.

The gap in male /female literacy for the district, as a whole, is 21.1%. For rural areas, it is 22% and for urban areas, it is 7.1%. The highest gap in male/ female literacy is found in the Bali Chowki (ST) with 31.2% and is lowest in Sarkaghat (T) with 16.6%.

Availability of University education in the District: There are 10 Degree colleges in the district out of which 3 are in the rural areas and 7 are in the urban areas of the district. The three colleges in rural areas are one each in three CD blocks namely Gopalpur, Chachyot and Karsog. In urban areas, there are one college each in Jogindarnagar and Sarkaghat towns, 2 in Sundarnagar town and 3 in Mandi town.

Scheduled Castes and scheduled tribes Population, 2001: Of the 901, 344 total population of the district, 29.0% of the total population belongs to Scheduled Caste and 1.2% to Scheduled Tribes. The percentages of Scheduled Castes population in rural areas are 29.6% and 19.8% in urban areas of the district. The proportion of Scheduled Tribes is 1.2% in rural areas and 0.7% in urban areas of the district. The Scheduled Tribes population in the district is mainly concentrated in Padhar and Jogindarnagar tehsils.

Literacy rate at tehsil/sub-tehsil level shows that Sarkaghat (T) with 80.8% literacy comes at the top. It is followed by Baldwara (ST) with 79.6% literacy, Mandi (T) with 78.8% literacy, Sundarnagar (T) with 77.6% literacy, Sandhol (ST) with 77.4% literacy, Kotli (ST) with 76.3% literacy, Jogindarnagar (T) with 75.9% literacy, Dharampur (ST) with 75.8% literacy, Lad Bharol (T) with 75.4% literacy, Chachyot (T) with 73.2% literacy, Thunag (T) with 71.5% literacy, Aut (ST) with 70.9% literacy, Karsog (T) with 70.6% literacy, Balichowki (ST) with 68.3% literacy, Nihri (ST) with 65.9% literacy and Padhar (T) with 65.7% literacy. In urban areas literacy is significantly high. Mandi Sadar has highest proportion of 92.2% literates. The second position is claimed by Sundarnagar (89.7%), while Sarkaghat and Jogindarnagar has

equal rate of 87.2% literates. The remaining tehsils are un-urbanised.

About 74.1% of the total rural population excluding the age 0-6 years is literate in the district. The proportion of males and females comes to 85.3% and 63.3% respectively. This shows a wide gap of 22% between male and female literacy in the district. At CD block level, Gopalpur CD block has highest rural literacy of 80.0% where 88.9% males and 72.0% females are literates in the block. The second position in the literacy is occupied by Dharampur block with 78.0% literates while the proportion of males and females literates is 88.4% and 69.1% respectively. The lowest literacy in the rural areas is noted in Drang Community Development block (69.1%). There are wide variations in male and female literacy in all the Community Development blocks of the district. The maximum difference of 30.1% is found in Seraj Community Development block and the lowest is found in Gopalpur Community Development Block (16.9%).

In the district, there are no literates in 16 villages (0.6% of villages) which have population of 35. In the rural areas of the district, maximum number of 1,206 or 42.6% of villages with a population of 395, 873 (47.1% of population) falls in the literacy rate range of 71- 80%. The number of 736 villages (26.0%) with a population of 192, 726 (22.9%) falls in the literacy rate range of 61-70%. Another 503 villages (17.8%) with a population of 192, 669 (22.9%) falls in the literacy range of 81-90%. About 237 villages (8.4%) with a population of 48, 399 (5.8%) falls in the literacy rate range of 51-60. The 63 villages or 2.2% of villages with a population of 7, 134 (0.8%) falls in the literacy rate range of 41-50%. The literacy ranges of 31-40% and 1-30% covers 34 villages, together constituting 1.1% of total inhabited villages with population of 1,458 persons only. This data shows that majority of villages fall in higher literacy ranges. There are only 26 villages with population of 138 persons having 100% literates while the range of 91-99% covers 12 villages with population of 1,930 persons.

About 90.5% of the total urban population excluding the age-group 0-6 is literate in the district. The proportion of male and female literates comes to 93.9% and 86.8% respectively. This shows a gap of 7.1% between male and female literacy in the district. At the town level, Mandi (MC) has the highest urban literacy of 92.6% where 94.7% males and 90.2% females are literates in the town. The lowest literacy in the urban areas is noted in Jogindernagar (NP) and Sarkaghat (NP) where 87.2% are literates in each town. In Jogindarnagar (NP) male literacy is 93.6% while female literacy is 80.1%. In case of Sarkaghat (NP) male literacy is 93.2% while female literacy is 81.3%. There are variations in the male and female literacy in all the towns. The maximum difference of 13.6% is found in Jogindarnagar (NP) and the lowest i.e. 4.4 point is found in Mandi (MC).

As per 2001 Census, the literacy percentage of Scheduled Castes has come to 67.9%, as a whole, for the district. Among males 79.6% and females 56.3% are literates and resultant gap in gender literacy is 23.3%. Gopalpur CD block has recorded the highest percentage of 75.8% of literates and is followed by Dharampur block with (72.6%). The lowest literacy among the scheduled castes is found in Seraj and Karsog blocks (61.7% each). Male literacy is highest in Gopalpur block (84.9%). Gopalpur block again ranks first in the female literacy with 67.1% literates. Male literacy is lowest in Karsog CD block (73.2%) and female literacy of 45.6% is lowest in Seraj C.D. block. Gap between male and female literacy is highest in Seraj CD block (31.3%) and is followed by Chachyot C.D. block with 26.6%.

In 18 villages of district which have SC population of 55 persons, none of them are literates. 55 villages (2.8%) have 0.1% of total Scheduled caste population which falls in 100 percent literacy range. The largest number 584 villages (29.2%) having 38.8% population of SC

fall in the literacy range of 71-80. 581 villages (29.1%) having 34.2% population are covered by the literacy range 61-70. In 328 villages (16.4%) with 14.8% population fall in the literacy range of 51-60. In other 165 villages (8.3%) have 5.6% of Scheduled caste population fall within the literacy range of 81-90. 162 villages (8.1%) have 5.1% of SC population are covered by the literacy range of 41-50. In another 69 villages (3.5%) have 0.9% of SC population which account for literacy range of 31-40. In the remaining lower literacy ranges of 1-10 to 21-30% literates cover only 28 villages which constitute 1.5% of total villages with SC. On the whole, the literacy rate in 1,722 villages having some SC population is above 50.0% and remaining 255 villages, it is below 50.0% while there is no literate in 18 villages.

About 81.5% of the total Scheduled castes population excluding the age- group 0-6 are literates in urban areas of the district. The proportion of males and females comes to 88.7% and 73.8% respectively. This shows a gap of 14.8% between male and female literacy in the district. At the town level, Mandi (MC.) has the highest urban literacy of 84.2% while 89.9% males and 78.0% females are literate in the town. The lowest literacy in the urban area among SC is noted in Jogindarnagar (NP) where 74.9% are literates. There are variations in male and female literacy in all the towns. The maximum difference of 27.4 point is found in Jogindarnagar (NP) and the lowest i.e. 11.5 points is found in Sarkaghat (NP).

As per 2001 Census, the literacy percentage of Scheduled Tribes has come to 67.1% as a whole for the district. Among males 77.8% and females 56.5% are literates. Seraj CD block has the highest percentage of 82.4% literates followed by Gopalpur CD block with 74.5% and Karsog with as 29% the lowest literacy rate. But both Seraj and Karsog CD blocks have very small population of Scheduled Tribes. Male literacy is highest in Chauntra block (86.8%) while female literacy ranks first in Seraj CD block (81.3%). It is followed by Sundarnagar CD block (63.1%). Gap between male and female literacy is highest in Chauntra block (28.1%) followed by Rawalsar block (24.6%) whereas in the district this gap is 21.3 %.

There are 256 villages in Mandi district, which contain some literate population of Scheduled Tribes. There are no literates among Scheduled Tribes in 8 villages (3.1% of villages) with a population of 18 persons which accounts for 0.2% of population. 44 villages (17.2%) having 1.2% of total Scheduled Tribes population have 100% literacy. The largest number of 72 villages (28.1%) having 41.9% population fall in the literacy range of 71–80%. In 48 villages (18.8%) having 30.4% ST population fall in the literacy rate range of 61-70%. In other 22 villages (8.6%) with 8.0% of Scheduled Tribe population are covered by literacy rate range of 51-60%. In another 20 villages (7.8%) containing 5.8% of ST population falls in the literacy rate range of 41-50%. In the literacy ranges of 81-90% and 91-99% 11 and 4 villages fall respectively. These both ranges constitute 5.9% villages and 5.8% population. The lower literacy range of 1- 40% literates have only 27 villages. Majority of villages are of higher literacy ranges.

Towns of district mandi have a fewer tribal population. 89.9% of the total urban population excluding the age-group 0-6 are literate in the district. The proportion of males and females literates comes to 90.3% and 89.3% respectively. This shows a gap of 1% between male and female literacy in the district. At the town level, Sarkaghat (NP) has the highest urban literacy of 100% while all the males and females are literate in this Nagar Panchayat though their number is very low. The lowest literacy in the urban areas is noted in Rawalsar (NP) where 71.9% are literates. There are variations in the male and female literacy in all the towns. The maximum difference of 10.4% is found in Jogindarnagar (NP) and the lowest 0.9% is found in Mandi (MC).

Shimla: As per 2001 Census, Shimla district reported a population of 504,330 persons comprising 293,745 males and 210,585 females. Literates constitute 79.1% of the total population with 87.2% males and 70.1% females literates. The literacy rate of males is higher than that of females. The difference of the male and female literacy rate is 17.1% in the district. The total literacy rates of rural and urban areas are 75.2% and 91.8% respectively. The proportion of males and females literate in rural area is 84.9% and 64.9% while this proportion in urban area is 93.8 and 89.0% respectively. The difference between male and female literacy rates in urban areas is 4.9% as against 20.0% in rural areas. Therefore, females are better educated in urban areas than their counterparts in rural areas. The literacy rate for Shimla district (79.1%) is higher than the state average of 76.5%. It occupies fourth rank among the districts arranged in the descending order of literacy rates.

Availability of University education in the District: There are 9 degree colleges in the district which are situated at Rampur Bushar, Rajkiya Kanya Mahavidyalya, Lakkar Bazaar Shimla, Rajiv Gandhi Memorial Govt. College, Chaura Maidan Shimla, Govt. College Sanjauli Shimla, Govt. College Theog, Govt. College Sunni, Nerwa, Saraswati Nagar and Seema, Rohru C.D. block. It caters to the needs of the rural population of Cheta, Nerwa, Chaupal, Jubbal, Rohru, Tikar, Chirgaon and Dodra Kwar tehsils and sub-tehsils of the district. Besides this, Government College at Chaupal, DAV College Kotkhai, St. Bede's College and H.P.U Evening College Shimla are also functioning in these statutory towns. Indira Gandhi Medical College and Dental College is also operational in the jurisdiction of Shimla Municipal Corporation. Himachal Pradesh University is situated at its suburb Summer Hill where Post Graduation Courses are taught.

Scheduled Castes and scheduled tribes Population 2001: As per Census 2001 data, out of the 722,502 total population of the district, 26.1% belongs to Scheduled Castes and to 0.6% to Scheduled Tribes. The percentages of SC population constitute 29.3% of rural population and 15.7% of urban population of the district. ST population constitutes 0.4% and 1.2% of rural and urban areas respectively. Both populations had been found scattered all over the district.

Table 47 describes the district and tehsil-wise literacy rates besides number of literates and illiterates for total, rural and urban areas. The literacy rates have been worked out by excluding population of 0-6 years. The literacy rate of Shimla district which reported 504,330 persons excluding 0-6 years as literates constitute 79.1% of the total population of the district. This proportion in rural area is 75.2% against 91.8% in urban area. For the district as a whole, the literacy rate for male is much higher than that of females. As much as 87.2% of the males are literate in the district while females account for only 70.1%. Tehsil-wise breakup show that Shimla rural tehsil with 84.4% literates tops the list and Dodra Kwar tehsil with only 57.2% stands at the bottom. The remaining 15 tehsils / sub-tehsils fall between these two ranges. It may be observed that the tehsils having urban components have literacy rates higher than the district average confirming the fact that urban centres and surrounding areas have better education infrastructure. The tehsils without any urban centres have the literacy rates below the district average. It is observed that urban areas of the district have higher literacy rate for both males and females than the rural areas.

The gap between male and female literacy is 17.1% in the district. It is 20.0% in rural areas and 4.9% in urban areas. This gap is highest in Chirgaon tehsil with 26.5% and lowest in Theog Tehsil with 16.4%.

Table 47: Number and percentage of literates and illiterates by tehsils in Shimla, 2001

Sr. No.	Name of Tehsil /Sub-tehsil	Total / Rural / Urban	Number of literates and illiterates						Percentage of literates			Gap in male-female literacy rate
			Number of literates			Number of illiterates						
			Persons	Males	Female	Person	Males	Female	Person	Male	Female	
1	Rampur (T)	Total	48,648	29,494	19,154	23,378	9,194	14,184	77.2	86.8	65.9	20.8
		Rural	43,914	26,630	17,284	22,459	8,753	13,706	75.8	85.9	64.1	21.8
		Urban	4,734	2,864	1,870	919	441	478	92.8	95.4	89.2	6.2
2	Nankhari (S.T)	Total	16,540	9,426	7,114	8,.614	3,179	5,435	73.9	84.5	63.4	21.1
		Rural	16,540	9,426	7,114	8,614	3,179	5,435	73.9	84.5	63.4	21.1
		Urban	0	0	0	0	0	0	0	0	0	0
3	Kumharsain(T)	Total	28,863	16,326	12,537	11,714	4,387	7,327	79.9	88.9	70.6	18.4
		Rural	28,313	15,958	12,355	11,551	4,309	7,242	79.7	88.8	70.4	18.4
		Urban	550	368	182	163	78	85	90.6	93.9	84.6	9.2
4	Seoni (T)	Total	21,941	11,638	10,303	9,484	3,385	6,099	79.8	89.1	71.4	17.7
		Rural	20,724	11,011	9,713	9.172	3,248	5,924	79.3	88.8	70.6	18.2
		Urban	1,217	627	590	312	137	175	90.8	94.4	87.2	7.3
5	Shimla Rural (T)	Total	54,793	31,715	23,078	18,728	7,414	11,314	84.4	91.2	76.5	14.7
		Rural	52,733	30,229	22,504	18,368	7,246	11,122	84	91	76.3	14.7
		Urban	2,060	1,486	574	360	168	192	94.3	97.2	87.4	9.9
6	Shimla Urban (T)	Total	119,094	69,545	49,549	23,461	11,641	11,820	92	93.9	89.4	4.6
		Rural	0	0	0	0	0	0	0	0	0	0
		Urban	119,094	69,545	49,549	23,461	11,641	11,820	92	93.9	89.4	4.6
7	Junga (S.T)	Total	8,821	4,965	3,856	3,601	1,449	2,152	82.7	89.6	75.3	14.2
		Rural	8,821	4,965	3,856	3,601	1,449	2,152	82.7	89.6	75.3	14.2
		Urban	0	0	0	0	0	0	0	0	0	0
8	Theog (T)	Total	54,819	30,906	23,913	23,135	9,042	14,093	79.8	87.8	71.4	16.4
		Rural	51,833	29,158	22,675	22,367	8,658	13,709	79.3	87.6	70.7	16.9
		Urban	2,986	1,748	1,238	768	384	384	90.5	92.7	87.5	5.2
9	Chaupal (T)	Total	18,965	10,808	8,157	9,422	3,847	5,575	76.6	84.6	68.2	16.4
		Rural	17,815	10,110	7,705	9,065	3,666	5,399	76	84.2	67.4	16.8
		Urban	1,150	698	452	357	181	176	88	90	85.1	4.8
10	Cheta (S.T)	Total	7,908	4,851	3,057	8,923	3,845	5,078	58.2	68.9	46.8	22.1
		Rural	7,908	4,851	3,057	8,923	3,845	5,078	58.2	68.9	46.8	22.1
		Urban	0	0	0	0	0	0	0	0	0	0
11	Nerwa (S.T)	Total	18,137	10,598	7,539	13,055	5,365	7,690	68.3	77.6	58.4	19.2
		Rural	18,137	10,598	7,539	13,055	5,365	7,690	68.3	77.6	58.4	19.2
		Urban	0	0	0	0	0	0	0	0	0	0
12	Jubbal (T)	Total	21,454	12,794	8,660	12,195	4,529	7,666	72.6	84.2	60.4	23.8
		Rural	20,382	12,148	8,234	11,921	4,383	7,538	71.9	83.8	59.5	24.4
		Urban	1,072	646	426	274	146	128	89.3	90.9	87.1	3.7
13	Kotkhai (T)	Total	23,978	13,798	10,180	10,177	3,769	6,408	78.3	87.6	68.4	19.2
		Rural	23,018	13,227	9,791	9,988	3,678	6,310	77.8	87.4	67.8	19.6
		Urban	960	571	389	189	91	98	93	95	90.3	4.8
14	Tikar (S.T)	Total	8,073	4,843	3,230	4,517	1,616	2,901	72.5	84.8	59.6	25.2
		Rural	8,073	4,843	3,230	4,517	1,616	2,901	72.5	84.8	59.6	25.2
		Urban	0	0	0	0	0	0	0	0	0	0
15	Rohru (T)	Total	28,871	17,427	11,444	16,016	6,042	9,974	72.8	84.2	60.4	23.8
		Rural	23,882	14,364	9,518	14,398	5,234	9,164	70.5	83	57.4	25.7
		Urban	4,989	3,063	1,926	1,618	808	810	86.8	90.3	81.8	8.5
16	Chirgaon (T)	Total	20,694	12,897	7,797	18,819	7,352	11,467	60.8	73.7	47.2	26.5
		Rural	20,694	12,897	7,797	18,819	7,352	11,467	60.8	73.7	47.2	26.5
		Urban	0	0	0	0	0	0	0	0	0	0
17	Dodra Kwar (T)	Total	2,731	1,714	1,017	2,933	1,195	1,738	57.2	69.6	44	25.6
		Rural	2,731	1,714	1,017	2,933	1,195	1,738	57.2	69.6	44	25.6

Sr. No.	Name of Tehsil /Sub-tehsil	Total / Rural / Urban	Number of literates and illiterates						Percentage of literates			Gap in male-female literacy rate
			Number of literates			Number of illiterates						
			Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
		Urban	0	0	0	0	0	0	0	0	0	0
		Total	**504,330**	**293,745**	**210,585**	**218,172**	**87,251**	**130,921**	**79.1**	**87.2**	**70.1**	**17.1**
	District Total :	**Rural**	**365,518**	**212,129**	**153,389**	**189,751**	**73,176**	**116,575**	**75.2**	**84.9**	**64.9**	**20**
		Urban	**138,812**	**81,616**	**57,196**	**28,421**	**14,075**	**14,346**	**91.8**	**93.8**	**89**	**4.9**

Table 48 describes the number of literates, illiterates and literacy rates in rural areas at CD. block level in the district. Total literacy rate of the rural area of the district is 75.2% with male literacy having 84.9% and female literates accounting for 64.9%. It shows the wide gap of 20.0% in male and female literacy. Theog C.D. block has the highest literacy rate of 84.2%. In this block, 90.9% of males and 76.7% females are literates. The lowest literacy is observed in Chauhara C.D. block which accounts for 60.4%. Both male and female literacy rates are lowest in Chauhara block. There is a significant difference in literacy rates between males and females of all the C.D. blocks of the district. The maximum difference of 26.4% is found in Chauhara C.D. block which is followed by Rohru C.D. block 25.6% respectively. In other words females are lagging behind males in literacy in all the C.D. blocks, but the gap is narrowing down.

Table 48: Number and Percentage of Literates and Illiterates by Sex in Community Development Blocks, 2001

Sr. No.	Name of C.D.block	Number of literates and illiterates						Percentage of literates			Gap in male-female literacy rate
		Number of literates			Number of illiterates						
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1	Rampur	60,454	36,056	24,398	31,073	11,932	19,141	75.3	85.5	63.9	21.6
2	Narkanda	28,313	15,958	12,355	11,551	4,309	7,242	79.7	88.8	70.4	18.4
3	Theog	51,833	29,158	22,675	22,367	8,658	13,709	79.3	87.5	70.7	16.9
4	Mashobra	55,640	31,830	23,810	19,496	7,763	11,733	84.2	90.9	76.7	14.2
5	Basantpur	26,638	14,375	12,263	11,645	4,180	7,465	79.6	89.1	70.7	18.3
6	Chaupal	43,860	25,559	18,301	31,043	12,876	18,167	69	78.1	59.3	18.9
7	Jubbal Kotkhai	43,400	25,375	18,025	21,909	8,061	13,848	74.9	85.6	63.7	21.9
8	Rohru	31,955	19,207	12,748	18,915	6,850	12,065	71	83.5	57.9	25.6
9	Chauhara	23,425	14,611	8,814	21,752	8,547	13,205	60.4	73.2	46.8	26.4
District (Rural) Total :		**365,518**	**212,129**	**153,389**	**189,751**	**73,176**	**116,575**	**75.2**	**84.9**	**64.9**	**20**

Table 49 describes the distribution of villages by ranges of literacy rate in the district. There are no literates in 7 villages (0.3%) of the district. The population of these villages is only 88.42 villages (1.7%) have 100% which constitute 0.4% of the district rural population 841 villages accounting for 33.4% of the total villages rate in the literacy rate range of 71-80% and 695 villages (27.6%) fall in the literacy rate range of 81-90%. The lower literacy rate range of 1 to 60% observed in 260 villages (10.2%) of the district. The higher literacy rate range of 71 to 100% covers 1,768 (69.8%) out of total 2,520 villages in the district. The literacy rate range of 61-70% has 637 villages forming 19.6% of the total inhabited villages. Factors such as location, proximity to urban centres, caste composition, settlement pattern, levels of social and economic development, attitude of villagers towards literacy and females education, availability of school and teacher etc. are important factors which exert considerable influence on the literacy rate in any given area.

Table 49: Distribution of villages by literacy rate range, 2001

Range of literacy rate for villages	Number of inhabited villages	Percentage distribution of villages	Population	population
0	7	0.3	88	0.0
1-10	1	0.0	16	0.0
11-20	3	0.1	118	0.0
21-30	2	0.1	18	0.0
31-40	11	0.4	1,294	0.2
41-50	58	2.3	8,781	1.6
51-60	185	7.3	48,701	8.8
61-70	495	19.6	120,950	21.8
71-80	841	33.4	195,014	35.1
81-90	695	27.6	137,635	24.8
91-99	180	7.1	40,619	7.3
100	42	1.7	2,035	0.4
District total :	2,520	100.0	555,269	100.0
Literacy rate for Distt. :	79.1			

Table 50 describes the total literacy rate of the urban area of the district is 91.8% with male and female literacy accounting for 93.8% and 89.0% respectively. It shows a gap of 4.9% in male and female literacy. Jutogh C.B. has the highest literacy rate of 94.3%. In this town 97.3% of males and 87.4% females are literates. It shows the highest gap of 9.9% in males and females literacy rates among all the towns in the district. The lowest literacy rate is in Rohru N.P. which accounts for 86.8%. There is a significant difference in male & female literacy rate range between males and females of all the towns. Maximum difference of 9.9% is found in Jutogh which is followed by Narkanda (9.2%), Rohru (8.5%), Seoni (7.3%) and Rampur (6.2%). The gap in literacy rates of Chaupal and Kotkhai (4.8%), Shimla Urban Areas (4.6%), Shimla M.Corp. (4.5%) and Jubbal N.P. (3.7%) is below the district urban total of 4.9%.

Table 50: Number and percentage of literates and illiterates by sex in urban agglomerations / towns, 2001

Sr. No.	Name and urban status of UA^/Town +*	Number of literates and illiterates						Percentage of literates			Gap in male-female literacy rate
		Number of literates			Number of illiterates						
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1	Rampur (M.C.)	4,734	2,864	1870	919	441	478	92.8	95.4	89.2	6.2
2	Narkanda (N.P.)	550	368	182	163	78	85	90.6	93.9	84.7	9.2
3	Seoni (N.P.)	1,217	627	590	312	137	175	90.8	94.4	87.1	7.3
	Shimla (U.A.)	121,154	71,031	50,123	23,821	11,809	12,012	90.0	94.0	89.4	4.6
4	(a) Shimla (M. Corp.)	119,094	69,545	49,549	2,3461	11,641	11,820	92	93.9	89.4	4.5
5	(b) Jutogh (C.B.)	2,060	1,486	574	360	168	192	94.3	97.3	87.4	9.9
6	Theog (M.C.)	2,986	1,748	1,238	768	384	384	90.5	92.7	87.5	5.2
7	Chaupal (N.P.)	1,150	698	452	357	181	176	88	89.9	85.1	4.8
8	Jubbal (N.P.)	1,072	646	426	274	146	128	89.3	90.9	87.1	3.7
9	Kotkhai (N.P.)	960	571	389	189	91	98	93	95	90.3	4.8
10	Rohru (N.P.)	4,989	3,063	1,926	1,618	808	810	86.8	90.3	81.8	8.5
Distt.(Urban)Total :		**138,812**	**81,616**	**57,196**	**28,421**	**14,075**	**14,346**	**91.8**	**93.8**	**89**	**4.9**

Table 51 describes the total literacy rate of the rural area of district is 68.4% with male and female literacy accounting for 78.9% and 57.5% respectively. It shows the wide gap of 21.4% between male and female literacy. Mashobra C.D. block has the highest literacy rate of 78.5%. In this block, 86.6% of males and 69.9% of females are literates. The lowest literacy rate is in Chauhara C.D. block, which accounts for 50.3%. This block again stands at the bottom of the male & female literacy rate of 63.1% and 37% respectively. There is a significant difference in literacy rates between males and females of all the C. D. blocks of the district. The maximum difference of 27.8% is found in Rohru C.D. block which is followed by Chauhara (26.1%), Jubbal-Kotkhai (24.7%) and Rampur (22.9%) respectively. In other words, females are lagging behind males in literacy in the entire Community Development block, but the gap is narrowing down in table 51.

Table 51: Number and percentage of scheduled castes literates and illiterates by sex in Community Development Blocks, 2001

Sr. No.	Name of C.D.block	Number of literates and illiterates						Percentage of literates			Gap in male/female literacy rate
		Number of literates			Number of illiterates						
		Persons									
1	Rampur	17,288	10,232	7,056	12,058	4,712	7,346	68.5	79.7	56.8	22.9
2	Narkanda	7,982	4,603	3,379	4,183	1,537	2,646	74.3	85.1	63.4	21.7
3	Theog	13,029	7,367	5,662	7,512	3,102	4,410	73.1	81.5	64.5	16.9
4	Mashobra	14,724	8,334	6,390	6,943	2,687	4,256	78.5	86.6	69.9	16.7
5	Basantpur	6,925	3,912	3,013	3,997	1,505	2,492	73.1	83.1	63.2	19.9
6	Chaupal	11,196	6,659	4,537	10,485	4,510	5,975	62.4	71.5	52.6	19
7	Jubbal Kotkhai	9,856	5,834	4,022	6,684	2,454	4,230	68.5	80.8	56.1	24.7
8	Rohru	9,090	5,615	3,475	7,694	2,916	4,778	62.5	76.2	48.5	27.8
9	Chauhara	5,388	3,441	1,947	7,460	3,103	4,357	50.3	63.1	37	26.1
Distt. (Rural) Total:		**95,478**	**55,997**	**39,481**	**67,016**	**26,526**	**40,490**	**68.4**	**78.9**	**57.5**	**21.4**

Table 52 describes that there are no Scheduled Caste literate population in 29 villages (1.5%) of the district where population of these villages is only 80 persons. 94 villages (4.7%) have all literate population of 1,178 persons constituting 0.7% of the district urban population. 504 villages accounting for 25.1% of the total villages fall in the literacy rate range of 71R80% and 491 villages (24.5%) fall in the literacy rate range of 61R70%. The lower literacy rate of 1 to 50% has been observed in 246 villages (12.2%) of the district. The higher literacy rate range of 51R100% covered 1,727 villages (86.1%) out of 2,002 villages of the district where SC population are residing. The literacy range of 81-90% has 279 villages forming 13.9% of the total villages followed by the range of 51R60% with 276 villages forming 13.8% and 83 villages (4.1%) which fall in literacy rate range of 91R99%.

Table 52: Distribution of villages by literacy rate range for scheduled castes population, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	scheduled Castes Population	Percentage distribution of population
0	29	1.5	80	0.0
1-10	2	0.1	71	0.0
11-20	5	0.2	105	0.1
21-30	24	1.2	974	0.6
31-40	59	3.0	2,595	1.6
41-50	156	7.8	12,077	7.4

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	scheduled Castes Population	Percentage distribution of population
51-60	276	13.8	26,429	16.3
61-70	491	24.5	48,092	29.6
71-80	504	25.1	44,391	27.3
81-90	279	13.9	21,043	13.0
91-99	83	4.1	5,459	3.4
100	94	4.7	1,178	0.7
District total :	**2,002**	**100.0**	**162,494**	**100.0**
Literacy rate for District (Rural) :	**68.4**			

Table 53 discribes the urban literacy rate of Shimla district which reported 19,737 SC population excluding 0-6 years as literates constitute 84.7% to the total SC population in the district. The urban literacy rate among Scheduled Castes in the district for male is much higher than that of females. As much as 90% of the males are literate in the district while females account for 78%. Town-wise breakup shows that Jubbal Nagar Panchayat with 89.9% literates tops the list which is followed by Kotkhai Nagar Panchayat (89.7%). Rohru Nagar Panchayat with only 80.2% stands at the bottom. The remaining towns of the district fall in the literacy rate range of 80.2% to 89.9%. The gap in male/female literacy rate is above the district figure in Rohru (16.3%), Seoni (14.8%) and Rampur (13.3%) while in other towns of the district, it is below the district average. The gap in literacy rate is very low in Kotkhai (4.2%) and Narkanda (4.4%) Nagar Panchayats is given in table 53.

Table 53: Number and percentage of SC literates and illiterates by sex in towns, 2001

Sr. No.	Name and urban Status of Town	Number of literates and illiterates						Percentage of literates			Gap in male/female literacy rate
		Number of literates			Number of illiterates						
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1	Rampur (M.C.)	761	454	307	223	82	141	87.2	93	79.7	13.3
2	Narkanda (N.P.)	59	38	21	17	9	8	86.8	88.4	84	4.4
3	Seoni (N.P.)	365	203	162	118	43	75	85.1	92.3	77.5	14.8
4	Jutogh (C.B.)	261	150	111	79	31	48	86.4	90.9	81	9.9
5	Shimla (M .Corp.)	16,430	9,811	6,619	5,459	2,443	3,016	84.6	89.8	77.9	11.9
6	Theog (M.C.)	403	237	166	139	64	75	85.6	90.8	79	11.8
7	Chaupal (N.P.)	305	185	120	91	36	55	86.9	91.6	80.5	11
8	Jubbal (N.P.)	301	170	131	81	36	45	89.9	95	84	11
9	Kotkhai (N.P.)	156	87	69	43	21	22	89.7	91.6	87.3	4.2
10	Rohru (N.P.)	696	419	277	306	136	170	80.2	87.5	71.2	16.3
	Distt. (Urban) Total :	**19,737**	**11,754**	**7,983**	**6,556**	**2,901**	**3,655**	**84.7**	**90**	**78**	**12**

Table 54 describes the total literacy rate of Scheduled Tribes in the district is 82.2% with 87.9% male and 75% female literates. Among the Community Development blocks, 100% SC literacy has been recorded in Theog. The male and female literacy rate in this block is also 100% with zero gaps in male/female literacy rate. It is followed by Narkanda with 90.2% SC literacy with 94.1% males and 71.4% female's literates. The lowest literacy rate of ST is found in Chauhara block with 42.9% which is almost half of the district figure of 82.2%. The highest gap in male/female literacy rate of ST is recorded in Rohru (25.4%) followed by Narkanda (22.7%) and Rampur (16) blocks. This gap is negative in Chauhara and Jubbal-Kotkhai blocks, zero in Theog and only 2.5% in Chaupal block.

Table 54: Number and percentage of scheduled tribes literates and illiterates by sex in Community Development Blocks, 2001

Sr. No.	Name of C. D. block	Number of literates and illiterates						Percentage of literates			Gap in male/female literacy rate
		Number of literates			Number of illiterates						
			Males	Females	Persons	Males	Females		Males	Females	
1	Rampur	925	528	397	307	115	192	83.1	90.7	74.8	16
2	Narkanda	74	64	10	11	6	5	90.2	94.1	71.4	22.7
3	Theog	38	25	13	4	2	2	100	100	100	0
4	Mashobra	241	144	97	61	26	35	87.6	93.5	80.2	13.3
5	Basantpur	21	9	12	9	4	5	84	90	80	10
6	Chaupal	100	52	48	25	12	13	84	85.2	82.8	2.5
7	Jubbal-Kotkhai	74	51	23	53	39	14	62.7	60.7	67.6	-6.9
8	Rohru	58	36	22	45	20	25	64.4	76.6	51.2	25.4
9	Chauhara	3	2	1	8	6	2	42.9	40	50	-10
	Distt. (Rural) Total :	**1,534**	**911**	**623**	**523**	**230**	**293**	**82.2**	**87.9**	**75**	**13**

Table 55 indicates the distribution of villages by literacy rate range for Scheduled Tribes population in the district. There is no village in the district having Scheduled Tribes population in the literacy range of 1R10%. There is no ST literate in 8 villages (6.0%) of the district where population of these villages is only 20 persons. A majority of 52 villages (38.8%) out of 134 villages in the district constituting 100% literacy rates have the population of 343 persons. 25 villages accounting for 18.7% of the villages are in the literacy rate range of 71R80% followed by 23 villages (17.2%) in the literacy rate range of 81R90%. The lower literacy rate range of 11R70% has been observed in 20 villages (14.9%) of the district. The higher literacy rate range of 71R100% covers 106 villages (79.2%). The literacy rate range of 41R50% has 10 villages (7.5%) followed by the literacy rate range of 91R99% with 6 villages forming 4.5% of the district.

Table 55: Distribution of villages by literacy rate range for scheduled tribes population, 2001

Range of literacy rate for villages	number of inhabited villages	Percentage distribution of villages	scheduled tribes Population	Percentage distribution of population
0	8	6.0	20	1.0
1-10	0	0.0	0	0.0
11-20	1	0.7	6	0.3
21-30	2	1.5	22	1.1
31-40	1	0.7	4	0.2
41-50	10	7.5	97	4.7
51-60	2	1.5	24	1.2
61-70	4	3.0	101	4.9
71-80	25	18.7	351	17.1
81-90	23	17.2	801	38.9
91-99	6	4.5	288	14.0
100	52	38.8	343	16.7
District total :	**134**	**100.0**	**2,057**	**100.0**

Sirmaur: As per 2001 Census, Sirmaur district has reported 274,643 persons as literate constituting 70.4% of total population excluding the population of age-group of 0-6

years. The proportion of male and female literates is 79.4% and 60.4% respectively. The literacy rate of males is much higher than that of females resulting in wide gap of 19% between male and female literacy. The total literacy rates of rural and urban areas are 68.3% and 87.8% respectively. The proportion of male and female literates in rural areas is 77.8% and 57.7% while in urban areas this proportion is 91.7% and 83.2%. The difference between male and female literacy rates in urban areas is 8.5% as against 20.1% in rural areas. Therefore, the females in urban areas are better educated than their counterparts in the rural areas of the district.

Availability of University education in the District: There are Six Degree colleges in the district. One college is situated in Nahan, the district headquarters, one in Paonta Sahib, one in Rajgarh, Sangrah, Shallai and haripurdhar. For higher education, the students of this district have to go either to Shimla or Dehradun in Uttarakhand.

scheduled Castes and scheduled tribes Population, 2001: Of the total 458,593 population of the district, 29.6% of the total population belongs to Scheduled Castes and only 1.3% to Scheduled Tribes. The percentage of SC population constitutes about 30.8% in rural population and 19.1% in urban population of the district. The proportion of ST is 1.4% and 0.3% in rural and urban population of the district respectively. The SC population in the district is mainly concentrated in Paonta Sahib, Nahan, Rajgarh, Pachhad, Renuka tehsils and Kamrau sub-tehsil.

Solan: As per 2001 census, Solan district has 332,410 literate population constituting 76.6% of the total population excluding age-group 0-6 years. The proportion of males and females literates in the district is 84.8% and 66.9% respectively. The literacy rate of males is higher than that of females and gap in gender literacy is 17.9%.

The total literacy rates of rural and urban areas are 73.9% and 88.0%. The proportion of males and females literate in rural is 83.1% and 64.0%, while in urban areas proportion of males and females is 90.8 and 83.2%. The difference between males and females literacy rates in urban areas is 7.7% as against 19.1% in rural areas. Therefore, females in urban areas are better educated than their counterparts in rural areas of the district.

Availability of University education in the district: There are four degree colleges which are functioning in the district. These colleges are Government College Arki, Government College Nalagarh, Government College Solan and G.G.D.S.D. College Sabathu. There is one government university for higher education in the district which is Dr. Y.S. Parmar University of Horticulture and Forestry at Nauni, Solan, besides many other private U.G.C. recognized university in the district. This district has sufficient facility for degree level education in addition to Horticulture forestery education. For higher education, H.P. University at Shimla is also located near the district.

Scheduled Castes and Scheduled Tribes Population, 2001: About 28.1% of the total population belongs to scheduled castes and only 0.7% belongs to scheduled tribes. Rural & Urban scheduled caste population constitute 31.1% and 14.5% of the district. Scheduled tribes constituted 0.8% and 0.4% rural and urban population respectively.

As per 2001 Census, the proportion of literates to total population excluding 0-6 years is about 76.6% in the district. This proportion of rural area is 73.9% against 88.0% in urban areas. In the district, the literacy rates of males (84.8%) are much higher than that of females (66.9%). Among the tehsils, Solan tehsil tops with 85.1% literates followed by Kandaghat tehsil (80.5%). Ramshahr Sub-tehsil with 66.3% literates stands at the bottom in the district. Out of 7 tehsils, the literacy rates of 4 tehsils are higher than that of district average. It is observed that in urban

areas of district the literacy rates are higher than the rural areas. The gap between male and female literacy is very high which comes to 17.9% in the district. However this gap in urban literacy is low while in rural areas, it is very high.

The corresponding proportion of male and female literates is about 83.1% and 63.9%, which shows very wide gap of 19.1% in male and female literacy. At Community Development block level, Kandaghat C.D. block has the highest rural literacy rate of 80.4% where 88.1% males and 72.3% females are literates in this block. The lowest literacy rate in rural areas is noted in Nalagarh C.D. block (66.5%). There are wide variations in male and female literacy in all the C.D. blocks of the district. The maximum difference of 22.8% is found in Nalagarh C.D. block and the lowest of 15.7% is registered in Kandaghat block.

In the district there is no literate in 8 villages (0.3%) of the district and population of these villages is only 15 persons. 36 villages (1.5%) have all the literate population. Maximum 856 villages accounting for 35.8% of the total villages fall in the literacy rate range of 71-80% and 581 villages (24.3%) fall in the literacy rate range of 81-90%. The lower literacy rate ranges of 1 to 50% are observed in 91 villages (3.8%) of the district. The higher literacy rate range is 71 to 100% covers 1,579 villages (66.0%).

About 88.0% of the total urban population excluding age group 0-6 is literate in the district. The corresponding proportion of male and female literates comes to 90.8% and 83.2% respectively which shows a gap of 7.7% in male and female literacy. At town level Sabathu Cantonement board has the highest urban literacy rate of 94.1%. The lowest literacy rate of 82.0% in urban area is noted in Parwanoo M.C. There are wide variations in male and female literacy in all the towns of the district. The maximum difference of 23.6% is found in Baddi Nagar Panchayat.

As per 2001 census, the literacy percentage of Scheduled Castes has come to 70.0% excluding age-group 0-6 years, as a whole for the district. Among males & females 79.8% and 59.6% are literate. Kandaghat C.D. block has shown highest percentage of 76.8 literates followed by Solan (75.3%) with lowest in Nalagarh (61.5%). Male literacy is highest in Kandaghat (85.1%) C.D. block. Kandaghat block ranks first with female literacy of 68.2%. Gap between male and female literacy is highest in Nalagarh C.D. block (22.8%) where as in the district the gap is 20.2%.

As per census 2001, there is no literate among Scheduled Castes in 21 villages (1.2%) of the district where SC population of these villages is only 95 persons. 69 villages (3.9%) have all the literate Scheduled Castes population where the population of these villages is only 0.3% of total SC in the district. The largest numbers of 524 (29.7%) villages having 33.8% population fall in the literacy range of 71-80%, followed by 439 (24.9%) villages in 61-70%, 256 (14.5%) villages with literacy rate range of 81-90%. The villages falling in the above last two ranges have 27.1% and 16.4% population of total SC of the district. The lower literacy rate of 1 to 40% is observed in 72 (4.2%) villages of the district accounting for 2.0% SC population. The higher literacy ranges of 71 to 100% covers 896 (50.8%) villages containing 52.3% of total SC population.

About 80.5% of the total SC urban populations excluding the age group 0-6 are literates in the district. The percentage of males and females comes to 86.0% and 73.04% respectively. This shows a gap of 12.6% between male and female literacy in the district (urban). At the town level, Solan M.C. has the highest literacy of 85.4% where 90.6% males and 79.4% females are literate in the town. The lowest literacy in the urban area is noted in Parwanoo M.C. where 65.9% are literate. There are variations in the male and female literacy in all the towns. The maximum difference of 38.5% is found in

Baddi N.P. and the lowest i.e. 7.9% is found in Parwanoo M.C.

The literacy percentage of Scheduled Tribes has come to 67.2%, as a whole for the district (rural). Among males, 77.5% and among females 54.9% female are literate. Solan C.D. block has shown the highest percentage of 95.7% literates followed by Kandaghat block with 86.4% while lowest is found in Nalagarh 51.9%. Male & female literacy 97.8% and 91.3% is found in Solan. Gap between male and female literacy is highest in Dharampur C.D. block 24.2% followed by Nalagarh 22.4% where as in the district, the gap is 22.6%.

As per census 2001, there is no literate among the SC in 9 (8.8%) villages having 34 ST population of in the district. 39 (38.2%) villages have all the literate ST population having 184 persons only. 18 (17.6 percent) villages fall in the literacy rate range of 61-70% and are followed by 11 (10.8%) villages in 71-80% and 6 (5.9%) villages in 51-60% respectively. The percentage of ST living in above categories of village is 53.9%, 11.0% and
18.7% respectively. The lower literacy range of 1-40% is observed in 9 (8.8%) villages of the district. The higher literacy ranges of 71 to 100% have the maximum number of 57 (55.9%) villages covering 22.5% of Scheduled Tribes population of the district showing significant improvement in literacy at village level.

About 95.2% of the total Scheduled Tribes urban populations excluding the age group 0-6 are literate in the district. The proportion of males and females is 97.1% and 91.9% respectively. This shows a gap of 5.2% between male and female literacy in the district. At the town level Nalagarh M.C., Dagshai Cantonement Board and Sabathu Cantonement Board each has 100% literacy but number of Scheduled Tribes is insignificant in these towns. The lowest literacy of 80.0% has been recorded in Arki N.P. There are variations in the male and female literacy in all the towns. The maximum difference of 33.3% is found in Arki N.P. and the lowest i.e. 3.8% is reported in Parwanoo M.C.

Una: As per 2001 Census, Una district reported 312,278 persons as literates constituting 80.4% of the total population excluding 0-6 age-group population. The proportion of male and female literates in the district is 87.7% and 73.2% respectively. The literacy rate of males is much higher than that of females. The difference of male and female literacy rate is 14.5% in the district.

The total literacy rates of rural and urban areas are 80.2% and 82.1%. The proportion of male and female literates in rural areas is 87.8% and 72.8%. In urban areas this proportion is 86.6% and 77.2%. The difference between male and female literacy rates in urban areas is about 9.4% as against 15.0% in rural areas. Therefore, females are better educated in urban areas than their counterparts in rural areas.

Availability of University education in the district: There are Five Government Colleges in the district situated in Amb, Bangana, Beetan, Daulatpur Chowk and Una. Besides these, other private colleges are functioning at Gagret, Daulatpur and Bhatoli. Government Degree College of Amb caters to the needs of Amb and Bharwain sub-tehsil while the remaining tehsils / sub-tehsils are served by the remaining Colleges. For higher university education, the students of this district have to go to Shimla, Solan, Palampur or outside the state.

Scheduled Castes and Scheduled Tribes Population, 2001: Out of the total 448,273 population of the district, 100,588 persons constituting 22.4% of the total population belongs to Scheduled Castes and 51 persons accounting for negligible proportion accounts for Scheduled Tribes population. The percentages of SC population constitute 22.8% in rural population and 18.9% in urban population of the district. The proportion of ST is negligible among the rural population while

in urban areas, it comes only 0.1%. The ST population in the district is mainly concentrated in Una tehsil.

The proportion of literates to total population excluding 0-6 years is about 80.4% in the district. This proportion in rural areas is 80.2% against 82.1% in urban areas. In the district, the literacy rate of males (87.7%) is higher than that of females (73.2%). Among the tehsils, Bharwain Sub-tehsil tops with 83.5% literates followed by Amb tehsil (83.4%). Haroli Sub-tehsil with 74.2% literates stands at the bottom in the district. Out of 5 tehsils, the literacy rates of 2 tehsils are higher than that of district average. It is observed that in urban areas of district the literacy rates are higher than the rural areas. The gap between male and female literacy is high which comes to 14.6% in the district, as a whole. The situation at tehsil level is not much different. However this gap in urban literacy is low which comes to 9.4% against the rural areas, where the gap between male and female literacy is
15.0%.

About 80.2% of the total rural population excluding the age-group of 0-6 years is literate in the district. The corresponding proportion of male and female literates comes to 87.8% and 72.8% respectively, which shows wide gap of 15.0% in male and female literacy. At Community Development block level, Amb and Gagret C.D. blocks have the highest rural literacy rate range of 82.3% each with 89.4% and 89.7% males and 75.6% and 75.2% females as literates in these blocks. The lowest literacy rate in rural areas is noted in Una C.D. block (77.4%). There are wide variations in male and female literacy in all the C.D. blocks of the district. The maximum difference of 16.8% is found in Una C.D. block.

As per census 2001, there are no literates in 2 villages (0.3%) of the district where population of these villages is only 2 persons. 5 villages (0.7%) have all the literate population. 375 villages accounting for 49.5% of the total villages are in the literacy rate range of 81-90% and 291 villages (38.4%) fall in the literacy rate range of 71-80%. The lower literacy rate range of 1 to 50% is observed in 2 villages (0.2%) of the district. The higher literacy ranges of 91 to 99% covers 31 villages (4.1%). The ranges of 51-70% have 52 villages forming 6.9% of the total inhabited villages.

The total literacy rate of the urban areas of the district is 82.1% with male and female literacy accounting for 86.6% and 77.2%. It shows a gap of 9.4% in male and female literacy rate. Gagret Nagar Panchayat has the highest literacy rate of 90.3%. In this town, 93.7% males and 86.6% females are literates. The lowest literacy rate is recorded in Mehatpur Basdehra Nagar Panchayat with 76.4% literates. The literacy rate in Gagret (90.3%) and Daulatpur (88.9%) Nagar Panchayat and Una (84.3%) M.C. are above the district urban average of 82.1% while it is below in Mehatpur Basdehra (76.4%) and Santokhgarh (78.0%) Nagar Panchayats. There are significant differences in literacy rates between males and females in all the towns of the district. Maximum difference in male, female literacy rate of 14.8% is found in Santokhgarh which is followed by Mehatpur Basdehra (10.6%) and Daulatpur (9.4%) Nagar Panchayats. The gap in male, female literacy rate of Gagret (7.1%) and Una (6.4%) is below the district urban total of 9.4%.

The total literacy rate of the SC population in the rural areas of the district is 76.1% with male literates accounting for 84.5% and female literates accounting for 67.4%. It shows a wide gap of 17.0% in male, female literacy rate. The literacy rate of SC among Community Development blocks in the district varies between 72.4% in Una and 78.4% in Amb. Two Community Development blocks fall above and two below the district average literacy rate of 76.1% in SC population. There is a wide variation in male and female literacy in all the Community Development blocks. The maximum variation of 19.1% is found in Una Community Development block which is

followed by Gagret (17.7%), Dhundla (17.0%) and Amb (14.6%). Therefore, females are lagging behind males in literacy in all the Community Development blocks.

The district has no SC population in 145 inhabited villages out of total 758 inhabited villages. There are no literates in 3 villages (0.5%) of the district where population of these villages is only 6 persons. 29 villages (4.7%) have all the literates with a population of 174 persons constituting 0.2% of the district rural population. 283 villages accounting for 46.2% of the total villages are in the literacy range of 71-80% and 166 villages (27.1%) fall in the literacy range of 81-90%. The lower literacy rate of 1% to 60% is observed in 33 villages (5.5%) of the district. The higher literacy ranges of 71%-100% covers 494 villages (80.6%) out of total 613 inhabited villages having some SC population. The range of 61%-70% has 83 villages forming 13.5% of the total villages where population of these villages is 12,107 persons, which constitute 13.0% of the total SC population of the district (rural).

The total literacy rate of the urban areas of the district is 73.6%. 80.8% males and 65.5% females of the SC population in urban areas are literates. The gap in male-female literacy rate at district level is 15.3%. The literacy rate in urban areas varies between 63.1% in Mehatpur Basdehra and 87.2% in Daulatpur Nagar Panchayats. The literacy rate among SC is higher in Daulatpur (87.2%), Gagret (83.6%) and Una (81.9%), while it is below the district figure in Santokhgarh (72.3%) and Mehatpur Basdehra (63.1%). Male literacy rate is higher than the district figure of 80.8% in Daulatpur (92.3%), Una (87.8%), Gagret (86.7%) and Santokhgarh (81.2%). Similarly female literacy rate is high in Daulatpur (82.1%), Gagret (80.3%) and Una (75.3%). There is a wide variation in male and female literacy in the towns of Una district. The maximum variation of 18.8% is found in Santokhgarh Nagar Panchayat which is followed by Mehatpur Basdehra (18.0%). The gap in male -female literacy rate in Una (12.6%), Daulatpur (10.2%) and Gagret (6.4%) is below the district urban average of 15.3%.

As per 2001 Census, Una district has a small number of 22 Scheduled Tribes populations in rural areas. The total rural literacy rate of ST population of district comes to 37.5%, as a whole. Male literates constitute 40% while female literates account for 33.3%. Among the Community blocks, Gagret has a 100% literacy rate for total males and females. Una block has the literacy rate of 16.7%, which is much below the district average of 37.5%. The gap in male-female literacy rate for the district rural is 6.7% The gap of 25% is found in Una block which is very wide. Other two Community blocks of Amb and Dhundla are devoid of Scheduled Tribes population. One village (33.3%) has all the literate population of 6 persons. 2 villages accounting for 66.7% of the total villages with some tribal population fall in the literacy range of 11%-20%. There are only three villages in the district having some ST population.

The total literacy rate of the urban areas of the district is 51.7%. 48.1% males and 100% females are literates which reflect minus 51.9% gap in male-female literacy rate. The literacy rate of ST population in Una M.C. is 36.4% while this rate is at the peak in Mehatpur Basdehra. Other urban areas in the district do not have any ST population.

1.2 Patterns of Planning and Development in the Sector

Pattern of planning and development in the sector is described below.

Thrust Areas of 11th Plan (2007-12)

1. Minimization of drop out rate to zero level at elementary stage of education (class 1- VIII) in the state.
2 To achieve the targeted level (100%) enrolment of children of the age group

of 6-14 years by 2010, as per SSA goal to universalize the elementary education in the State.

3. To improve quality education at elementary level.
4. All District and Block Offices are equipped with required facilities such as Telephone, Fax, Photostat machines and Computer hardware so as to introduce web based monitoring.
5. To ensure availability of proper infrastructure for all district /block offices and in all primary / elementary schools of the State.
6. To enhance the capacity of existing teaching man power by imparting better training to improve their teaching skills/ techniques so that they could handle the children more efficiently.

Schemes running under 11th Five Year plan: These schemes are 100% centrally sponsored schemes and need to be continued in the 11th Five Year Plan.

- Vocational Education in Secondary Schools.
- Improvement in Science Education.
- Modernisation of Sanskrit Pathshala.
- Educational Technology Programme.
- Environmental Orientation to School.
- Art & Culture.

Sectoral Perspectives and Development strategy for education: This sector has been a high priority for the state through all the plans. It has an outlay of 22% of the total provisions under the Tenth Plan. This level of allocation is the highest for any state in India. The state claims to be the first one in the country to provide free education to girls at all levels, from the time of enrolment in a primary school to the university education, including technical and professional courses. Himachal Pradesh scores high on several parameters of education; its literacy rate at 77% is higher by 12% than the national average; primary education is almost universal with a drop-out rate of barely 1%; and accessibility to all types of educational institutions is fairly high for a hilly and mountainous state. The major issue is the quality of education. One-fourth of the primary school teachers are untrained ones and failure rate of students is 54% at the high school level.

There is a need to shift thrust of the state from formal learning to technical and professional training. The state does have one National Institute of Technology, two engineering colleges, 30 polytechnics and 84 I.T.I.s, fairly equitably distributed over space. Technical education is yet to be anchored to industry; education in tourism management is yet to find a niche in the promotion of this sector through private investment and medical education has to be brought to a level which will spare patients from seeking treatment outside the state.

Scheme wise details in Himachal Pradesh:

1. Direction and Administration: This is a staff oriented scheme and revenue liability on this account has been transferred to non-plan from the year 2009-10.

2. Infrastructure: For quality education, infrastructure is one of the basic needs. Basic infrastructure buildings, furniture, toilets, play grounds, laboratories and library etc. is needed in every institution. There is a budget provision of Rs. 4500.00 lakhs for the construction of new and ongoing college buildings during the financial year 2008-09. This budget exists for budgetary provisions in subsequent years.

3. Teachers Training: The teacher training programme is meant for capacity building and strengthening the standard of education. The latest techniques/teaching methods in the elementary and secondary education are part of the training programme. The SCERT Solan is imparting training to in-service teachers where seminars and reorientation courses are organized. Besides courses are also organized

by Himachal Pradesh Institute of Public Administration. During the year 2005-06, total 1553 Deputy. Directors / Principals/ Headmasters, teachers and ministerial staff employees were imparted training in office management and administration.

4. Vocational training: Quality education is the main objective of education policy for 2007-2012. Vocational courses are to be introduced at the school level during eleven plan. Like IT more optional courses as computer operational knowledge, communication skill development, fashion designing, interior decoration, agro- based courses and secretarial skill development are proposed in the Eleventh Plan.

5. Mid-Day-Meal scheme: This scheme was introduced in the Primary Education Department for 1st to 5th class in the tribal areas i.e. Kinnaur and Lahaul & Spiti and Bharmour and Pangi blocks of Chamba district in the first phase. The scheme was to be implemented in the entire State in the second phase. The Hon'ble Supreme Court of India in a civil writ petition No. 196/2001 issued directions on 20-4-2004 to chalk out the possibility of further extending the mid-day-meal scheme up to class 10th. With the establishment of Directorate of Elementary Education the scheme up to class 8th has now been shifted to Elementary Education Department. National programme of nutritional support to Primary Education popularly known asthe Mid Day Meal Scheme is being implemented in Primary Schools of the State w.e.f. 15th August, 1995, with an objective of Universalisation of Primary Education, to increase enrolment, retention and attendance, simultaneously redressing the problem of under-nutrition among students in primary classes.

Presently under this scheme, nutritious hot cooked Mid Day Meal is being served to all the students of primary classes of all the Govt./ Govt. aided private primary schools as well as EGS centres (Alternate Schools) of SSA, with effect from 01.09.04, on all working days of the year, by involving the agencies such as Anganwari centres of ICDS, Mahila Mandals of the department of Rural Development or Primary Education Department.

The State Government has decided to extend this programme to upper primary stage to cover all the students (classes VI to VIII) of all the Government / Government aided middle schools of the State w.e.f. 1st July, 2008.

The existing approximate per child per school day average cost to implement the hot cooked Mid Day Meal programme in all the 11525 Government / Government aided Primary Schools / EGS centres opened under SSA, in the state has been enhanced by the state government from Rs 1.76 to Rs 2.50 per child per day, out of which Rs 1.50 per child per school day is expected to be shared by Central Government while the remaining cost of Rs. 1.00 per child per day is borne by the State Government. For upper primary stage per child per school day average cost has been Rs. 3.50. The meal served under this scheme is cooked and served either through Anganwari centres/ mahila mandals or through concerned primary schools by using the services of water carriers in coordination with MTA/ PTA/ NGO's / women's Self - Help Group etc. The cooks engaged are paid honorarium ranging from Rs. 200 to Rs. 1600 per school depending upon the quantum of work. The participation of mothers is being encouraged by forming rosters for supervision and preparation of cooked meal. The Setting -cum- Monitoring committee at State, District and Block level has been constituted and regular review meetings are being held.

6. Physical Education: Under this scheme, all the state level tournaments for middle, high and senior secondary schools for boys and girls and coaching camps for selected players for the participation in national school games are covered and management also sends teams of various games for the participation in national

school games and State Level children day celebration. All facilities provided by the government to the students and all 7 sports hostels also come under this scheme.

Similarly, Bharat Scouts and Guides training camps and related activities are also covered under this scheme. At present district/state level rallies, jumping caps at state/national level, uniform from class 10+1 to college level, camps for cub bulbul, robbers and rangers, adventure camps and to open new training centre at Rewalsar (Mandi) and other districts are also covered under this scheme. The children (boys/girls) of the age group of 5 to 25 years are trained under this scheme to develop their personality.

7. Equipment & Other Items: Under the scheme of elementary, secondary and university education science equipments, jute matting, craft material, library books, sports material, audio-visual aids, equipment and furniture items are provided to all educational institutions, colleges and offices by the department of education. The above items are being supplied to those educational institutions which were in existence after 01.04.2002 under plan budget and all the newly upgraded institutions/ colleges till date. The financial liability in respect of institutions/ colleges prior to 31.3.2002 has since been transferred from plan to non-plan as they are being covered under non-plan heads.

8. Scholarships/Stipends: This scheme is meant for the students of deprived sections of the society and meritorious students to improve their educational status. The various types of scholarships/stipends are being provided by the State/Central Government at various stages, the details of which are given below.

i) Dr. Ambedkar Merit scholarship scheme: Under this scheme, 1000 students of SCs and 1000 students of OBCs category in 10+1 and 10+2 are being selected from amongst those who have secured 72% marks in 10th and 10+1 Himachal Pradesh Board of school Examination. The selected candidates are awarded scholarship of Rs. 10000/-per year. During the year 2006-07, total 742 students of SCs category and 617 students of OBC Category & in 2007-08 total 415 students of SCs category and 323 students of OBCs category have been benefited under this scheme.

ii) Swami Vivekanand Merit scholarship Scheme: Under this scheme, 2000 students of general category in 10+1 and 10+2 separately are selected from amongst those who have secured 77% or above marks in Himachal Pradesh Board of School Examination. The selected candidates are awarded scholarship of Rs. 10000/- per year. During the year 2006-07, total 2045 students & in 2007-08 total 1146 students of this category have been benefited under this scheme.

iii) Thakur Sen Negi Merit Scholarship Scheme: Under this scheme, 200 students of STs category (100 boys and 100 girls) in 10+1 and 10+2 separately are selected from amongst those students who have secured 72% marks and above in 10th and 10+1 examinations of Himachal Pradesh Board of School Education. The selected students are awarded scholarship of Rs. 11000/- per year. During the year 2006-07, total 141 students & in 2007-08 total 100 students of this category have been benefited under this scheme.

iv) Maharishi Balmiki scholarship scheme: This scheme benefited children of those families who are engaged in unclean profession and are bonafide Himachalis and studying after 10th class in the Himachal Pradesh Government schools or Non-Government recognized institutions. These students are awarded scholarship of Rs. 9000/- per year up to the level of college education or equivalent professional degree courses. During the year 2006-07, total 78 students & in 2007-08 total 95 students of this category have been benefited under this scheme.

v) High school Merit scholarship: This scheme is benefited for those students who have been listed in the first 300 position in the merit list prepared by the Himachal Pradesh Board of School Education on the basis of middle standard examination. Under this scheme, every student is awarded a scholarship of Rs. 1000/- per year for non-hostler students and Rs. 1500/- for hostlers. During the year 2006-07, total 402 students & in 2007-08 total 346 students have been benefited under this scheme.

vi) Middle school Merit scholarship: This scheme benefits those students who have secured first 4 positions in every education block on the basis of 5th class examination and studying in 6th class in Himachal Pradesh Government Schools/Non-Government recognized schools. Selected students are awarded a scholarship of Rs. 800/-for girls and Rs. 400/-for boys per year to the level of 8th class subject to the condition that they pass in the previous class.

vii) Post Matric scholarship to SCs/sts/OBCs students: This scholarship is being awarded to the students belonging to SCs/STs/OBCs categories. The students belonging to SC/ST categories whose parents/guardians annual income is up to Rs. 1,00,000/- are eligible for this scholarship. The students belonging to OBCs are only eligible for this scholarship if the annual income of their parents/guardian is Rs. 44,500/-. The scholarship is payable only to those students who are regularly studying in any Government/Government aided institutions. The rates of scholarship are given in table 56.

Table 56: Scholarship Rates

Group	Course	Month wise Rates (Rs.) Day scholar	Hostliers
a	Medical/ Engineering/ BSC/ (Agr.) BSc (Forestry)	330	740
b	Diploma in Engineering/Medical/MSc.	330	510
c	Certificate in Engineering/Architect/Medical/ Agriculture/Library/M.A./B.Com.	330	510
d	BA/BSc 2nd & 3rd Year	185	355
e	BA/BSC 1st Year/ 10+1 & 10+2 Class	140	235
	i) Day Scholars	1200	1200
	ii) Hostlers	2400	2400

Total number of 11327 (SC=8495, ST=1860, OBC=972) students in 2006- 07 and total number of 4331 (SC=2467, ST=1170, OBC=694) students have been benefited under this scheme during the year 2007-08.

viii) IRDP scholarship scheme: Under this scheme, the students belonging to IRDP families are being benefited as per details given below in table 57.

Table 57: Scholarship under IRDP scheme

Sr. No.	Class	Annual Rate (Rs.) Boys	Girls
1	6th to 8th	250	500
2	9th to 10th	300	600
3	10+1 to 10+2	800	800
4	College/Universities		

During the year 2006-07, total number of 97,800 students and during the year 2007-08 total numbers of 71540 students (tentative) have been awarded scholarship under this scheme.

ix) Scheme for Raising educational standard of sCs/sts students: Under this scheme, 6 SCs and 1 ST students are selected on the basis of merit list of 8th class examination conducted by the Himachal Pradesh Board of School Education. The selection is made at the directorate level. The selected students are sent to GSSS Sarahan, district Sirmaur for admission in 9th class

where the students are imparted free education to increase their educational standard. Under this scheme, Rs. 2000 per annum are provided for fees and stationery; Rs. 500 per month are provided for boarding and lodging and Rs. 100 per month for pocket expenses. For the last two years, no student has been selected under this scheme to avail the incentives.

x) Scholarship to the Children of Armed Forces Personnel Killed/ Disabled during the action/war: Under this scheme, the provision has been made to award scholarship at different level to the children of armed personnel killed /disabled during action /war. In these cases, where disability is less than 50%, the scholarship is awarded at half rate. For awarding scholarship, the eligible students send their applications on the prescribed application form through the Headmaster/Principal/Head of the department to the Sainik Kalyan Board of the concerned district. After scrutiny and completion of other formalities, Sainik Kalyan Board sends the application forms of the eligible students to the directorate of education for further action. Annual Rate, class wise details are given below:

Table 58: Scholarship to the children of Armed Forces

Sr. no.	Class	Annual Rate	
		Boys	Girls
1	6th to 8th	250	500
2	9th to 10th	300	600
3	10+1 to 10+2	800	800
4	College/Universities		
	i) Day Scholars	1200	1200
	ii) Hostliers	2400	2400

During the year 2006-07, only 2 students were benefitted and during the year 2007-08, only 3 students have benefitted under this scheme.

xi) Sanskrit scholarship scheme: Under this centrally sponsored scheme, the candidates securing first position in Sanskrit subject in his class is only eligible for this scholarship. In addition, it is necessary to obtain 60% marks in Sanskrit and 60% in aggregate in all subjects. This scholarship is payable to those students of 9th, 10th, 10+1 and 10+2th classes who secure 60% marks in Sanskrit in the previous class i.e. 8, 9, 10, 10+1 with above percentages. The scholarship are provided for 10 months at the rate of Rs. 250 per month for 9th & 10th class students and Rs. 300/- per month for 10+1 & 10+2th class students. During the year 2006-07, this facility benefited a total number of 12225 students and during the year 2007-08, 12890 students have been benefited under this scheme.

xii) sainik school scholarship: This scholarship is only payable to the students who are studying in Sainik School SujanpurTihra in district Hamirpur. The Principal of the concerned school makes selection of eligible students as per norms/conditions of the scheme. This scholarship is awarded to student of class from 6th to 10+2. The details of this scheme are given in table 59.

Table 59: Sainik School Scholarship

Sr. no.	Income status	Annual Rate
1	Rs.9220/- per month	Rs. 18000/-
2	Rs.9221/- to 10650/-	Rs. 15000/-
3	Rs.10651/- to 11470/-	Rs. 12000/-
4	Rs.11471/- to above	Rs. 8000/-

Under this scheme, 186 students have been given scholarship during the year 2006-07 & 538 students in the year 2007-08.

xiii) National Merit scholarship: Under this scheme, the scholarship for 9th and 10th class will be provided to the students who are studying in Government schools in rural area. However, the scholarship from post- matric to post graduate level will be awarded on the basis of merit of Post Matric and Graduation. The annual income of parents from all sources should not exceed Rs. 100000. The scholarship of Rs. 250 per annum is given for 9th and 10th class students, Rs. 500 per annumfor B A / B Sc / B Com / B. Arch. students and Rs. 750 per annum scholarship is provided at Post Graduate level / BE / B.Tech. / MBBS / LLB / B.Ed / Diploma in Hotel Management /

Diploma Courses. Under this scheme 246 students have been given scholarship during the year 2006-07.

xiv) Indira Gandhi Utkrishtha Chhattervriti Yojna for Post Plus two students: This scheme is for meritorious students post plus two courses which shall be awarded to 150 students at the rate of Rs.10,000 per annum per student purely on the basis of income ceiling. The scholarship is awarded based on the merit list of 10+2 Art, Science and Commerce of Himachal Pradesh Board of School Education, Dharamshala provided they enter professional stream. The scholarship is also awarded from the merit list of B.A, BSc and B.Com provided they enter academic /professional stream. Scholarship is given to the same number of students till they complete the degree or the course. During the year 2006-07, this facility benefited a total number of 186 students. During the year 2007-08, this facility benefited a total number of 11 students.

xv) Pre-Matric scholarship for Children of those engaged in unclean occupation: Under this scheme, the scholarship is provided to the children of those who irrespective of their religion are actively engaged in scavenging of dry latrines and other unclean occupation i.e. tanning and flying only, which are traditionally considered unclean. The scholarship is tenable only to such institutions and for such courses up to matric stage which has been duly recognized by the concerned State. There is no income ceiling under this scheme and the scholarships are granted for ten months. The details of this scheme are given below in table 60.

Table 60: Pre-matric scholarship for children of those engaged in unclear occupation

Class	Rate per Month	
	Day scholar	Hosteliers
6th to 8th	60	300
9th to 10th	75	375

Note: *Day scholar and hosteliers are eligible for an adho grant of Rs. 550/ - and 600/ - per student per annum respectively*

xvi) Rashtriya Indian Military College (RIMC): Draft proposal for State Government Scholarship for Himachal Pradesh Bonafide students studying in RIMC Dehradoon has been sent to the Government vide letter No. dated 1-12-2005. During the year 2006-07, this facility benefited a total number of 10 students and during the year 2007-08 also 10 students were benefited under this scheme.

xvii) Maulana Azad national scholarship scheme for Meritorious Girls students belonging to Minorities: This is a new scheme sponsored by Centre through Social Justice & Empowerment Department of H. P. In this scheme, number of beneficiaries will be identified after following the required procedure.

xviii) national overseas scholarship for scheduled Castes: This is a new scheme sponsored by Central Government through Social Justice & Empowerment Department. The beneficiaries will be identified after following the required procedure.

xix) Rajiv Gandhi national Fellowship for scheduled Castes: This is a new scheme sponsored by Centre through Social Justice & Empowerment Department. The number of beneficiaries will be identified after following the required procedure.

9. Free text Books: Free text books scheme was introduced in the academic session 1987-88 only in tribal area for SCs/STs students. This scheme has been extended to SCs/STs students in non-tribal areas in 1996-97. In the year 1997-98, this scheme has been extended to students of OBCs category and in 1998-1999 to IRDP families.

Under this scheme, the text books are being supplied to the students of 6th to 10th classes

and belonging to SCs/STs/OBCs and IRDP categories studying in Govt. schools. The Head of institutions project their requirement of free text books annually to the Deputy Director of Education of the concerned district. The Deputy Director of Education compiles the requirement at his level for the district and place the order for purchase of free text books. Board of School Education, Dharamsala, the head of school manages to lift the books from the sale depot and arranges distribution amongst the eligible students of his school. Himachal Pradesh Board of School Education raises the bills to this department.

During the year 2007-08, total 1, 35,038 students have been benefited under this scheme. With the establishment of Directorate of Elementary Education, the scheme up to class 8th is now being implemented by Elementary Education Department. Free text books for class 9th and 10th students hence forth will be given by the Secondary Education Department. A fresh proposal of free text books for class 11th and 12th students of above categories is being sent to the Government.

10. Free education to Handicapped Children: This scheme has been started during 2001-2002, free education to the children having more than 40% disability is being provided up to University level. This scheme is being continued during 11th Five Year Plan. Free residential schools with infrastructure with specific needs for handicapped children will be opened at least in every district in the 11th Five Year Plan.

11. Language Development: This is a State scheme to provide Grant-in-Aid (GIA) to Sanskrit Academy. The total budget provision of Rs. 3697.73 lakhs has been proposed for Language Development during the Eleventh Five Year Plan 2007-2012 which includes Rs. 215.00 lakhs for GIA to Sanskrit Academy and Rs. 700.00 lakhs for GIA to Non-Government Sanskrit Colleges. The Department has proposed to open 2 New Sanskrit Colleges in Kullu and Kangra districts.

12. District Institutes of education and training (DIets): The Joint Secretary, MHRD, Department of School Education & Literacy, Governemnt of India, New Delhi vide D.O. No. F. 43-5/2005-EE.9, dated 8th November, 2006 has intimated that this scheme will be subsumed in Sarva Shiksha Abhiyan (SSA) and will be eligible for Central assistance on SSA pattern i.e. on 50:50 basis.

13. Sarva shiksha Abhiyan: Sarva Shiksha Abhiyan (SSA) was introduced in the State during the year 2001- 02, to provide useful and relevant elementary education for all children in the age group of 6 to 14 years, by 2010 and simultaneously to bridge social, regional and gender gaps, with the active participation of the community in the management of schools.

The cost sharing between centre and the state was in the ratio of 85:15 till 2001- 02 and 75:25 till 2007, 65:35 for the year 2007-08 and 60:40 for the year 2008-09. For the year 2009-10 it was further revised to 55:45 and for the year 2010-11 and onwards it will be 50:50.

The other schemes being implemented by the SSA society in the state of Himachal Pradesh along with the various SSA activities are NPEGEL and KGBV Schemes. Main interventions under SSA are as under:

- Opening of new upper Primary Schools.
- Opening of alternate schools
- Free text books to general students.
- Provision of Education for disabled children.
- School grant for replacement of school equipments.
- Teachers grant for teaching learning material.

- Maintenance grant.
- Construction of BRC, CRC, Classrooms, toilets, boundary walls, provision of drinking water etc
- .Provision for 20 days training per teacher per annum.
- Providing of teaching learning equipments.
- Provision for research & evaluation, development of EMIS etc.
- Provision for innovative projects etc.

14. Pradhan Mantri Gramodya Yojana (PMGY): During 2000-2001, Government of India started a new programme viz. PMGY (Pradhan Mantri Gramodya Yojana). This new programme replaced the ongoing Basic Minimum Services (BMS). The programme envisaged earmarked provisions for five components of the BMS excluding PDS. As the major focus remained on Human Development which has shifted the basic approach of development planning from mere material attainment in general, and growth of per capita income in particular to planning for development of human well being. The results can be evidenced in indicators of health, longevity, literacy, environmental sustainability etc. The financing of the programme titled as PMGY through ACA was discontinued w.e.f. 1st April 2005 but the ongoing activities continued as such.

15. Technical education Quality Improvement Project: For the implementation of Technical / Engineering Education Quality Improvement Project, an agreement was signed on February, 2003 between the International Development Association (IDA) and State of Himachal Pradesh. The project aimed at Quality Improvement of Technical Education which includes institutional developments and system management capacity improvement. The total cost of the project is Rs. 8.24 crores and the project was started in March, 2003. Under this project, 90% of the total cost will be received as external assistance and 10% will be borne by the State Government as State Share.

16. Indigenisation of Rural education: The National Council of Rural Institutes (NCRI) has started considering introduction of rural higher education programmes, primarily based on the New Education (Nai Talim) concept in accordance with local needs. The people have not so far been made part of the mainstream higher education, covering research, teaching, extension and networking. With the introduction of such rural education programmes, the Panchayati Raj system will get the required strength for understanding and resolving local problems.

1.3 Approach / strategy / technology to be adopted in the sector along with any changes in approach / strategy / technology

The Government of Himachal Pradesh has opened several private Universities in the State to attract private investment and to provide better educational opportunities to the youth of the Pradesh. 'Atal Shiksha Kunj' has been established in district Solan to attract reputed educational institutions and develop it as a world class 'Education Hub'.

Government of Himachal Pradesh proposes to allocate Rs. 265 crores in 2010-11 on education in the Plan outlay apart from an allocation of Rs. 2302 crores on the non-plan side. Thus, for the education sector, a total of Rs. 2567 crores has been allocated, which is the highest ever annual budget allocation for this sector. In order to further strengthen the education structure, it is important to improve teaching quality in schools, bridge gender gaps in enrolment, reduce drop-out rates, increase gross enrolment in higher education and improve IT and English language skills.

The department of Education has decided that the Himachal Pradesh Board of School Education will not conduct the exams for the 8th Class from 2011 onwards so as to reduce the stress and anxiety in the mind of young students. The Board exam for 8th Class will be replaced by the school tests which will be based on the principles of continuous comprehensive evaluation. It is also started a State Open School under the aegis of Himachal Pradesh Board of School Education. This school would provide educational facilities to such children and people of remote areas, who could not complete their studies for whatsoever reason.

The State Government intends to strengthen the core competence of High Schools and Senior Secondary Schools in 2010-11 under the Rashtriya Madhyamik Shiksha Abhiyan. The State Government will open 5 Model Schools in educationally backward blocks, are 4 in Chamba & 1 in Sirmaur district. Government will open 5 girls' hostels in educationally backward blocks to increase enrolment of girls in the High and Senior Secondary Schools.

Technical Education has received a major boost during the last two years. Classes for IIT Mandi were started in IIT Roorkee for the academic year 2009- 10. Work at the National Institute of Fashion Technology in Kangra district is going on at a fast pace.

In order to streamline the curriculum and admissions process in the engineering and other technical institutions, the government has decided to open a new Technical University at Hamirpur.

Achievements in Education Sector in Himachal Pradesh

The state is spending a very high proportion of Gross State Domestic Produce (GSDP) on education. Allocation of resources in education in Himachal Pradesh is much higher than in Punjab, Haryana, Kerala and at an all-India level.

Other Strategy/Technology to be adopted for development of Education sector in the state is given below:

Increase retention among scheduled Castes and girls at higher levels: The economic incentives being provided will be used to ensure the arrest of the social and cultural handicaps of enrolment and retention of SCs/ girls. NGOs and Panchayati Raj Institutions need to be associated with an effective effort to initiate an attitudinal change in parents of girl children and SCs (especially in rural areas) in the districts of Chamba, Sirmaur and Kullu, to let their children continue with their studies up to the higher levels. The role of MTAs, especially for creating awareness among girls will be strengthened.

Focus on pre-service/in-service teachers' training: Efforts will be made to ensure that there are adequate trained, qualified teachers who are deployed rationally at all levels. Although orientation courses for teachers have already started, there should be more emphasis on these, so that the teachers are themselves trained with the most modern teaching methods. Such teachers will also be given post-recruitment training. Further, the in-service teachers' programme will be organised and teachers will be compulsorily deputed for refresher courses. In fact, teachers' training will be linked to their promotion. In-service teachers training programmes will be constantly reviewed and strengthened.

There will be co-ordination between DIETs and SCERTs. It is essential that SCERT should act as a key agency in the state for the professional development of teachers at school level and DIET teachers. In fact DIET and all research and training should be brought under the umbrella of SCERT.

Although the Department of Education provides for in-service training to technical/vocational teachers and the teachers

are sent on short-term and long- term training programmes in their respective disciplines, it is felt that such programmes will be strengthened for updating the knowledge and skills of the teachers to keep pace with developments and change in the IT sector. The faculty will be strengthened through modernised workshops and advanced courses. The Technical Teachers Training Institute will draw up programmes for training polytechnic teachers in the new diversified areas. Instructors do not have adequate knowledge to operate modern equipment, wherever they might have been introduced. Hence, it is important to upgrade their working knowledge in this area.

Revamp the curriculum: A special thrust is necessary to make education at elementary level useful and relevant for the children. At present, it is highly regimented with uniform courses. The state has been blindly following the national curriculum without considering the special conditions at the grassroots level of Himachal Pradesh. Hence modernisation of the syllabus with more flexibility in the choice of subjects is recommended. The curriculum framework should be based on a combination of compulsory and flexible subjects, giving the children a choice to opt for subjects of their interest. It is recommended that subjects that do not have practical value in day-to-day life should be continuing review of the utility of the curriculum. The curriculum should be framed at the state-level, taking into consideration the state-specific requirements, their vocational needs, opportunities for self-employment and the requirements of the employing agencies. Vocational education and training has to be strengthened. It is imperative that the students are trained in only such occupational areas wherein self- or wage- employment opportunities are assured.

Training of the trainers: The government has decided to devolve powers and responsibilities to the PRIs. At present there are 26,532 elected representatives of PRIs and about 430 of ULBs in Himachal Pradesh. Education is one of the 29 subjects specified in the 73rd amendment to be shifted to PRIs. In this context, it is very important to initiate training of the trainers and elected representatives. In fact there should be ongoing training of the *sarpanch* and *panch* so that the trained representatives link the system of education with management and move from training to implementation.

Provision of infrastructure: Efforts must be made to bridge infrastructure gaps. Schools should also raise resources from voluntary organisations and *Panchayats*, with the state government contributing matching grants. A low-cost strategy has to be evolved for providing toilet facilities in educational institutions at all levels. The local community, in co-ordination with the government and the PRIs, should raise resources to provide all local schools with potable drinking water.

Decentralisation and community participation: The state government should take effective steps to encourage transfer of elementary educational institutions to the PRIs and urban local bodies, in order to empower the community and other stakeholders. Efforts should be made to involve the community in the development of education. In Himachal Pradesh, some powers have been devolved to PRIs, since 1996, for the inspection of primary schools, maintenance/repair of primary school buildings and monitoring the various incentive schemes. *Gram Vidya Upasaks* in primary schools have been made employees of *Gram Panchayats*. By ensuring the appointment of para teachers by *Gram Panchayats*, the state can move towards a situation where the local community appoints all teachers. Decentralisation will, however, be actually achieved only when the *panchayats*, VEDCs and UEDCs become fully autonomous to plan, manage and control school affairs, with full financial powers. It is also important to enlarge and strengthen the role and participation of PTAs/MTAs, especially for girls in schools. MTAs are already operative in the State. Their role should be

widened to counselling and adolescent education etc.

Motivate students to continue education up to higher levels and join technical/ professional courses: More boys and girls should be encouraged to continue up to higher levels and join technical and professional courses. Guidance cells, awareness and motivation programmes should be organised in schools/colleges to provide them with information about various opportunities and branches available, which could open up career opportunity for them in future in areas of their interest.

Introduction of new courses in existing engineering colleges / polytechnics / ITIs and the removal of the obsolete ones: In order to bring about an improvement in job opportunities for vocational and technical students, it is essential that a prior assessment of locally available and emerging occupations should be made and such courses should be offered to students as will come under the purview of these occupations. The new courses, suggested by the empirical data should be studied and rationalised and then introduced and the obsolete ones should be removed.

Promote interaction between industry and institutions: There is a need for closer industry- institute interface to improve quality and productivity of industry and increase employability of the students passing out from the Industrial Training Institutes. Although government is taking steps to promote interaction between industry and institutions, through good representation of industry in the managing committees of educational institutions, the empirical data reveal that so far there has only been formal paper correspondence between industry and technical training institutions. The interaction is limited only to factory visits during training.

To reduce the mismatch between the demand and supply of skilled manpower, it is imperative that there is participation of industry in curriculum designing itself so that courses are framed according to the local need and requirement of the industry. Technical training institutes should have a cell, where people are guided to set up their own enterprises. For this, instructors should be invited from the industry to participate in such programmes. Experts should be invited from industry to deliver special lectures on selected topics in ITIs/polytechnics. At least three-month in-plant industrial training should be provided for all the engineering trades, to make the trainees familiar with the industrial environment. Seminars should be regularly organised to create awareness of modern technology among students. Educational tours and training in industries should be made compulsory and the period for such training increased. Experts from industries could be involved for maintenance of machinery and equipment at technical training institutes. Educational institutions could also arrange courses to update the knowledge of practicing engineers.

These objectives will be facilitated if the Institute Managing Committees (IMCs) are empowered. Such initiative was undertaken by DGET and CII, which proposed to constitute a separate IMC for each ITI having representation of Industry, State Directorates, Principal of ITI, senior faculty member of ITI, student representatives, District Employment officer etc. ITI Solan from Himachal Pradesh was also selected as part of pilot project. The role and responsibility of IMCs included generation and utilisation of resources, students' selection, examination supervision, faculty evaluation, teaching aids, MIS system, placement, faculty and staff development, equipment maintenance, curriculum revamping, transfer of faculty etc. The steering committee was also formed to monitor the performance of IMCs. Formation of such IMCs needs to be strengthened in Himachal Pradesh.

Monitoring placement of students: Placement cells should be opened and

strengthened in every institute and tracer studies should be carried out regularly on placement of students passing out of the training institutes.

Upgradation of polytechnics and ITIs: The empirical data clearly bring out the fact that the present number of technical institutions is adequate. The respondents stressed the importance of improving the quality of the existing institutes and upgrading a few of them where trades/ courses/ disciplines as per the need of hour could be introduced so that the low percentage of admission seekers in technical/professional education could be increased.

The major drawback of technical education in Himachal Pradesh, as pointed out by majority of the respondents, is the lack of industries. Polytechnics and ITIs are far away from the industrial belt. If ever government proposes to open more Institutes, then they should be located in industrial hub Paonta Sahib in Sirmaur district or Baddi in Solan district were suggested for establishing polytechnics.

Provision of funds for maintenance and repair of machinery: The current government allocation for technical education is Rs. 1,786.01 lakhs. Funds provided under the World Bank assisted project are being utilised to meet the shortage of equipment in the technical institutions. There is, however, no money demarcated for repair and maintenance. It is suggested that five per cent of the cost of machinery be made available for their maintenance and repair. There is a very strong recommendation for starting new courses on maintenance of machinery in the polytechnics and ITIs.

Pooling of resources: AICTE should be approached to consider allowing pooling of resources-faculty, library and lab by technical institutions situated at the station.

Change procedure for admissions in professional and technical institutions: No weightage is given to marks obtained in 10+2 examination. During the 10+1 and 10+2 stages students hardly attend any classes in their colleges/schools. On the other hand, almost all of them take tuitions and prepare for various entrance tests. Students have lost the habit of attending classes, or doing practicals etc. A very strong recommendation has emerged from the empirical data that some kind of weightage should be given to the marks attained at 10+2 level, for admission to professional, technical and other institutes.

Monitoring and evaluation: An institutionalised mechanism for regular inspection and monitoring and follow-up needs to be established. An appraisal of teachers and heads must be initiated. It is recommended that at least one inspection per year from the Directorate of Technical Education in the Training Institutes is essential.

1.4 Stakeholder Involvement in Environment Preservation and Restoration

Stakeholder involvement in environment preservation and restoration can be assessed based on environment education imparted at primary, middle, secondary & college level and the literacy rate at each level. Therefore, the following sections describe district wise literacy rate at each level.

1. Bilaspur: According to 2001 census, the overall literacy rate in Bilaspur district was 78.80% which is almost at par with the state literacy rate. Of the total literates in the district, only about 6% are graduates and above. This shows that though there is high literacy in the district, the level of education is limited to only school education and higher learning is not wide spread. The district has a good network of primary and secondary schools run by the government to provide basic education to the

local population. Apart from this, the district has about five ITI offering 378 seats indifferent technical and vocational trades. The district does not have any polytechnic or engineering college for high level technical education.

2. Chamba: According to 2001 census, the literacy rate in Chamba district was 63.73% which is lowest in Himachal Pradesh due to low level of female literacy rate in rural areas. The district has a good network of primary and secondary schools run by the government to provide basic education to the local population. Apart from this, the district has about seven ITI / ITC offering 538 seats in different technical and vocational trades. The district also has two government polytechnic with 160 seats but no engineering college.

3. Hamirpur: Hamirpur has the highest literacy rate in Himachal Pradesh which is 83.16%. The total literates in the district are, only about 5% are about 5% are graduates and above. This shows that high literacy in the district corresponds to primary, middle and secondary school education with limited focus on higher education. The district as well distributed network of primary and secondary schools run by the government to provide basic education to the local population. Apart from this, the district has about sixteen ITI / ITC offering 1000 plus seats in different technical and vocational trades. The district also has one government polytechnic with 210 seats and National institute of Technology with 340 seats for high level technical education.

4. Kangra: According to 2001 census, the overall literacy rate in Kangra district was 80.6% making it the most literate district in the state. The district has a good network of primary and secondary schools run by the government to provide basic education to the local population. Apart from this, the district has about Twenty Three ITI / ITC offering 1546 seats in different technical and vocational trades. The district has one government polytechnic with 160 seats but no engineering college for high level technical education.

5. Shimla: According to 2001 census, the literacy rate in Shimla district was 79.68%. Apart from government run primary and secondary schools, the district has about Eleven ITI / ITC offering 888 seats in different technical and vocational trades. The district also has one government polytechnic (100 seats) but no government engineering college for high level technical education.

6. Sirmaur: According to 2001 census, the literacy rate in Sirmaur district was 70.85% which is low compared to other industrialized districts in Himachal Pradesh. The district has network of primary and secondary schools run by the government to provide basic education to the local population. Apart from this, the district has about seven ITI / ITC offering 512 seats in different technical and vocational trades. The district also has one government polytechnic with 120 seats and one private engineering college for high level technical education.

7. Solan: According to 2001 census, the literacy rate in Solan district was 77.16%. Apart from government run primary and secondary schools, the district has about Ten ITI / ITC offering 808 seats in different technical and vocational trades. The district also has one government polytechnic (160 seats), one private polytechnic (300 seats) and three private engineering college for high level technical education.

8. Una: Una is the second most literate district in Himachal Pradesh with a literacy rate of 81.09%, according to 2001 census. The district has well- spread network of primary and secondary schools run by the government to provide basic education to the local population. Apart from this, the district has about Sixteen ITI / ITC offering 544 seats in different technical and vocational trades. The district also has one government polytechnic with 160 seats

and one private engineering college for high level technical education.

9. Lahaul and Spiti: According to Census 2001, the district has a literacy rate of 73.1%. However, there is a wide disparity with male literacy at 82.76% and female literacy at 60.94%. The district has a reasonable infrastructure of primary, middle and high schools. However, for higher education, students have to move out to other districts in the state as no centres of technical education are present. The district has two ITIs at Udaipur and Kaza respectively. The district has 15 seats allotted throughout the state which is the main reason for low enrolments witnessed in these ITIs.

10. Kinnaur: According to Census 2001, the district has a literacy rate of 75.11%. The district has relatively fewer educational institutes with 190 primary schools, 37 middle schools, 40 high and senior secondary schools and 2 colleges.

11. Kullu: The district has a fairly well distributed network of schools and colleges and has literacy rate 73.36%. Kullu district also has Western Himalayan Mountaineering Institute (WHMI) also known as Department of Mountaineering and Allied Sports. The institute provides training courses in various adventure sports such as mountaineering, trekking, skiing and white water rafting.

12. Mandi: The district has a fairly literate population with a literacy rate of 75.86%. The district has a good network of educational institutions including schools and colleges.

The district wise literate population and enrolled students in educational institutions in the state of Himachal Pradesh is given in table 61 and table 62 respectively. For development in education sector, the role and responsibility of Zila Parishad, Panchayat Samiti and Gram Panchayat has been identified and the same are presented in table 63.

Table 61: District wise Literate Population in Himachal Pradesh (2001)

Sr. No.	District	Literacy status		
		Persons	Male	Female
1	Bilaspur	235,245 (78.8%)	129,542 (87.13%)	105,703(70.53%)
2	Chamba	249,680 (63.73%)	154,267 (77.2%)	95,413 (49.7%)
3	Hamirpur	298,498 (83.16%)	152,537 (90.86%)	145,961 (76.41%)
4	Kangra	940,505 (80.68%)	500,383 (88.19%)	440,122 (73.57%)
5	Shimla	504,330 (79.68%)	293,745 (87.72%)	210,585(70.68%)
6	Sirmaur	274,643 (70.85%)	163, 415 (79.73%)	111,228 (60.93%)
7	Solan	332,410 (77.16%)	199,444 (85.35%)	132,966 (67.48%)
8	Una	312,278 (81.09%)	168,450 (88.49%)	143,828 (73.85%)
9	Lahaul & Spiti	73.17%	82.76%	60.94%
10	Kinnaur	NA	NA	NA
11	Kullu	73.36%	84.55%	61.24%
12	Mandi	587884 (75.86%)	331171(86.67%)	256713(65.36%)

Source: Census 2001

Table 62: District wise Enrolled Students in Himachal Pradesh

Sr. no.	District	Primary school	Middle school	High school	Colleges
1	Bilaspur	26,901	19,447	20,103	4,866
2	Chamba	56,615	29,058	23,449	3,828
3	Hamirpur	28,643	21,598	33,691	7,400
4	Kangra	104,304	69,657	87,457	16,816
5	Shimla	64,897	40,288	46,194	14,000
6	Sirmaur	48,999	32,532	23,968	3,409
7	Solan	43,616	27,862	34,577	5,181
8	Una	38,480	25,769	28,257	6,180
9	Lahaul & Spiti	NA	NA	NA	NA

10	Kinnaur	NA	NA	NA	NA
11	Kullu	NA	NA	NA	NA
12	Mandi	96,353	58,145	30,557	11,927

Source: Government of HP, 2005-06

Table 63: Role and Responsibilities of Zila Parishad, Panchayat Samiti and Gram Panchayat

Education Department		
Zila Parishad	**Panchayat samiti**	**Gram Panchayat**
1. To assess the requirement of High School teachers, equipment etc. in the district and plan for them.	1. To supervise the functioning of the middle schools.	1. Ensure full enrolment of school-age children in primary schools.
2. Supervision and monitoring of the quality of education services.	2. Supply and distribution of material and equipments to the middle schools.	2. Maintenance of primary school buildings, play grounds etc.
3. Campaign for full enrolment and reduction of drop outs.	3. To assess the dropout position and initiate appropriate action to reduce it.	3. Vigilance on regular attendance of primary school teachers and non-teaching staff and students reporting to the concerned authorities.
4. Assessment of requirement for hostels of targets group students and plan for them.	4. Distribution of middle school uniform, books and other materials to the target group students.	4. Assist primary schools in the distribution of study material to the target group students.
5. Supervision of distribution of high school uniforms, books etc. for target group students.	5. Assist in the maintenance of hostels of middle schools.	5. Supervision of mid day meal scheme.

1.5 Critical environmental issues associated with the sector

1. Inadequacy of environmental science / engineering as main subjects at secondary and tertiary level: The state has inadequate education in environmental science / engineering at bachelor's and master's level. Non equivalence of existing degree/diploma in the environmental science / engineering domain has direct repercussions on the absorption/ employability in the state and outside. Further, the specific courses in the domain of environment science and environment management are not adequate. The employment opportunities and potential after completion of existing courses is also not being fully utilized and/or not available in the state. Development of specialized courses in the specific subject areas for instance energy conservation will assist in development of state's capacity both in the area of environment and climate change and also improve employability of the graduates and post graduates with knowledge of specific subject areas both with in and outside the state.

2. Inadequacy of coverage on environment as a major subject at secondary, tertiary / technical education curriculum at state level: Besides, trainings/short term courses as per requirement of Industries/ ULBs/other stakeholders, for instance on effluent treatment (operation and maintenance), waste management etc. is inadequate.

3. Inadequacy of trained teachers / staff for environmental education in the state at primary, secondary and tertiary levels: Himachal Pradesh does not have dedicated environmental science / engineering as a subject area both at secondary level. There is dearth of trained teachers / staff related to the subject area because of inadequacy of courses in environment education at degree/diploma.

4. Inadequacy of funding for environmental education infrastructure: Funding for vocational education in India is mainly focused

on the public system. Besides, inadequate transparency with regard to available funding exacerbates this issue. The allocation of funds to organisations is not currently performance based, and as such no incentives exist for the improvement of quality in public training or to encourage enterprises to train their staff. Also, there is inadequate support from the business and industries groups in the state to support environment education and related infrastructure.

Though high end industries, universities and Himachal Pradesh Pollution Control Board has laboratory infrastructure, education institutions in the state have inadequate infrastructure for environmental education.

5. Inadequacy of awareness / capacity and training for new / emerging environmental issues e.g. waste from ICt / It sector, climate change mitigation and adaptation:

6. Major issues in vocational training e.g. upgradation to address environmental issues: The major issues identified by the various commissions and groups, which require early attention are:

- 6 Mismatch between skills requirement of the world of work and those produced by the National Vocational Training System e.g. emerging areas on cleaner technologies / cleaner production.
- s Requirements of modern high-tech industries and services sectors are not properly taken care of.
- s Inadequate involvement of stakeholders in the design and implementation of training programs.

7. Inadequacy of funds for upgradation of vocational training / secondary and tertiary education institutions: Inadequacy of funds to upgrade its diploma and engineering colleges is one of the major constraints to impart / upgrade environmental education system.

8. Inadequate Research and Development linking environment and industries: Research at Post graduate, Doctoral and Post Doctoral studies is not being adequately taken up.

1.6 Environmental initiatives taken by the sector to address critical environmental issues

A field survey carried out by Centre for Research in Rural & Industrial Development (CRRID) in the year 2002. Field survey data shows that the majority of the respondents feel that the number of courses offered is not only inadequate but also of low relevance. This policy calls for review or reframing of courses to meet the current demands so that more and more children could be diverted towards technical education. Table 64 gives details of the courses to be given priority and added as demanded by the technical department authorities, teachers and students.

Table 64: Branches to be given priority and Added at the Degree Level

Branch/Course to be given Priority	Branch/Course to be Added
Electronics and Communication, Computer Engineering, Mechanical.	Instrumentation Engineering
	Chemical Engineering
	Environmental Engineering
	Production Engineering
	Automobile Engineering
	Bio-technology
	Textile Technology

Source: Field Survey, CRRID, 2002.

The majority of the respondents in the field survey wanted the focus at the degree level to be on mechanical, electronics and communication and computer engineering.

The empirical data also revealed that majority of the respondents wanted civil engineering to be completely scrapped off. However, keeping in view the needs of the development of the vast hydro potential available in the state, it is felt that civil engineers would be required.

Hence, the course should not be scrapped off but its intake should be limited. Hydrology as a part of civil and electrical engineering should be retained and encouraged, particularly to meet the needs of the power projects. Also courses in civil engineering should be modified to consist of construction in earthquake- prone areas.

The respondents further felt that the scope for diversification was very wide, keeping the local demand in view. According to them additional courses, such as instrumentation engineering, chemical engineering, production engineering, environmental engineering, automobile engineering, textile technology and biotechnology should also be introduced at the degree level.

People in Himachal Pradesh still have a great interest in government jobs for security reasons and fear to venture out to start their own enterprise. The scope for government jobs has, however, narrowed. Industries are still in developing mode in Himachal Pradesh. Also industrial trainings which are being given are insufficient with respect to the requirement in the market. This mismatch inhibits self-employment. They are also afraid of being unable to repay the loans. It is necessary to take urgent steps to harness the vast human potential which Himachal Pradesh has and which can be overcome by reducing the gap between demand and supply of trained manpower and changing the mindset of the people so that they feel more confident to start their own enterprise.

Himachal Pradesh is rich in green wealth and have a comparitively clean environment, therefore there is a good scope for the development of biotechnology industries. It can focus on the optimal management of its forest vegetation, along with diversification of farming for value addition to fruits, vegetables, and flowers. There is a large potential for biotech products and trade in biopharmaceuticals and agriculture-based food products, both for the domestic market and export. Hence, there is full justification for a biotechnology course to be added to the engineering syllabus, to train the manpower for tapping the potential of this industry. The majority of the respondents in the field survey specifically suggested that this particular branch of study should be added.

Similarly, the state has 23,230 MW of hydel power potential and only 30% of it has been harnessed so far. Harnessing of the huge unutilised potential would require setting up many large, mini and micro hydel power plants. This would call for a large human resource with skills to use new knowledge-based environment friendly tools in the power sector.

Environmental engineering courses should also be introduced. There is a good potential for non-polluting and environment-friendly industries in Himachal Pradesh. Its realisation calls for training of technical manpower in precision engineering at both degree and diploma level, involving such courses as watch making, perfume making and winery. Industries and courses dealing with herbal medicines and herbal cosmetics could also be encouraged. Tourism, horticulture, sheep and goat rearing are the other potential areas, which need to be tapped. There should be orientation towards hill topography and so a course on Hill Architecture can also be started. There is a need for studies and surveys to determine the actual potential of the courses identified so that they could be introduced as per their priority in the state of Himachal Pradesh. Initiatives taken by department of Technical Education are given below in table 65 & 66.

Table 65: Initiatives Taken by Department of Technical Education/Industrial Education Wing

S.No.	Principal	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
1	Capacity Building of ITI's	Incremental increase in capacity of ITI to 4000 primarily through introduction of shift system in Shimla, Mandi, Kangra and Hamirpur.	Industrial Education Wing		Capacity building initiative
		Increase in intake for motor vehicle mechanic in ITI Bilaspur.	Industrial Education Wing		District Development Report
		Introduction of Motor driving and Heavy Equipment Operator Training in ITI Bilaspur.	Industrial Education Wing		
		Introduction of courses under SCVT particularly aimed at hydro power technicians / operators	Industrial Education Wing	NPTI/ PMI	
		New courses to be introduced at ITI Chamba in the area of hydel power generation such as blasting, concreting and earth moving equipment.	Industrial Education Wing	NPTI	
		Introduction of courses in ITI Hamirpur in the area of fruit processing and pinestry.	Industrial Education	Department of Agriculture	
		Introduction of craftsmen food production and steward under the NCVT system or modular employable skills in select ITI's.	Industrial Education Wing	Leading Hotel Chain	
		Food craft training in cooking, baking and bartending after class XII to be started under SCVT certification in collaboration with leading hotel chain in ITI Shimla.	Industrial Education Wing	Leading Hotel Chain	
		Preservation of fruits and vegetables, refrigeration and air-conditioning mechanic with focus on HVAC technology in ITI Shimla	Industrial Education Wing		
		Commissioning of ITI in Shoghi itself with focus on engineering trades such as Electrician, Wireman, Sheet Metal Worker, Welder and Plumber. Increase the intake for Machinist, Refrigeration and Air-conditioning mechanic, electronics mechanic in other ITI in the district.	Industrial Education Wing		
		Maintenance courses for spinning and weaving machines as well as captive power plants to be introduced for Fitters in ITI Sirmaur Fashion Technology trade to be started under NCVT in ITI Sirmaur Weaving courses with specific focus on weaving preparatory activities to be started under SCVT in ITI Sirmaur.	Industrial Education Wing	Leading Textile company	
		Food technology to be started in few	Industrial	In association	

S.No.	Principal	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
		ITI's in Sirmaur district.	Education Wing	with CFTRI Mysore	
		Commissioning of new engineering trades under NCVT such as Mechanic, Electrician, Wireman, Sheet Metal Worker, Refrigeration and Air-conditioning Mechanic, Auto Electrical and Electronics in ITI Sirmaur. Increase the intake for existing courses such as fitter, turner, Plastic Processing Operator in the existing ITI. Certain course level changes to be implemented such as training on CNC machines, Arc and Submerged welding for Welders, CAD/CAM for electronics and mechanical trades.	Industrial Education Wing		
		Upgradation of ITI Solan with modern equipment such as modern welding and CNC machines	Industrial Education Wing		
		New trades to be introduced in ITI Una for motor mechanic, automobile engineering and electronics.	Industrial Education Wing		
		Training of local manpower in short-term courses such as blasting drilling, heavy earth moving machinery and concreting.	Industrial Education Wing		
2	Creating Market Awareness	Short term exchange programme (duration of 4 to 6 weeks) with leading educational institutions and companies in India		Leading Institutions / Campaign's	Employability focussed skill development initiative
		Participation in World Skills Competition which focuses on vocational training and facilitates learning and benchmarking of vocational education. Over 40 trades are currently available in the competition. This initiative would be co-ordinated through CII.			Employability focussed skill development initiative
3	Skill Assessment and Monitoring	Identification of assessment agency. Identification of students. Testing. Administration. Review and Monitoring.	Industrial Education Wing	Industry Department	Employability focussed skill development initiative
4	Improving course curriculum	Propose introduction of following specialisation as part of regular courses in tourism, agri-procurement, IT/ITeS, Tourism, Light Engineering, Construction and Textiles.	Industrial Education Wing		Employability focussed skill development initiative

Table 66: Initiatives Taken by Department of Technical Education/ Technical Education Wing

S.N.	Principal Initiatives/ Principal Initiatives/ Focus	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
1	Capacity Building of Polytechnics and Engineering	Incremental increase in capacity of polytechnics to around 3000 in select polytechnics in Shimla, Solan, Sirmaur, Mandi, Chamba and Kangra (primarily through shift system). Incremental increase in capacity of engineering colleges to 1500 primarily through introduction of shift system.	Technical Education Wing		Capacity building initiative
		Opening up of drivers training institute in Bilaspur.	Technical Education Wing	Department of Transport and Leading OEM's	District Development Plan
2	Introduction of new courses	Diploma in Power to be started in Government Polytechnic in Bilaspur.	Technical Education Wing	NTPI	District Development Plan
		Supervisor / Operators Training for Hydro and Power Systems can be started under direct certification by NTPI / PMI who offer such training to fresh diploma engineers.	Technical Education Wing	NPTI	
		Introduction of computer science at Government Polytechnic College, Chamba.	Technical Education Wing		District Development Plan
		Textile Chemistry courses to be started in Polytechnic / Private Engineering Colleges, quality techniques and time and motion studies to be included in engineering courses. Introduction courses in polytechnics in the area of Instrument Mechanic for Chemical Plant, Laboratory Assistant, Refrigeration and Air-conditioning Mechanic for pharma and chemical companies. Diploma in Pharmacy to be started at Government Polytechnic, Nahan.	Technical Education Wing		District Development Plan
		Increase the intake for plastic processing operators in Sirmaur.			
		Quality techniques to be made an integral part of the engineering degree / diploma courses across all specialization.	Technical Education Wing	Lead Quality Certification Agency	District Development Plan
		Introduce automobile engineering course at Government Polytechnic College, Una.	Technical Education Wing	SIAM / Leading OEM	District Development Report
		Collaboration of NHPC with Govt Polytechnic to train local population in semi-skilled jobs such as operation of earth	Technical Education Wing	NHPC	District Development Plan

S.N.	Principal Initiatives/ Principal Initiatives/ Focus	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
		moving equipments and heavy machinery.			
3	Creating Market Awareness	Short term exchange programme (duration of 4 to 6 weeks) with leading educational institutions and companies in India.	Technical Education Wing		Employability Focussed Skill Development Initiative
4	Skill Assessment and Monitoring	Identification of assessment agency Identification of students.	Technical Education Wing	Industry Department	Employability Focussed Skill
		Testing. Administration. Review and Monitoring.	Technical Education Wing		Development Initiative

Table 67: Initiatives Taken by Department of Education

Sr. No.	Principal Initiatives/ Principal Initiatives/Focus	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
1	Introduction of new courses	Introduction of basic computer literacy, communication and personality improvement courses at Government Degree College, Chamba so that students can be imparted skills required in BPO companies.	Department of Education		
		Compulsory inclusion of computer education in government schools for XI and XII students with a basic functioning knowledge of operating systems.	Department of Education		
		Computerisation of government colleges and introduction of computer training in specific BPO processes for different courses. ***Bachelor of Commerce***: Revenue Accounting and MIS, Insurance Claims Processing, Tele-marketing for financial products. ***Bachelor of Science***: Medical Transcription. ***Bachelor of Arts***: Customer Support for credit card, telecom services, consumer durable. Bachelor of visual communications. ***Bachelor of Science:*** Animation, Media etc., ***Bachelor of Arts:*** Journalism. To invest in computer labs and voice training labs in the colleges.	Department of Education		District Development Plan
		IATA / UFTAA certification in ticketing, tour planning and pricing for school drop-outs after class X in Shimla, Solan and Sirmaur.	Department of Education	Department of Tourism	District Development Plan
2	Creating Market	Short term exchange programme (duration	Department		Employability

Sr. No.	Principal Initiatives/ Principal Initiatives/Focus	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
	Awareness	of 4 to 6 weeks) with leading educational institutions and companies in India.	of Education		Focussed Skill Development Initiative
3	Skill Assessment and Monitoring	Identification of assessment agency. Identification of students. Testing. Administration. Review and Monitoring.	Department of Education	Industry Department	Employability Focussed Skill Development Initiative

1.7 Environment Related Studies Carried Out in the Sector

In Himachal Pradesh, many studies are carried out in environment sector. Survey carried out by CRRID in the year 2002 indicated that Environmental Engineering is one of the branches which need to be given priority and included at degree level. There are many Environmental Impact Assessment (EIA) studies which have been carried out for various sector e.g. hydro- electricity, water resources, mining, industries, oil & gas and construction in Himachal Pradesh (HP), which can be used for environmental education.

1.8 Institutional mechanisms with-in the sector to address identified environment issues

A. Department of Technical Education, Vocational & Industrial Training**the technical education, Vocational & Industrial training Department is headed by the Director, technical education, Vocational & Industrial training, at the Directorate level. she/he Director is assisted by 1 Joint Director, 2 Deputy Director, 1 Head Compete Curriculum Centre, 2 technical officers and 1 Asstt. Director. the existing institutional framework of Department is shown in Figure 1 and responsibilities of the officers are described below:-**

Director: Director of Technical Education, Vocational & Industrial Training being administrative and professional head of the Department in the State is responsible for the efficient working of his department; exercise all administrative and financial powers as adjoined upon the heads of the department in the Himachal Pradesh Government.

Joint Director: Joint director is responsible for Policy Planning, Administration, Appointment / Confirmation of Staff, Creation of Posts / Transfers and Promotions , Framing of R&P Rules for all categories, General Inspection, Annual Administration Report / Assembly Business / Rules of Business and Procurement of Machinery & Equipment.

Deputy Director (training & Placement): Deputy director is responsible for Apprenticeship Training (Polytechnic), Liaison with Rural Development Agencies, Transfer of Rural Technology, Placement of trainees, Science & Technology, Opening of new Institutions (Degree Level and Diploma level), Inspection / Affiliation and supervision of Institutes (Polytechnics & Engg. Colleges) and Prospectus / Admission (Polytechnics & Engg. Colleges).

Deputy Director (training): Deputy director is responsible for Inspection and supervision of Institutes (ITIs), Prospectus (ITIs), Admission (ITIs), Student Welfare (ITIs), Strikes (ITIs), Examination, Sports and other curricular activities (ITIs) and Introduction of New Programmes/Opening of New Institutions (ITIs).

Assistant Director: The files to be put to the Deputy Director (T) are routed through Assistant Director (T).

Head (Composite Curriculum Development Centre): Head (CCDC) is responsible for Designing new curricula, Review of existing curricula and Technical Education Quality Improvement Programme, World Bank Assisted Project.

Technical officers: Technical Officers mainly assist Head of Department (CCDC) for designing curriculum and review of the curriculum and other duties assigned from time to time by the superiors.

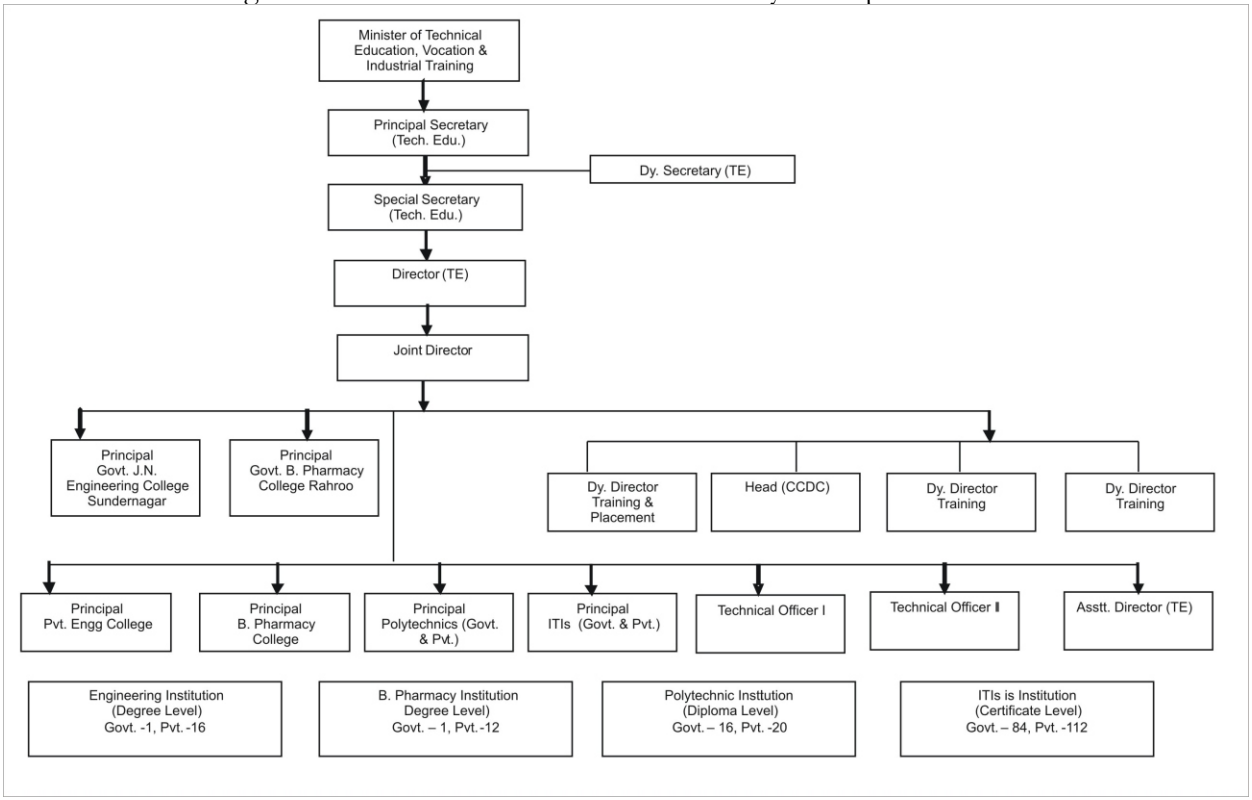


Figure 1: Organisational Chart of Technical Education & Vocational Training Department

A. Department of Higher Education

The Department of Higher education is headed by the Director, Higher education, at the Directorate level. Director is assisted by Additional Director (schools), Additional Director (Admin) and Additional Director (Colleges). the existing institutional framework of Department is shown in Figure 2 and responsibilities of the officers are described below:-

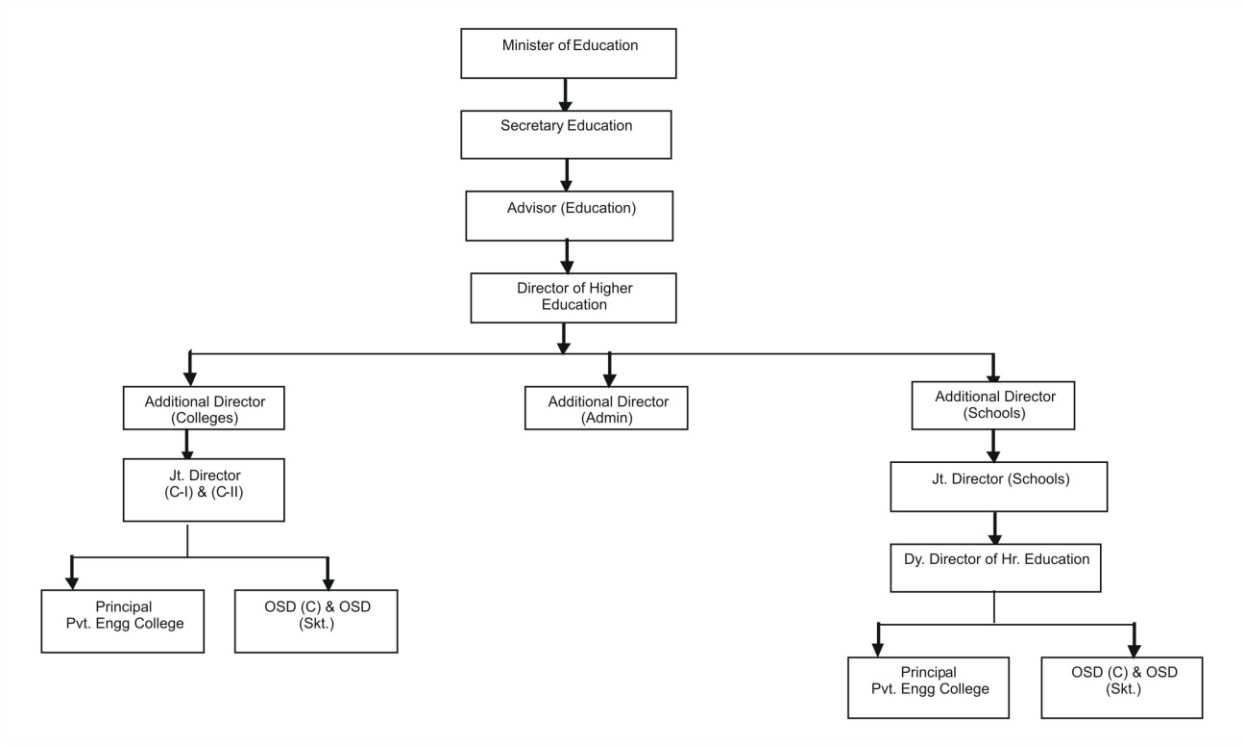
Director: Director of Higher Education being administrative and professional head of the Department in the State is responsible for the efficient working of his department; exercise all administrative and financial powers as adjoined upon the heads of the department in the Himachal Pradesh Government.

Additional Director (schools): Additional Director is assisted by Joint Director (Schools) and Joint Director (Admin) is responsible for Policy Planning, Appointment/Confirmation of Staff, Creation of Posts/Transfers and Promotions , Framing of R&P Rules for all categories, General Inspection, Annual Administration Report/Assembly Business/Rules of Business and Procurement of Machinery & Equipment.

Additional Director (Admin): Additional Director is assisted by Joint Director (F&A). Additional Director is responsible for Creation of Posts/ Transfers and Promotions , Framing of R&P Rules for all categories, General Inspection and Annual Administration Report.

Additional Director (Colleges): Additional Director is assisted by Joint Director (Colleges-I), Joint Director (Colleges-II) and Principals of Government Colleges. Additional Director is responsible for operation and management of all government colleges.

Deputy Director(s) of education: Deputy Director responsible for Transfers and Promotions, Framing of R&P Rules for all categories, General Inspection, Annual Administration Report / Assembly Business / Rules of Business and Procurement of Machinery & Equipment.S



B. Department of Elementary Education

The Department of Elementary Education is headed by the Director, Elementary Education, at the Directorate level. Director is assisted by Additional Director (Admin) Joint Director (Admin), Deputy Director (Admin), Joint Director (Schools), Deputy Director (Schools), Assistant Director (Schools), Joint Director (F&A), Assistant Director (Law), Registrar and Deputy Director at District Level. The main responsibilities of Department of Elementary Education are to manage the Elementary Education System in Himachal Pradesh; to exercise Administrative & Financial control over its various functionaries/offices comprising of District/Block Offices, DIETs and Primary and Upper Primary Schools/Units in the State; to implement policies relating to Elementary Education in the State and to implement centrally sponsored schemes as well as the State Plan & Non-Plan Schemes in the field of Elementary Education.

Based on the above institutional structure, gaps have been identified within the existing

institutional framework which is described in Institutional Mechanism report (Volume 5). Further, institutional responsibilities to implement actions identified and approved by the nodal department and line departments have also been described in volume 4. In order to address environmental issues identified in section III, a number of interventions are required from the nodal department with identified line departments.

1.9 Information on human resource management issues (which may have relevance to environment management) in the sector such as: manpower, vocational training, awareness levels etc.

Status of Teaching Staff as on 31/10/2007 ADPEOs and DPEs

Sr. No.		Sanction Strength	Para Teachers	Post filled (Including Para Teachers	Vacant
1	ADPEOs	13	-	10	3
2	DPEs	1080	93	701+227 =928	152

Status of Teaching Staff (College Cadre)

20	Category	Sanction Strength	Para Teachers/ Contract/ PTA	Post filled (Including Para Teachers	Vacant
1	Principals (C)	67	-	62	5
2	Principals Skt.(C)	5	-	5	0
3	Lecturer (C)	2756	142 Para-teachers	1358	1258
4	Lecturer Skt (C)	35	-	8	27

Status of Teaching Staff (School Cadre)

Sr. No.	Category	Sanctioned Strength	Para Teachers/ Contract/PTA	Posts Filled (Including Para teachers)	Vacant
1	Principals (S)	1176		536	640
2	Lecturer(S) +Vocational	14522	556(P) 626(C) 2199 (PTA)	6279	4862
3	Yoga Teachers	26	NIL	23	03
4	Coaches	7	NIL	7	NIL
5	ADPEO's	14	NIL	07	07
6	Aero Mod. Instructor	1	NIL	1	NIL
7	Ship Mod. Instructor	1	NIL	1	NIL
8	Librarian	46*	NIL	31	15
9	Asstt. Lib.	543*	NIL	167	376

*This includes 266 posts of Science Lecturers in schools where Science has not been started.

** Includes 236 posts of HMs in GSS Schools (both sanctioned & vacant posts).

Non Teaching Staff

Sr. No.	Category	Sanctioned Strength	Ports Filled	Contract	Vacant
1.	AO	1	0	-	1
2.	EO/Registrar	8	3	-	5
3.	Pvt. Secretary	1	1	-	0
4.	Supdt. Grade-I	40	37	-	3
5.	Supdt. Grade-II	1019	909	-	110
6.	Statistician	1	1	-	0
7.	Legal Assistant	1	1	-	0
8.	Senior Assistant	1527	864	-	663
9.	Clerks	2606	1676	33	897
10.	Steno Typist	9	9	-	0
11.	Jr. Scale Steno	3	3	-	0
12.	Drivers	43	25	-	18
13.	Record Supervisor	1	0	-	0
14.	Gest. Operator	1	0	-	0
15.	SLA	83	26	-	57
16.	JLA	149	64	-	85
17.	Tabla Vadak	48	12	10	26
18.	Store Keeper	37	9	-	28
19.	PA	2	2	-	0
20.	Sr. Scale Steno	9	9	-	0
21.	Mechanics			-	
22.	Daftari	1	1	-	0
23.	Lascars (Dying Cadre)	20		-	20
24.	Restorers	2	2	-	0
25.	Class IV (Peon-Chowkidar)	7242	6568	-	674
26.	LA	56123579	3579	-	2033
27.	whole Time	1223	983	-	240

Sr. No.	Category	Sanctioned Strength	Ports Filled		
	Contigent Paid				
28.	Part Time Water Carrier	1444	1126	-	318
29.	Part Time Sweeper	569	358	-	211
30.	Peon (On contract)	378	190	-	188
31.	Carpenter	1	1	-	0
32.	Lib. Bearer	208	163	-	45
33.	NSS Incharge	1	1	-	0
34.	Librarian	63	54	-	9
35.	Asstt. Lib.	892	178	-	714

1.10 Regulatory analysis to identify any regulations that have environment implications (negative or positive), and compliance with the same.

Education Acts, Policies, Rules and Plans: The Government of India's and state government has many policies acts, and rules related to education for development in education sector. Some of these are given below.

- National Educational Policy 1986
- National Policy on Education 1968
- National Institutes of Technology Act 2007
- All India Council for Technical
- Education Act 1987
- Apprenticeship Act 1972
- Apprentices Act, 1961
- SSA / MSS / BBS / CSC / IEDC /IRDP / CTS / ATS Schemes
- The Himachal Pradesh Private Educational Institutions (Regulation) Act, 1997
- The Environment (Protection) Act, 1986
- E-Waste (Management and Handling) Rules 2010
- Hazardous Wastes (Management and Handling) Rules, 1989
- The Air (Prevention and Control of Pollution) Act 1981/1987
- National Action Plan on Climate Change
- National Policy on Information and Communication Technology
- (ICT) In School Education
- University Grant Commission, 1956

Reference

- Department of Elementary
- Education.
- Department of Higher Education.
- Department of Technical Education.
- Census of India-2001.
- Department of Planning.
- Department of Health.
- Districts Statistical Abstract.

CHAPTER 2 INFORMATION TECHNOLOGY & TELECOM

2.1 Resource inventory of existing assets of the sector

Information Technology (IT) refers to an entire industry. Information technology involves the usage of computers and software and telecommunication to manage information. The information technology department of a state is responsible for storing information, protecting information, processing the information, transmitting the information as necessary, and later retrieving information as necessary. Information technology (IT) is a knowledge-based industry, with the potential to become an engine of accelerated economic growth, productivity improvement, provide efficient means of governance and holds large employment potential and provides new opportunities to tackle problems related to rural poverty, health, illiteracy and environmental degradation.

In Himachal Pradesh, Department of IT was created in the year 1999 vide notification No. GAD (CC)-5-2/71 dated 18th November, 1999 and was merged in Industries Department in the year 2002. IT Department was delinked from Industries Department & merged in Science & Technology Department including Bio-Technology in the year 2004. The subjects of Biotechnology and Science & Technology were delinked from IT on 13th April 2007 and an independent IT Department came into existence again.

The Department strives for:

- Encouraging investments in the IT sector industries in the State.
- Facilitating the establishment of IT institutes and improving the quality of IT education in the State.
- Using IT tools to ensure a SMART (Simple, Moral, Accountable, Responsive and Transparent) Government.

Functions of Information technology Department

Formulation and Implementation of the Information Technology Policy in the state. Introduction of automation and cyber control systems so as to ensure faster information processing within Government, including projects and activities relating to e-Governance.

Promotion of investment in Information Technology Sector (hardware, software and services-particularly ITES and BPO) and related activities and creation and upgradation of Information Technology infrastructure in the State.

Assistance in development and implementation of software packages for monitoring of key parameters and computerization of thrust areas in different departments and semi Government organizations.

Creation of Government-Public Interface through unified service delivery channel by using Information Technology and Information Technology enabled infrastructure and also to launch awareness campaigns on the advantages of the use of Information Technology and related technologies in enhancing the standard of living and improving quality of life.

Standardization of hardware/software platforms for the departments/ organization and to ensure dynamic monitoring of their prices and minimization of wasteful expenditure.

Administrative control of Himachal Pradesh State Electronics Development Corporation.

Formulation of strategy for a State wide Internet.

Development of Information Technology related communication infrastructure.

Assistance to the departments/semi government organizations in creating and updating websites.

Promotion of Information Technology Education and training in educational institutions and government departments/semi- government organizations and facilitation of development/ dissemination of educational software and promoting programs in Information Technology enabled education.

Organization of various promotional activities like national/international conferences/seminars and participation in the same.

Follow up of Information Technology related projects/schemes posed to government of India and its agencies and also other players in this field in India as well as abroad.

Facilitating establishment of Venture Capital Fund by financial institutions for growth of Information Technology industry in the state.

Identification of laws and rules, which need to be modified or enacted to enable legal validation for transaction and also to develop specific Cyber-Coding for ensuring and maintaining secrecy and also to act as nodal agency/authority on behalf of the State Government for matters relating to Information Technology Act and similar other central and state legislations.

Maintenance of database for all Information Technology related material and human resources available in the state.

Infrastructure for IT

1. Excellent Telecommunications Infrastructure

The State has an excellent telecommunications infrastructure established by the Department of Telecommunications. All the Telephone exchanges in the State are digital exchanges and are interconnected to each other.

2. Optical Fibre Connectivity (OFC)

Almost all the cable used in the telephone network of the State is optical fibre cable. The State has one of the highest density of OFC penetration per unit area as compared to any other State in India. All the Districts in the State except Lahaul & Spiti have the capability of having 2Mbps connectivity. All the Block headquarters have a minimum connectivity of at least 33Kbps.

3. Built-Up Space for IT Industries

Around 174 acres of Government land is available for the IT Sector Investments with the necessary infrastructure in terms of approach road, power and water in District Solan along the Kalka-Shimla national highway and about 25 kilometers from Shimla.

4. Airports

The three existing airports in the State at Shimla, Kullu and Kangra have been geared to cater to increased communication.

5. IT Educational Institutes

Availability of skilled personnel is an additional advantage in Himachal- Pradesh/ Shimla. Details of the Universities, Colleges, Schools and IT related Private institutes are given below.

A. General Overview

1. Universities – 4, IT University (JUIT) - 1, Engineering Colleges (Including NIT) – 5, UIIT, Shimla, Polytechnics-30 and ITIs -84.
2. More than 50,000 graduates, diploma-holders and certificate holders registered in Employment Exchanges in Civil, Electrical and Mechanical branches only.

3. Computer Teaching and Computer Aided learning in more than 700 Schools Throughout the state.
4. Computer labs being set up in all colleges (26 completed out of 70) for hands on training and BPO/ITES training.
5. IT Training being provided to all State Government Employees.

B. Institutes of Information Technology

1. Himachal Pradesh University, Shimla
2. National Institute of Technology, Hamirpur
3. Engineering Colleges- (Three Institute of Engineering and Emerging Technologies, Baddi, Green Hills Engineering College, Kumarhatti)
4. IITT College of Engineering, Kala Amb (All affiliated to the Himachal Pradesh University, Shimla)
5. Thirty Polytechnics
6. 84 ITIs
7. 67 Govt. Colleges
8. A large pool of Primary, Middle and High school located all over the state.

C. Tie-Up with the University of California

The Jaiprakash Sewa Sansthan has set up a world class Institute of Information Technology in Rachhiana, District Solan, about 33 KMs from Shimla. The Institute, have an academic tie-up with the University of California at Berkley, is sprawled over an area of about 23 acres. The Institute has state-of-the-art facilities and offers undergraduate and postgraduate courses, besides the need based short term ones.

D. Open University for IT

The Manipal Academy of Higher Education has proposed to set-up an open University of IT in the State. The University with its headquarters in Shimla and study centres all over the State is envisaged to spread IT education in all the main Cities.

E. IT Education in Schools

The State Government has introduced IT education in certain selected senior secondary schools in the State. The reputed private training institutions will impart the education.

The state government has taken an initiative in this direction by introducing IT and computer education from classes IX to XII in 536 senior secondary schools in the state through a tie-up with ECIL, Hyderabad; MIAECT, Mumbai; and DOEACC, Shimla.

NASSCOM has projected a target of Rs. 20,000 crores for the IT industry in the state, which may be achievable if the State is decisively proactive.

Table 1 describes courses offered in the state, while table 2 describes infrastructure supporting, IT in the state.

Table 1: Universities/ Institutes offered courses related to IT in Himachal Pradesh

Sr. No.	University/ Institutions	Courses offered
1.	Jaypee University of Information and Technology (JUIT), Waknaghat, Dumehar Bani ,Solan,	B.Tech M.Tech Doctoral Programme B.Tech (Information Technology) B.Tech (Computer Science & Engineering) M.Tech (3 year duration) Doctoral Programme (Ph.D. 3-5 Years) B.Tech in Biotechnology and Bioinformatics M.Tech in Biotechnology(Dual Degree) Doctoral Programmes (PhD.)

Sr. No.	University/ Institutions	Courses offered
		B. Tech (Civil Infrastructure Engineering) M.Tech (Optical & Wireless Communication Technologies-OWCT- 2 Years) B.Tech (Information Technology, Electronics & Communication Engineering, Computer Science & Engineering, Biotechnology, Bioinformatics, Civil Infrastructure Engineering) M.Sc.Tech (Industrial Mathematics – 3 years) Doctoral Programme (PhD) 3-5 Years

Table 2: Number of Post Offices and Telephone Connection in Himachal Pradesh

Year/District	Post Offices					Telephone Connections and Telegraph Offices	
	Head Post office	Sub-post office	Branch post office	Branch sub post office	Total post Offices	Telephone Connections	No. of Telegraph offices combined offices
			2008-09			2005-06	
Bilaspur	1	28	117		146	25725	20
Chamba	1	25	196		222	19733	25
Hamirpur	2	49	172	2	225	45323	47
Kangra	4	99	538	9	650	112390	98
Kinnaur	1	12	59		72	9608	8
Kullu	1	25	129		155	30513	12
Lahaul & Spiti*	1	7	38		46	2355	5
Mandi	2	53	309	4	368	69606	22
Shimla	2	65	282	2	351	83153	43
Sirmaur	1	15	157		173	25654	25
Solan	1	31	152		184	53107	25
Una	1	34	149	1	185	40458	33
HP Total	**18**	**443**	**2298**	**18**	**2777**	**517625**	**366**

6. IT Industry

The IT industry can be divided into three categories: 'A' - Software Product and Technology Services; 'B' - IT Services; and ' C' - IT Enabled Services (ITES). For categories 'A' and 'B', the qualifications required are MS/M.

Tech/B.Tech in Computer Science, MCA or B.Tech from the non-computer stream with training of one to two years in specialised IT technologies. For category 'C', the qualifications required are BA/B.Sc/ B.Com/MA/M.Sc/ Diploma/ITIs with a specialised six months training in ITES.

Categories 'A' and 'B':NASSCOM (National Association of Software and Service Companies) has projected a turnover of Rs. 12,500 crores by 2009-10 for these two categories. Based on the Ministry of Information Technology, Government of India's (MIT) Report, for achieving this turnover, it could be estimated that 38,000 IT engineers would be required to achieve this target.

Out of 660 degree holders, table 3, only one-third would be available for the IT industry in the state. These could be direct IT graduates and those from other engineering fields opting for the IT industry after getting required IT specialised training.

Table 3: Number of IT institutes, Courses and seats in Himachal Pradesh

Level of the Programme	Institution		Intake		No. of Courses
	Govt.	Self Financing	Govt.	Self Financing	
Degree	1	2	240	420	7
Diploma	7	—	820	—	11
Certificate Course	54	5	2839	276	36

Source: Technical Education Quality Improvement Programme of GoI, Himachal Pradesh State Report for Appraisal Mission, June 2002, Department of Technical Education, H.P.

Taking into consideration the existing capacity and assuming a growth of 20%, new seats in the existing engineering colleges every year, new graduates from the Jaypee Institute of Information Technology, and the possibility of setting up at least one new engineering institute in the state every year, the total number of IT engineers graduating in Himachal Pradesh is about 10,000 by 2009-10 against the requirement of 38,000 as per the NASSCOM projections. Therefore, the growth in this segment of the IT industry is slow as it has a longer gestation period.

For achieving a target of 10,000 IT engineers in categories 'A' and B' by 2009-10, the state has to play a very proactive role in promoting and brand building the IT industry in the state. Such companies as Infosys, Wipro, HCL, TCS and multinationals must be encouraged to set up their development centres in the state. The training of faculty should be ensured to meet the required standards, through their interaction and exchange with institutes of higher learning in India and abroad.

As also recommended by NASSCOM in their Vision 2010 report, the state must set up an IIIT for creating a high quality education hub. This will have far reaching multifarious effects on the state's higher education system. A beginning has been made in the private sector by setting up the Jaypee Institute of Information Technology.

Category 'C' Ites: It Enabled services, such as Medical Transcription, Call Centres, Data Processing, Back-Office operations, GIS, Revenue Accounting are niche areas in the sector. It has emerged as a key engine of growth for the Indian IT industry and the technology-led services industry.

The employment potential in ITES is large and the gestation period is less as compared to the other categories of the IT industry. The success of ITES mainly depends on the quality of personnel and infrastructure. Knowledge-based skill-oriented training is the key to the quality of personnel. ITES, to succeed, requires top-class infrastructure with adequate bandwidth, fault-free and continuous power with two layers of redundancy to avoid any breakdown. Segment-wise skill sets required for different services under the ITES industry is given below:

Table 4: Segment-wise skill sets required for different services under the ITES industry

Sr. No.	Segment	Skill set Required
1	Customer services	Language, accent
2	Data processing	Computer literate
3	Human resource	HR skills, legal
4	Remote education	Domain knowledge
5	Engineering design	Domain knowledge
6	Translation & localisation	Language
7	Medical transcription	Computer literate, medical knowledge
8	Animation	Creative, computer literate
9	Finance	International/country-specific accounting
10	Web hosting	Computer literate
11	Market research	Knowledge of MR, statistics
12	Network consulting	Computers, LAN

Source: Mahindras Reality and Infrastructure Developers Ltd. Feasibility Report by Cushman & Wakefield, March 2000.

The NASSCOM report has projected a turnover of Rs. 7500 crores by 2009-10 for this category in Himachal Pradesh. This would require 92,000 ITES trained personnel. Presently, Himachal Pradesh enrolls about 30,000 graduate students annually. Even if one-third of them are given, special ITES-related training in their final year, the maximum number of students available would be 5000 taking into consideration the average pass ratio of 50%. Further, assuming an annual increase of 20%, the total number available would be 36,000 by 2009-10.

For achieving this target, the development strategy would be to train the trainers. 500 teachers from the existing Arts/Science graduate colleges have to be trained by 25 ITES-expert trainers for a period of six months. These 500 teachers, after successful training would serve as the resource persons for training the graduates starting from 2004-05 onwards. Private institutions should also be encouraged to prepare the students for the ITES industry. Table 5 describes a list of IT industries in Himachal Pradesh.

Table 5: List of IT Industries in Himachal Pradesh

Sr. No.	Name of Industries	Sr. No.	Name of Industries
1	Lenovo	18	Sukam
2	Microtek	19	Wep Peripherals
3	TVS Electronics	20	Samtel
4	Cellebrum	21	HECL
5	HFCL	22	Sai InfoSystem (India) Pvt. Ltd.
6	Shoghi Communications	23	NIIT GIS
7	Himachal Networks	24	Saraswati.com
8	Intex Technologies	25	eSys Information Technologies
9	Tritronics	26	Select Technologies Limited
10	Opteck Disk Manufacturing Co.	27	Digital Vision Technologies Ltd.
11	Jupiter Innovations	28	Continental Power Industries
12	Myco Electricals	29	Advance Industries
13	Media Masters	30	Cirrus
14	India Card Technology	31	Gomti Optical Discs (India)
15	ACRI Infotech	32	LIPI Data Systems
16	Instablog Network Service	33	Kaynes Technology
17	Altruist Technologies Private Limited		

Source: Department of Information Technology, Himachal Pradesh

2.2 Patterns of planning and development in the sector

Setting-up of IT Industry: The State Government would encourage flow of investments including FDI and would provide full support wherever required. The State Government will offer customized package of incentives for prestigious investment proposals, e.g., projects where total investments are more than Rs. 10 Crores or if a Fortune 500 company is implementing the project. All such proposals shall be received by Department of Information and Communication Technology for approval on case-to-case basis on merit. For Mega Projects, with investment exceeding Rs.100 crores, Government may consider Special Package of Incentives, on a case to case basis, based on the gestation period of projects, pioneer nature of projects, locational aspects, state-of-the- art technology, profitability, scope for further related investments etc. HPSEB has also endeavored to ensure uninterrupted supply of power

NASSCOM's Projections: With a coordinated action plan by the Government and Industry, NASSCOM had projected that the IT software and services industry in the State of Himachal Pradesh can grow at an accelerated pace to achieve an annual revenue of Rs.20, 000 crores (US$ 4.7 billion) by year 2009-10, which could be as much as 4-5% of the projected turnover of US$ 100 billion of the Indian software and services industry in that year.

Out of the Rs.20,000 crores of projected revenue from IT software and services industry for Himachal Pradesh in 2009-10, it is expected that Rs.14,000 crores would come from exports and Rs.6,000 crores from the domestic market. The expected break-up of this export is given in table 6.

Table 6: Breakup of exports

Exports from H.P.	Projections 2009-10
IT Enabled Services	Rs. 5,500 crores
Software Products	Rs. 500 crores
E-Business	Rs. 3,000 crores
IT Services	Rs. 5,000 crores

The break-up of Domestic market of IT software and services is estimated below in table 7.

Table 7: Breakup of domestic IT

Exports from H.P.	Projections 2009-10
IT Enabled Services	Rs. 2,000 crores
Software Products	Rs. 500 crores
E-Business	Rs. 1,500 crores
IT Services	Rs. 2,000 crores

Even revised estimates based on manpower belonging to Himachal Pradesh only and after accounting for a 'hit ratio' of 1:10 show that a figure of Rs. 5000 crores per annum can be achieved by the year 2010-11.

Establishing IT Institutions:

- Software technology Park and earth station: A modern Software Technology Park (STP) and an Earth Station is being established in Shimla under the Software Technology Parks of India (STPI) scheme of Ministry of Information Technology. This Park will have modern facilities including high-speed communication facilities, plug and play built up modules etc. The aim was to achieve an annual target of IT Software and Services exports of at least Rs. 2000 crores from this STP by the year 2005. The Earth Station will meet the high- speed telecommunication needs of the IT sector and will provide international bandwidth for Internet.
- **Hi-tech Habitats:** In order to promote the growth of IT all over the State, it is imperative that hi-tech habitats are built in and around all major towns. Such space would be extremely useful to promote the growth of IT enabled services - a sector that holds the promise of providing jobs to millions. The State Government shall endeavor to set up hi-tech habitats at Shimla, Solan, Hamirpur, Baddi, Parwanoo, Kullu, Mandi and Dharamshala by 2002. Hi-tech habitats would also be built at more locations (if required) in a phased manner.
  The State Government encourages Internet Access through cable TV network in line with the approved policy of Government of India. HPSEB would consider for grant of permission to ISPs for putting the cables over HPSEB's transmission line structures on mutually agreed and negotiated terms and conditions.
- **Policy on Right of Way:** The State Government will separately announce its policy on right of way along all the highways/other roads in the State for the telecommunication sector.
- Himachal Pradesh government will establish an international convention centre with facilities to host international IT exhibitions, seminars and conferences.
- **Knowledge Corridors:** The state government will facilitate the coming up of two knowledge corridors as follows:
  Baddi-Parwanoo-Solan-Shimla Knowledge Corridor.
- Shimla-Hamirpur-Dharamshala-Chamba Knowledge Corridor.
  Across these corridors, high density
- Internet / telecom connectivity will be provided for schools, colleges, industries etc. This will encourage education, employment and investment in the state

IT Park: Approximately 106 acres (530 Bighas) land is located midway between Shimla (Capital of Himachal Pradesh) and Solan (about 23 kms. from either side and less than 80 kms. from Chandigarh) very close to National Highway 22. This land has been specifically earmarked for IT Park. The land is split into 5 blocks of varying sizes as per following details:

1. Approximately 71 acres (353-15 Bighas) Mauja Majhol. The said land is around 5/6 Km from highway, near Kiarighat.
2. Approximately 9 acres (45-16 Bighas) at Moja Dumehar. The said land is on highway, near Waknaghat.
3. Approximately 13 acres (66-14 Bighas) at Moja Dumehar. The said land is about 3 Km from Highway near JUIT.
4. Approximately 32 acres 80-12 Bighas at Moja Dumehar. The said land is around 5 Km from highway, on link road from Waknaghat near JUIT.
5. Approximately 12 acres 61-15 Bighas at Moja Dumehar. The said land is about 8 Km from highway, on link road from Waknaghat ahead of JUIT.

Strengths and Areas requiring attention in Himachal Pradesh: The NASSCOM's survey discovered that Himachal Pradesh is uniquely positioned to exploit its inherent as well as inculcated plus points for furthering IT in the State. The major advantages include:

- Excellent power situation.
- Salubrious climate eminently suitable for IT industries.
- Proactive attitude of the State Government.
- Extremely well developed road network.
- Capability to increase the pool of skilled manpower, engineering
- Colleges and other educational institutions.
- Good educational facilities for dependents.
- Very high quality communication infrastructure particularly Optical Fiber
- Connectivity in even remote areas.
- Low cost involved in setting up of an IT
- unit as well as low recurring cost (including cost of living).
- Good quality of life and well developed hospitality industry.
- Presence of national banks/financial institutions.

According to NASSCOM, IT Software, ITES and BPO will emerge as key areas in development of Himachal Pradesh. The aforesaid points along with fiscal incentives also make Himachal Pradesh an attractive location for IT hardware industry.

NASSCOM recommended the State Government to create a state of the art infrastructure for an IT Park, so that IT units can move in immediately to start their operations. It also suggested upgradation of airports to improve communication.

Strategy for 11th Five Year Plan

1. HIMSWAN: A State Wide Area Network (SWAN) to connect Himachal Pradesh Secretariat, with all the districts, blocks, tehsil and sub-tehsils is being established. SWAN will be used for delivering the services vertically down to tehsil level. Besides it would also provide horizontal connectivity to all Government Departments for which funds would be required for procuring equipment to provide horizontal connectivity and last mile connectivity like Wi-Max etc.

2. Computerisation of Line Departments: Department of Information Technology is engaged in Computerisation of various Government Departments and it advises various departments in implementing computerization in their offices using an integrated approach. Besides working as consulting agency IT department is also

providing them hardware for their computerization. The achievements of IT department are as under:

PCs/Servers and software have been procured for Line Departments like Election, Police, Welfare, Urban Development, DC Offices, Home Guards, Himachal Pradesh Secretariat, Chief Architect Office, Food ,Civil Supplies & Consumer Affair, Labour & Employment, Prosecution, Administrative Tribunal, Department of Prosecution, and Municipal Corporation Shimla in the year 2006. About 40 line departments have not so far been covered to fulfill their requirements of hardware.

Department of IT has made several rate contracts for hardware/ software and various electronic equipments (with 3 and 6 years warranties) of renowned companies through open tenders. The department has been successful in getting lowest rates among the rate contracts of various State Governments, NICSI and DGS&D.

In future also the Department of IT will continue to provide computer hardware, software and accessories to the line departments on the basis of priority of services being rendered by them to the citizens

3. IT City/Park: In order to promote the growth of IT all over the State, it is imperative that hi- tech habitats are built in and around all major towns. Such space is extremely useful to promote the growth of IT enabled services -a sector that is providing jobs to millions. The department has identified locations for hi-tech habitats at Waknaghat. Nalagarh, Raja- Ka-Bagh, Nagri and Dalhousie. The funds provided under plan would be used for building of infrastructure for these IT Parks.

4. Recurring Expenses under HIMSWAN: Funds to the tune of Rs. 1184.00 lakhs are needed to bear the one time charges and recurring charges for a period of five years under HIMSWAN project. Though HIMSWAN is being established with the financial assistance of Govt. of India, recurring expenditure like bandwidth charges, maintenance of necessary equipment required to be installed for leased line connectivity (STM-l. OFC), electricity charges, stationary, printer toners etc. are to be borne by State IT Department, for which provision in the plan has been made.

5. Establishment of Data Centres under HIMSWAN and their operation cost: Data centre has to be established to host state-wide application at a centralized location. Government of India has issued draft guidelines for the establishment of State Data Centre. As per guidelines, funding for core infrastructure would be borne by the Government of India and the state government would provide 4000 sq. feet space (which includes civil & electrical works etc.), recurring expenditure like electricity charges, stationery, printer toners etc. The data generated via various client/ server and web-based software applications from districts/ tehsils etc. would be kept in data centres. The operational cost of these data centres includes the salaries of system administrator, stem analysts, data base administrator and security specialists among other staff would be met from the provisions made.

6. Ongoing Projects in Himachal Pradesh

1. State Portal and State Service Delivery Gateway: The Project is about e- submission of applications/ forms and status enquiry for application through the gateway.

2. Public Distribution System: The project is being implemented in coordination with NIC initially in Shimla urban and Mashobra block from state funds. The Detailed Project Report regarding computerization of PDS has been sent to Govt. of India for funding. The Project would be implemented in pilot locations and

subsequently it will be rolled out in parts of the state.

3. Financial Accounting System: The objective of the computerization is to help in efficient processing of information and automatic generation of accounting documents for saving time, bring about accounting discipline, cost efficiency, better monitoring of financial health of institutions and follow up on actual performance. By doing this, all the accounts related information will be readily available. This will result in faster decision making. The task is being taken up by Department of Information Technology in synergy with HPSEDC.

4. Revenue Court Computerizations: The aim of this project is to computerize the revenue courts down to the tehsildar level. The web application will be developed to enhance the online filling of revenue cases. This will generate cause list and facilitate the citizens to check their status of cases online. Therefore, the monitoring of revenue case will be effective and efficient.

5. Rollout of Sugam Centres: Sugam project has been implemented in Shimla district successfully. There is a plan to rollout the project to other districts as well, whereby similar centres with requisite infrastructure will be established at District, Sub- division and Tehsil levels for delivering Government services to the citizen in an integrated manner under a single roof.

6. Call Centre: It is proposed that a government call centre would be created in collaboration with a private agency already working in this field where citizens can put their queries and complaints concerned to the government departments. It is also proposed that a Service Provider may be selected through open tenders**.**

7. SMS Gateway: Mobile phones provide a medium for most interactive, real time, secure and personalized connect with the citizens. This facility would enable the departments to send SMSs to citizens or Government officials either individually or in bulk thereby creating a medium for effective interaction between Government to citizens and Government to Government, so that exchange of information and access to Government department services is speedy and easy. SMS gateway will be established for sending messages to citizens and government employees regarding services and meeting notices etc.

8. Litigation Monitoring System: A Web based Software for monitoring of court case proceedings at department level has been developed. It provides comprehensive, reliable and one stop source of information about all the department wise on going cases in different courts. Department can take remedial actions by reducing delays. Benefits of the system are generating reminders for next hearing of case, monitoring of the case, readily available status of court case so that, department can file response well in time.

9. Implementation of e-Government Procurement: E-Government procurement (e-GP) has been identified as one of the Mission Mode Projects (MMP) as a part of NeGP. This MMP is being implemented to ensure that government procurement becomes simplified, transparent and result-oriented. Ministry of Commerce, Government of India has selected Himachal Pradesh as a Pilot State under Mission Mode Project at a National Level. Price water house Coopers (PwC), consultant for e-Government Procurement, has conducted assessment study in following 9 department/ corporations:

1. PWD
2. IPH
3. HRTC
4. HPSEB
5. Forest
6. Food & Civil Supplies
7. Industries

8. Health
9. HPSEDC

PwC has forwarded case study of e-GP initiatives undertaken by other states to showcase the benefits accrued due to e-Procurement and also the business and implementation models.

10. Himachal Pradesh Public Service Commission / subordinate services selection Board: Online submission of applications needs to be introduced for different type of exams being conducted by HPPSC/SSSB. Besides this, all results need to be hosted on HPPSC / SSSB websites. HAS exam is now available for online filling.

11. MilkFed Computerization: Since it is a citizen centric activity, there is a need to have end to end solution to enable easy milk collection at village level and to keep record of amount payable to the farmers for the milk they sell. Experience of other agencies indicates that Punjab Milk Federation is using COBOL based system for billing and payroll. Tally is being used for Financial Accounting. SAP based ERP is being used in Milk Union Ludhiana. Gujarat Cooperative Milk federation has computerized 7000 AMCS which includes milk collection, milk testing, payment to farmers and linkage with respective member union. Further, they are planning to implement Systems; Applications & Products in data processing (SAP) based Enterprise Resource Planning (ERP) solution for integration with member dairies. It is expected that MilkFed will computerize its system based on their requirement and experience of other agencies.

12. Vigilance: Vigilance Software is being developed by IT Department. Training to department users has also been imparted. Some more changes have been suggested in the Application and the same is being done. Online complaints/Information module has been developed and demonstrated to officials of the department.

13. Town & Country Planning, Urban Development and Municipal Corporation Computerization: All these departments are expected to be computerized for their efficient functioning.

14. Electrical Inspectorate: A web based software named Electrical Inspectorate Management System (EIMS) has been developed by Department of Information Technology for the Department of Electrical Inspectorate. The software has been implemented in the department. The software is being used for data entry related to firms and hotels in the state with the essential parameters of electrical installation, challan details etc. This database maintains information like electrical installation, service voltage provided, no. of DG sets, transformers, their capacity & voltage, inspection schedule, re-inspection schedule and challans information regarding fee deposited by the entities.

15. Temple Computerization: The main objective of computerization of Temples is to bring uniformity in the accounting systems of various temple trusts thus making it more effective and accountable. This would also support the administrators in ensuring better financial control and management of the temple. Each temple in the state has implemented accounting systems independently thereby lacking uniformity. Due to this, it becomes difficult for the Department of Language Art and Culture as a nodal agency to prepare a compiled report on working of temple trusts annually. The proposed computerization will also bring IT enabled services such as donations through payment gateways and information about the temples and various services extended by the temple trusts to devotees through temple website.

16. E-BITS: The aim of this project is to provide BPO/ ITES skills training to students of Himachal Pradesh. M/s Dewsoft has been selected as service provider for this project.

17. State Information Commission (SIC) Under this project it is proposed that a software application would be developed for SIC which will enable the citizens to register online complaints or appeals under the RTI act.

2.3 Technology adopted in sector along with any changes in technology

Information Technology HIMSWAN: The State Wide Area Networks (SWAN) Scheme is one of three Core Infrastructure Components. The objective of the Scheme is to create a secure close user group (CUG) Government network for the purpose of delivering Government to Government (G2G) and Government to Citizen (G2C) services. The scope of project is to provide connectivity to Government Offices up to Block headquarters in Himachal Pradesh. HIMSWAN has been designed in such a way that it is expandable in future vertically (i.e. down to the Panchayat/ Village level) to cover Common Service Centres (CSCs) and horizontally (i.e. all offices/ locations within the same location). The Department of IT, Himachal Pradesh has designated Society for Promotion of IT and e-Governance (SITEG) as the implementing agency.

Integrated Community Service Center (i-CoSC) is in the process of implementation with a vision to set up one-stop shop information resource and service center for the citizens of Himachal Pradesh.

Setting up of 3366 Common Services Centers: The Government has approved a Common Service Centres (CSCs) scheme for providing support for establishing 100,000plus Common Service Centres across 600,000plus villages in India. The scheme as approved by the government of India, envisions CSCs as the front-end delivery points for Government, private and social sector services to citizens of India. In an integrated manner the funds received till dates are Rs. 19.98 crores out of which Rs. 12.00 lakhs has been spent. In Himachal Pradesh, 3366 centres are to be established under CSC scheme in 3,243 Panchayats. The objective is to develop a platform that can enable Government, private and social sector organizations to align their social and commercial goals, especially for the benefit of the rural population in the remotest corners of the country through a combination of IT-based as well as non-IT-based services. This scheme will be extended through two private companies i.e.Zoom Developers in Kangra and Terasoft & GNG in Mandi/ Shimla division.

SUGAM: i-CoSC (Sugam) plays an important role in providing services at the doorstep of rural community by bringing all citizen related services and information under a single roof cutting across different tiers of administration. The unique feature of this project is that the submission of documents and collection of required certificates/ licences etc. can be done even at a place other than the one where sanction is to be done (except where physical presence is necessary as per law). Mainly following services are being provided through these centres: Transport: Vahan – Vehicle registration, Saarthi – Driving licence, Bus booking & Time table; Election: Voter registration and Voter Id; e-Praman/Certificates: Caste, Domicile, Senior citizen, Income, Backward area, Legal heir, SC/ ST, OBC; Revenue: HimBhoomi-Land records forms, Land record Nakal/ Jamabandi, HimRis-Property registration; Utility: Electricity bills, BSNL telephone bills; REFNIC - Reference Monitoring of Files; AGMARKNET- Agriculture commodity prices; District authorities: Arms Licence; Police Complaints; e-Pehchan: Senior citizen identity card, Disability identity card; Labour and Employment: Vacancy listings, Employment exchange registration; Tourism: Hotel reservation, Tourist Information.

Community Service Centers (CSC) named as LokMitra Kendras

The Government of India has approved a Common Service Centres (CSCs) scheme for providing support for establishing 100,000plus Common Service Centres across 600,000plus villages in India. The objective is to develop a platform that can enable Government, private and social sector organizations to align their social and commercial goals, especially for the benefit of the rural population in the remotest corners of the country through a combination of IT-based as well as non-IT-based services. This scheme is being extended through two private companies i.e. Zoom Developers in Kangra and Terasoft & GNG in Mandi/ Shimla division. The agreement has been signed with these companies. Himachal has the distinction of one of few states in the country where this scheme has started.

SMS Gateway services: The SMS Gateway Services have been started in Himachal Pradesh by Department of Information Technology, Government of Himachal Pradesh M/S Spice Digital Limited has been finalized as the Service Provider for the SMS Gateway Services and the process of establishing the SMS Gateway has been completed. The charges per SMS will be 8 Paise up to 5 lakhs in a month and 5 Paise in case number increases beyond 5 lakhs as a whole in a particular month.

There will be two types of facilities available for sending the SMSs. These facilities are given below.

Facility to send bulk messages to group of users (citizens or Government Employees) in one step. This facility may be utilized for sending notices for the meeting and information to general public.

Facility to send SMSs regarding the specific service to individual users (citizens or Government Employees) as per requirement. This facility may be used initially at all the SUGAM centres for sending SMSs regarding status of the service when the same is ready for delivery or there is some deficiency in the documents submitted by the citizen.

There will be facility of storing the Mobile numbers and message templates in the application which is available online on the internet.

State Data Centre (SDC) Himachal Pradesh: Under National e-Governance Plan (NeGP), State Data Center (SDC) has been identified as one of the core supporting components to consolidate services, applications and infrastructure to provide efficient electronic delivery of Govt. to Govt. (G2G), Govt. to Citizen (G2C) and Govt. to Business (G2B) services. These services can be rendered by the states through common delivery platform seamlessly supported by core connectivity infrastructure such as State Wide Area Network (SWAN) and Common Services Centre (CSC) connectivity extended up to village level.

Hospital Management Information System (HMIS): HMIS project is a state initiative to provide better health services to the Citizens of Himachal Pradesh. The scope of the project includes computerisation of the routine activities of the hospital and to keep track of patient record/ Medical history right from his registration to his discharge/ leaving the Hospital. The database is also useful for doctors from the research point of view. Disease surveillance can be done using the reports of this software. IGMC is among the few health institution in the country where such system has been implemented. IT Department is helping Health department to roll out the project in 20 other hospitals of the state.

Benefits to the Citizens: HMIS would have following benefits for the citizens:

1. Medical History of the patients is being maintained through this application which would help the doctors to treat the patients.
2. Citizens are getting better services as the OPD slips are being issued in respective OPDs as against one counter previously
3. All the record related to the patient treatment/ diagnosis/ etc is being fed into the system
4. Various reports need by the HODs/ IGMC administration are available instantly which used to take even 15-20 days.

Vigilance Complaints Monitoring System (VCMS): The main objective of State Vigilance & Anti Corruption Bureau (SV&ACB) module is to facilitate interaction between the public and SV&ACB. It provides facilities for submitting online complaints/information to the SV&ACB Police Stations.

Revenue Court Case Monitoring

- Revenue Court Case Monitoring software is developed by IT Department for the use of Revenue courts at Division, District, SDM, Tehsil level. The system has been implemented in Divisional Commissioner Shimla, DC office Shimla & Tehsil Shimla (Urban).
- Pilot implementation has been done in
- SDM Office Hamirpur.

Computer Labs for Colleges

- The Government of Himachal Pradesh is providing Computer labs to all Government colleges of the State in three Phases. In the first phase labs in 26 colleges have been set up and in second phase Computer labs in 15 colleges are being set up.
- Internet connectivity being provided through HIMSWAN. Labs in 11 colleges have been set up in phase-III and remaining 2 colleges have issued a space. The Purpose of the Project is to impart requisite IT skills to the students of various Government Degree /Post Graduate Colleges in the State. These computer labs are meant for Basic awareness of Computers to the students and for computer based assignments in scientific courses as well. These computers shall also be usedfor imparting BPO/ ITES training. However, such specialized training can be imparted only after college hours.

Software used in Different Departments of Himachal Pradesh: The following software's being used in various departments.

1. District Collectorate

Project I References Monitoring MIS

Developed in FoxBAse-2.1.1 under Unix by DIO Una: This software is developed for computerising the Central Diary and Dispatch branch of the DC office, so as to effectively monitor the receipt/dispatch of various types of letters received. Further, it helps in reducing the number of registers maintained by the Central Diary and the concerned branches in keeping track of letter(s). The software provides means to monitor the efficiency of branches and dealing-hands in processing the letters received.

Project II Copying Agency MIS

This software has been developed in FoxBASE-2.1.1 under Unix firstly by DIO Solan, later revised by DIO Una. This software is designed for the Copying Agency branch of DC office. It is monitoring the status of requests/ applications received for copy/copies of any judgment/record on a day-to- day basis from the individuals, which results in speedy disposal of copying requests.

Project III Cash Counter MIS

Developed in FoxBAse-2.1.1 under Unix firstly by DIo solan, later revised by NICHP

state Unit: Quick disposal of various Cash Receipts is the part & parcel of a responsive administration. Cash counter, which is a part of Registration & Licensing branch of the SDM's office, deals with public for receiving cash against Licenses, Registration of Vehicles, Token tax etc. The amount received is categorized into three heads: Indian Motor Vehicles Act.; State Motor Vehicles Act.; Indian Arms Act. This software has been developed for computerizing the receipts and monitoring of cash from public at these counters located in the D.C. Offices. This software help in reducing the drudgery and efforts involved in issuing the receipt-slips manually. Beside this, it also helps in tallying the account and depositing the money received in the treasury at the day-end. It also generates various other MIS reports.

Project IV Schemes MIS

Developed in FoxBAse-2.1.1 under Unixware by DIo Shimla: The DC offices receive various types of demands/proposals from Ministers, MLAs/ MPs, Government Offices, Panchayat etc. requesting financial assistance for developmental works. This software is used in order to sanction money for these proposals (which are called the Schemes when sanctioned) judiciously under various developmental heads, help of this software is taken. The physical & financial progress of the sanctioned Schemes is also monitored through this software till the scheme is fully implemented. Various query/print reports built in the Software helps in better monitoring. The software has helped a lot the district administration in sanctioning and monitoring the progress of each scheme and also to know the financial position in various heads, under which funds are received from the State/Central Government, at a given point of time.

Project V Grievances Cell MIS

Developed in FoxBASE-2.1.1 under Unixware by DIO Mandi

(a) Grievances From Individuals: This software helps the Grievances Cell in handling the voluminous number of grievances received from individuals who come to Deputy Commissioner (DC) for the redressal of their grievances. It helps in keeping a track of any grievance received and further references received for it and speedy redressal by efficiently monitoring the status of grievances received and in case of non-response from the department, automatic reminder - generation for the defaulter departments is ensured.

(b) Grievances Pertaining To Grievances Committee: This software is helpful in keeping a track of the various grievances that are taken up in the meetings of grievances committee, the replies received from the departments, the action taken by grievances committee for each grievance and monitoring of grievances which could not be resolved in the meeting, by sending reminders to the departments at regular intervals for compliance**.**

Project VI Sadar Kanungo Branch MIS

Developed in FoxBAse-2.1.1 under Unixware by DIo Kangra: This software is designed to maintain up-to-date information about the Revenue staff e.g. bio-data, family details, training attended, postings, and their transfers etc. in the District. Status of the funds released for constructions/maintenance of Revenue Building e.g. Patwar-Khanna, Kanungo Circle Bhawans, houses for revenue staffs etc., as well as the physical and financial progress thereof is also monitored through this software.

2. District Courts

Project I District Court Information System

Developed in FoxBAse-2.1.1 under Unix by nIC Headquarter new Delhi: This software provides a centralised Filing Counter for streamlining the entire activity of filing process. As soon as a case is filed at the filing counter,

the computer decides the posting of the case to a judge based on the existing procedure. It decides the posting of the case to a judge based on the existing procedure. It automatically registers the case in the District Court and produces a receipt to the litigant/advocate. At the end of each day the computer generates a list of cases filed on that day. When a case is heard by the judge, the order issued by him is entered straightway into computer by the clerk concerned. A copy of order can also be taken from the computer. This software also generates the daily cause list.

Project II Judgment information system CD-ROM (JUDIS CD- ROM)

Developed Under Unix & Windows by nIC Headquarter new Delhi:JUDIS CD-ROM is a user friendly supplement to the on-line JUDIS developed by NIC under the direct guidance of the Chief Justice of India and in active consultation with the judges of the Supreme Court. Like on- line JUDIS, it contains all reportable cases of Supreme Court of India right from 1950 onwards. JUDIS CD-ROM is available in two versions : Unix and Windows. It is highly versatile and has advanced search capabilities.

3. Treasury Department

Project I DISNIC Treasury MIS

Developed in FoxBAse-2.1.1 under Unix by NICHP State Unit: The Bills for expenditure are prepared by the Drawing & Disbursing Officers (DDOs) and presented in the Treasury for approved. The Bills are presented in the associated Bank for payment by the DDOs, after getting them approved by the Treasury. The Paid Bills are retained by the Bank, and sent back to Treasury along with their Scroll on a daily basis. The District Treasury in turns compiles and prepares the classified accounts in respect of all the payments, including the similar accounts submitted by associated Sub-Treasuries also in the District. Similar accounts are prepared in respect of Receipts also.

This software package has been developed for computerising the Compilation of Accounts (both Payments and Receipts) at the District Treasury Offices, for further submission to the A.G. Office. The data is captured in respect of Payments/Receipts at the Vouchers/Challans level. All the statutory reports for submission to the A.G. Office and for the District Treasury Office for record are generated. In the process, a very important financial database is created, which is subsequently used for generating many other MIS reports for monitoring purposes by the Finance Department and other departments.

Project II NICNET Transmission of Net Cash Outgo Data

software for data capturing directly at nICHP state Unit has been developed in "C-language" and the database support is in "oracle 7.0": All the District Treasury offices in the State transfer the figures of total receipts and total payments on a daily basis to State Headquarter. This data is directly entered into the Database residing at the NIC Himachal Pradesh State Unit, through NICNET based software, and after compilation, the daily RBI balance position is made available to the Government.

4. REVENUE DEPARTMENT Project I Land Records MIS

Developed in oracle 7.0 under Unixware by NICHP state Unit: Various documents maintained by the Revenue Authorities in Himachal Pradesh as Land Records are as follows: SHAJRA, NASB, is a pedigree table showing succession to Ownership rights occurring from time to time in an estate, prepared at the time of settlement. JAMABANDI gives information of total holding of each owner of land in a particular revenue estate. It also indicates cultivator, rent & revenue and other cesses payable on land and

an up-to-date record of various rights in land. A new Jamabandi is written every five years. MUTATION REGISTER, keeps records of the sales, purchases, lease, change in title etc. of land and are incorporated in the Jamabandi when it is rewritten after 5 years.

The software known as Land Records Management Information System (LRMIS), starts from the SHAJRA, NASB data entry, where each individual is assigned a unique code. Then the Jamabandi details are stored against each individual. Similarly when an individual concerned does any transaction then his/her detail is updated automatically with the help of mutation module. The modus operandi of data entry is that only one master Jamabandi (applicable at that time) is entered and then after wards only the changes are entered through the mutation module. This software is the only one of its kind, which not only computerizes the above mentioned Land Records documents but includes information related to Minor Irrigation, Agriculture Statistics, Land Reforms etc. also, and generates the computerised five-yearly Next Jamabandi Record automatically after incorporating the Mutations.

The system is helping the Department in streamlining the Land Records maintenance with greater accuracy and reliability, and providing other related MIS reports very easily in comparison to the manual system of doing so.

Project II Directory of Location Codes

Developed in oracle 7.0 under Unixware by NICHP state Unit: The Computerisation of the Population Census-1991 for Himachal Pradesh was done by the NIC Himachal Praesh State Unit. The Village database created in the process takes into the account only the Development related Structure i.e. it provides only District Code, Tehsil Code and Block Code, against each Village Code. Other Development and Revenue Locational Codes, which are also required against a Village for various purposes, are the Division Code, Sub-Division Code, Constituency Code, Panchayat Code, Patwar Circle Code, Kanungo Circle Code, Mauza etc. Also, the boundary of a Census Village is not sometime coterminous with its Revenue counterpart i.e. one census village may comprise of more than one revenue village, or vice-versa.

Therefore, a software has been developed to expand the Census Village Directory to incorporate additional Locational Codes, and also to take care of one (census)-to-many (revenue) villages relationship. Further, the reorganization of the locational structure, taking place from time to time, is also taken care of. The Department of Land Records also prints District- wise Village Directory, in which all the locational codes against a village are also given. In order to help them in printing this directory, the information is updated during the year and at a particular point of time the directory is printed giving complete details and summary statistics.

Project III Minor Irrigation Census

Developed in FoxBAse-2.1.1 under Unix by NIC Centre at Water Resources Ministry: NIC Centre at the Ministry of Water Resources prepared common software for all the States for computerising the Minor Irrigation Census 1993-94. However, due to some local conditions, this software was modified a bit locally to suit the needs of Himachal Pradesh. Then the data entry work from the data collected by the Revenue department was started at the NIC District Centre, by the departmental staff itself.

5. Social & Welfare Department

Project I Welfare Pension Disbursement MIS

Developed in FoxBAse-2.1.1 under Unix by Dio sirmaur, later revised by NICHP state

Unit: District Welfare Office has one of the main responsibilities of disbursing the Welfare Pensions to Widows, Old Aged, Handicapped, and Lepers. The requests from eligible pensioners are received in the DWO offices through the Tehsil Welfare Officers. The Money Orders are sent quarterly to all the pensioners, which on average are around 10000-15000 in a district (total about 1,57,000 in the whole State). Preparation of Money Orders for these many pensioners manually is a very laborious and time-consuming activity. This software has been developed for maintaining the Pensioners details and generating the Money Orders for dispatch, Quarterly. The acknowledgements are also recorded and monitored subsequently. The monitoring of returned and not received money orders is also done effectively. The financial statements required to be prepared for the money disbursed or returned etc. are also generated in the system. It also generates various other MIS reports required by the higher authorities from time to time.

6. District Rural Development Agency (DRDA) Project I RuralSoft Software

Developed in Visual Basic 6.0 using SQL server under Windows nt (server) & Windows98 (Client) Platform by NIC Headquarter Delhi: The Rural software is a GUI-based software, which has a three-tier architecture with automatic data transmission feature. The software covers all the important schemes of Ministry of Rural Development for which grants are received from the Govt. of India. The execution of various schemes is done by the DRDAs and monitored by the State Rural Development department. The important feature of the software is that it monitors the execution of various schemes at the grass root level i.e. the panchayats. The software has a web interface which also allows the progress to be monitored online and data to be transmitted to the Ministry of Rural Development, Government of India for consolidation

7. Education Department

Project I Educational Institutions MIS

Developed in FoxBASE-2.1.1 under UNIX by NICHP State Unit firstly as DISNIC-Education MIS

Re-developed in oracle 7.0 under Unixware later by NICHP State Unit: The Department of Secondary Education is entrusted with the responsibility of collecting statistical information annually in respect of infrastructure, enrolments, teachers, finances etc. from all the schools located in the State, and transmitted to the Government of India after consolidation at the State level. A Software package viz. DISNIC-EDUCATION was developed in FoxBASE under UNIXWARE, for computerising the School wise statistical information collected, and subsequent consolidation at the State level, as per the proforma prescribed by the Government of India. The software was implemented at all the NIC District Centres in 1992-93, and the data entry and validation was entrusted to the respective District Education Office's staff.

The software (developed in ORACLE 7.0 under UNIXWARE) collects the following information: Locational Identification details; Infrastructure details; Facilities available (Laboratories, hostels, library etc); Sanctioned / Filled / Vacant posts of various subjects in any institution; Details of schools attached with the High / Higher Secondary Schools; Class-wise enrolment and repeaters information; Subject-wise enrolment; Sex-wise enrolment in different classes / subjects; Designation / Sex / Category wise staff position; Income details of the Institution; Building details with additional requirements etc.

8. Co-Operation Department

Project I Co-Operative Statistics Computerisation

Developed in FoxBAse-2.1.1 under UNIX by nIC Headquarter new Delhi: Statistics pertaining to the Cooperative Societies in the country is published every year by the National Bank for Agriculture and Rural Development (NABARD). The State Government sends consolidated data in standard formats for this purpose. The State Government adopts their own procedures, mostly manual to collect the data from the societies and consolidate before sending it to the NABARD. It has been found that the data sent by the States is partially reported and submitted.There is a considerable delay in collection, compilation, consolidation and publication of the data. In order to improve the system and cut short the time delay, NIC has developed a NICNET based computerized system so that the data could be captured at the District level and consolidate at the District, State and National Level. The software supplied by the NIC Headquarters, New Delhi was tailored at the NIC Himachal Pradesh Unit in order to incorporate the local requirements.

9. Excise & Taxation Department Project I DISNIC-Taxation

Developed in FoxBAse-2.1.1 under UNIX by NICHP state Unit: The Sales Tax Module of the software package is dealing with three aspects viz. Dealers Master Data maintenance, Sales Tax Collection through the Treasuries and the Returns Filed by the Dealers. It captures details from the Returns filed by the Registered Dealers on Quarterly basis and generates an yearly abstract showing the calculated tax liabilities and the actual tax paid by them, along with a list of Sales Tax Declaration forms (ST-XVIA) submitted by them at the Barrier while transporting goods, which is used by the Authorities at the time of Assessment. After the Assessments are done, the demands created are also captured and monitored through the computerised system only. Several other related Returns filed by the Dealers are also captured in the system. The Dealers Master Data of Una is updated at the NIC District Centre on regular basis.

10. Health Department

Project I Health MIS & NICNET Transmission

Developed in FoxBAse-2.1.1 under UnIX by NIC Headquarter New Delhi: NIC Headquarters has developed this software for monitoring the Community Needs Assessment Approach Programme being implemented through the Chief Medical Officers at the district level. The data entry into the software is done by the respective CMO officials and transferred to the Health Ministry as attachment through Email. The data is transferred on monthly basis.

Project II ICDS Software & NICNET Transmission

Developed in FoxBAse-2.1.1 under UnIX by the Ministry of social Welfare: In 'Integrated Child Development Scheme (ICDS)' software, the Child Development Project Officers from various blocks enter the data related to the schemes for child development in the rural areas, which is transmitted, to State headquarters and Government of India as attachment with Email. This data is compiled at the State headquarters for all CDPO blocks. This data is transferred on monthly basis.

11. Industries Department

Project I PMRY Software & NICNET Transmission

Developed in FoxBAse-2.1.1 under UnIX by NIC Headquarter New Delhi: The Prime Minister office has started 'Prime Minister Rozgar Yojna' scheme to provide employment to the youth by assisting them in procuring loans from the banks. The data of applications received, processed and youth assisted in getting loans is entered into this software and

the compiled data is transmitted to Government of India through Email. The transmission takes place every month

Project II IIP software & NICnet transmission: The data related to various indicators of progress from selected Small Scale Units is collected by the District Industries Centres at district level. This data is entered into
'Index of Industrial Production (IIP)' software and transferred to Ministry of Industry every month as attachment through email.

12. Animal Husbandry Department

Project I Animal Disease Surveillance System & NICNET Transmission

Developed in FoxBAse-2.1.1 under UnIX by NIC Headquarter new Delhi: This software is used for monitoring the spread of any Animal Disease in the District. The data is regularly collected through the Animal Husbandry Department's officials/records and entered into the software. If there is any outbreak of any disease in any district, the complete details are sent. The data is sent to the Agriculture / Health Ministry at Government of India level as well at the State Directorate of Animal Husbandry. The data entry and transmission takes place every month.

13. Food & Supplies Department Project I NICNET Transmission of Market Rates

Developed in FoxBAse-2.1.1 under UnIX by nIC Headquarter new Delhi: The Open Market Rates of various items are being monitored by the Department of Food & Supplies, and being transmitted to Government of India on a Daily, Weekly and Monthly basis, from different markets located in the State.

14. Election Department

Project I Election Data Transmission during Elections

Developed in FoxBAse-2.1.1 under UnIX by NIC Headquarter New Delhi: The NIC Himachal Pradesh State Unit has been carrying out the Counting Results data transmission from NIC State/District Centres to NIC Headquarters Control Room, during the Assembly/Parliamentary Elections held in 1991, 1993, 1996, 1998 and 1999. During the Lok Sabha Elections-1999, the NIC received the data from all NIC District Centres and transmitted it to NIC headquarters by setting up a control room at NIC State Unit. The NIC was also awarded a project through the Himachal Pradesh State Electronics Development Corporation to transmit data directly from the Counting Centres, set up at District headquarters, to the Election Commission of India. This was a paid project and NIC officers completed this job successfully by setting up the necessary hardware, dial up connectivity at the Counting Centres.

15. Payroll Processing Software In Una

Originally developed in FoxBASE-2.1.1 under UNIX by NICHP State Unit

An executable version under DOS/ Windows was later developed for convenience: A Payroll Processing Software has been implemented in the district Una by the NIC District Centre since 1997. At present the following departments have been covered :- 1.Deputy Commissioner Office, 2. District Court, 3.Treasury Department, 4.Revenue Department(DRO+SK), 5.Social & Welfare Department, 6.District Rural Development Agency (DRDA), 7.Excise & Taxation Department, 8.Health Department, 9.Animal Husbandry Department, 10.Food & Supplies Department, 11.Planning Cell, 12. SDM Office Amb, 13. Ayurvedic Department, 14. Police Department. The total employees of the Una district covered by this software are over 3000. The salient features of the software is that besides generating the Paybills, Schedules,

Acquittance Rolls and Pay Slips, it generates additional outputs such as Pay Arrears Bills, Nominal Rolls for making Budget Provisions, Income Tax Returns for individual employees, Voucher-wise / Employee wise payments and Deduction Reports etc.

All the Reports being generated by the software have been officially notified by the State Government to be accepted by the Treasuries and made a part of the user manual which has been printed by the Himachal Pradesh Government as a State Government publication.

Design and implementation of e-Governance Roadmap and Capacity Building Roadmaps

Considering the nature and scale of e-Governance initiatives planned under NeGP, the role of the State Government in managing these initiatives is envisaged to be very critical. It is also well recognized that for States to play their role effectively, significant capacities need to be built and resources need to be augmented with additional skills.

Himachal Pradesh Road Transport corporation (HRTC) Service

- **Inventory Management:** The inventory at the 4 divisional workshops is managed by these stand alone applications for recording inventory item details etc.
- **Concession Pass Printing:** Concession passes generation and issuance is computerized through this application. At the time of application, the details of applicant is entered in the system and a Pass ID is issued along with the Bus Pass. During renewal, the pass ID is entered along with the renewal information and renewed card is issued.
- **Advance and current booking:** Ticket booking at counters is done through computers. Periodic ticket booking and collection reports are also generated through this application.
- **Payroll:** Payroll calculations are done through in-house developed, stand-alone application.
- **GPF and Pension:** GPF and pension calculations are done through a standalone application.
- **public Complaints:** Complaints can be registered though the HRTC website

Datacom Services One of the objectives of Software Technology Parks of India is to provide effective data communication facilities to the esteemed Software Exporters. STPI names the data communication Network owned by it as SoftNet.

SoftNet: (Data Communication Network): One of the objectives of Software Technology Parks of India is to provide effective data communication facilities to the esteemed Software Exporters. In pursuing of this objective, the STPI established its own gateways at its nodal centres located in different parts of the country. STPI named the data communication Network owned by it as SoftNet.

STPI center at Shimla has been providing the High Speed Data Communication facilities to the IT industry through the International gateway with 3.8 meter dish antenna capable of Multiple Carrier operation and with scaleable configuration set up in the city. The Location of the Earth Station is such that it is in Line of Sight (LOS) from most of the locations in Shimla as also from various other locations within a radius of 20 Kms from the station.

SoftLink is managed through a Wide Area Network plan. User gets a port on the ethernet Hub which will be Located in the LAN. The LAN is further connected to the International Gateway and managed from Network Control Centre, which is located at STPI-Shimla. The LAN set-up is directly connected to the

International Gateway through a UTP backbone, whereas the LANs in different locations are connected to the International Gateway via a microwave link

Incubation Service's

The "incubator" concept has emerged word wide as an essential component required for the growth of high technology, software development & modernisation. It provides a platform to IT related companies to start from the very basic setup & grow into independent companies.

The STPI Shimla, has Furnished Area, Semi-Furnished Area & Raw space for this purpose. Not only this, STPI Earth Station is in different premises while the Incubation area named as "Apurti Bhawan" is located in the hub of most of the Government, Semi-Government & Private organisations.

2.4 Stakeholder Involvement in Environment Preservation and Restoration

Stakeholder Segmentation and their Expectation: During formulation of the Roadmap for the State, it is essential to identify the needs and expectations of the key stakeholders. The need and expectations of the five key stakeholders have been analyzed in the following paragraphs. The key stakeholders are:

- Citizens
- Business Fraternity
- Non Government Organizations
- The Central and State Governments
- National/International Funding
- Agencies and Financial Institutions

Citizens: Citizens measure good governance with the yardstick of service delivery, availability of citizen centric facilities and the income generation opportunities they can expect the Government to offer them. Citizens tend to measure the effectiveness of a Government system in the yardstick of efficiency & robustness of the Government services. The key areas where citizens look up with much eagerness and their expectations are described below in table 8.

Table 8: Needs & Expectation of Citizens

Governance	• Output based • Transparent Services • Corruption Free
Education	• Easy access across the geography of the State • Affordable and rich in content • In tune with future opportunities and employment generating sectors
Health	• Available anywhere, anytime irrespective of location constraints • Quality medical services • Cheap and affordable
Civic Amenities	• Water supply, Sanitation, Roads, Public Transport, Drainage, Housing, Food security, Electricity, timely support during natural calamities
Employment Opportunities	• Availability of non-traditional employment opportunities • Self employment support and patronization from the Government. • Ample opportunities to the technically sound and qualified fraternity within the State • Opportunities for the labor communities • Adequate risk and security cover • Sustainable and optimum wages or remunerations
Judicial Support	• Easy access to the judicial system • Speedy disposal of cases Protection against violation of civic rights
Law and Order	• Safety and security of life and property • Communal harmony and peace through stringent enforcement of the law of the land without any bias or discrimination

Most of the services from these areas are already being delivered (or under consideration) through public channels, private channels or through the Public Private Partnership (PPP) model. The whole intention behind this is to bridge the gap between citizens and the government and make the government responsive and accountable to the citizens. The expectations of the citizens have been that the e-Governance would largely help in improving the quality of services in the above-mentioned areas.

Business Fraternity: The business community expects an investor friendly environment through a friendly and hassle free policy and regulatory set up. The business community seeks quality, convenience, responsiveness, fairness and transparency in their transactions with the government. The key expectations from the identified areas are given below in table 9.

Table 9: Needs & Expectations of Business Fraternity

Policies	Investor/ Entrepreneur friendly Conductive to business
Regulations/ Procedures	Simplicity and ease in compliance to standards Speedy disposal of filings, applications for licenses and permits
Information	Easy access and dissemination of information Easy assess to counseling and guidance
Infrastructure	Low cost and high quality infrastructure support Ancillary support services like logistics and storage
Transactions	Ease and fairness in transaction, evaluation & compliance standards

Non-Government organizations (nGo's): Non Government Organizations play a big role in modern day governance. They help and partner the Government in various social upliftment endeavors and also represent citizen's cause in case of violation of their rights and privileges. Their expectations from the government are given below in table 10.

Table 10: Needs & Expectation of NGOs/CSOs

Counseling, information and guidance	• On Government policies, projects, invitation for participation and guidance on roles expected from them
Registration	• Easy registration with convenient and uncomplicated procedures for evaluation
Resources	• Timely availability of funds & grants • Transparency in procedures
Participation	• Opinion of NGOs and their participation in welfare activities and other pertinent issues of concern through dialogue

Names of some NGO's working in Himachal Pradesh:

1. Ashiyana - Mandi
2. Centre For Sustainable Development - Sundernagar
3. Cord - Kangra
4. Crescent NGO - Kangra
5. Department Of Education Himachal Pradesh - Kangra
6. Dev Bhumi Vikas Parishad - Kullu
7. Development Promoters - Solan
8. District Padma Chhokharling Bodh Tibetan Gompa Association - Bhanodi Chamba
9. Divya Yog Research Foundation Trust - Shimla
10. Divyayog Research Foundation - Shimla
11. Galaxy International Education And Research - Kangra
12. Grameen Vikas Evam Paryavaran Jagran Samiti - Sirmour
13. Gramin Vikas Yuvak Mandal - Shimla
14. Grand Orgnization For Youth - Sirmaur
15. Green Himalayan Welfare Society - Kullu
16. Gurukul Bahumukhi Shiksha Sanstha - Kullu

17. Himachal Pradesh Human Welfare Organisation - Kullu
18. Himachal Pradesh Shiksha Society For Education - Shimla
19. Hamir Gramin Uthan Samiti - Hamirpur
20. Hamir Rural Development Society - Hamirpur
21. Heaven On Earth Kullu - Manali
22. Himachal Educated Un Employed Youth Society - Shimla
23. Himachal Manav Seva - Shimla
24. Himachal Productivity Council - Shimla
25. Himalayan Eco Horticulture Society - Shimla
26. Himalayan Nature And Environment Preservation Society - Shimla
27. Himalayan Nature Society - Kangra Valley
28. ICED - Sirmour
29. Jaswal Educational Trust - Shimla
30. Know Well Info Domain - Kangra
31. Maharana Pratap Jan Kalyan Sanstha - Shimla
32. Manav Seva Sansthan - Berthin
33. Matri Bhumi Social Welfare Society - Mandi
34. Nav Chetna - Shimla
35. Nav Nirman Kalyan Samiti - Kangra
36. Pariwartan - Shimla
37. Paryavaran Avam Gramin Vikas Sansthan - Kanda Ghat
38. Peoples Action For People In Need - Sangraha

State Government: The expectations of the State Government are given below.

- Standardization of the processes through Government Process Reengineering.
- Deployment of e-Governance solutions for process automation.
- Improved internal efficiencies and increased employee productivity.
- Reduced system maintenance by adopting standard systems and processes.
- Reuse of the existing databases and information sharing across the Departments.
- Convenience of government procedures through streamlined workflow.
- Procedures/easy file disposal that will help to save time, effort and human resource requirement.
- Cost effectiveness in the operations of Government Organizations.
- Better enforcement of law, effectiveness of planning and scheme implementation.
- Tracking the benefits to the users resulting in improved governance.
- State level decision support mechanism to facilitate centralized decision making and implementation.
- Information on resource utilization, alignment and compliance with Central Government.
- Government rules and procedures and regular reporting wherever coordination with the Central Government is required.

Government Employees: The expectation of the Government Employees is hassle free working with proper training and technology enablement, efficient administration of wages and benefits and transparent progression system throughout their span in Government offices.

2.5 Critical environmental issues/ hotspots associated with the sector

On the basis of certain activities of IT Department some issues have been identified which affect environment and may affect in future. The effects of technology on the environment are both obvious and subtle. The more obvious effects include the depletion of nonrenewable natural resources (such as petroleum, coal, ores), and the added pollution of air, water, and land. Other long term effects include such as global warming, deforestation, natural habitat distruction and coastal wetland loss.

Environmental and social issues

i. Generation of E- waste with increased IT infrastructure and penetration of ICT products: The e-waste inventory based on this obsolescence rate in India for the year 2005 has been estimated to be 146180.00 tonnes which is expected to exceed 8,00,000 tonnes by 2012. A study conducted by Manufactures Association for Information Technology (MAIT) revealed that 3.3 lakhs tonne e-waste was generated in 2007 and the figure was likely to touch 4.7 lakhs tonne by 2011. E-waste management will be a major issue with increased ICT penetration and highest tele- density in Himachal Pradesh.

ii. Public Health issues related to Telecommunication: The effect of mobile phone rediation on human health is an issue of concern and subject matter of research as recommended by the World Health Organization. It is recommended that adequate safeguards and radiation near all phone towers need to be monitored.

iii. Occupational health risks due to informal sector (rag pickers / dismantlers/recyclers) recycling of e-waste: E-waste are known to contain certain toxic constituents in their components such as lead, cadmium, mercury, polychlorinated bi-phenyls (PCBs), etched chemicals, brominated flame retardants etc., which are required to be handled safely. The recycling practices were found to more in informal sectors leading to uncontrolled release of toxic materials into the environment as a result of improper handling of such materials. Informal sector recycling consisting of usage strong acids to retrieve precious metals such as gold pose a human health risk, Working in poorly-ventilated enclosed areas without masks and technical expertise results in exposure to dangerous and slow- poisoning chemicals.

iv. Environmental, Land and Building related issues including setting up of IT infrastructure development, IT Parks, towers: For registered IT units within the declared Software Technology Park, IT habitats and Hi-tech city, relaxation of FAR to the extent of 50% of the prevailing norm is available. In other areas (not including core/banned/ restricted/green areas), FAR relaxation up to the extent of 25% can be granted in individual cases subject to considerations relating to population densities, availability of infrastructure, local geology, etc. IT Software units are permitted to be set up in residential areas subject to load restrictions. Exemption from land and building tax is given to the land and buildings within the declared STP, IT habitats and Hi-tech cities. Though relaxation is given to support IT infrastructure, availability of land or diversification of forest land is one of the major issue in the state.

v. Inadequate Development of energy Intensive It Infrastructure: Generally BPOs, IT parks and other IT infrastructure are huge consumers of energy. Their extensive proliferation in the state offers potential of increasing demand during lean season in the state.

vi. Lack of awareness about ICT equipment usage & disposal: Lack of awareness about negative impacts of usage and disposal of ICT equipment is one of the issues which can lead to their optimum utilization with increased lifecycle.

Pressure on account of increasing gaps and slow implementation of policy, programs, plans and projects is leading to emergence of sector specific issues and risks/impacts.

2.6 Environmental Initiatives taken by the Sector to Address Critical Environmental Issues

A. Rules for Installation of Communication Towers

Mobile Companies shall indicate the capacity of Tower or antenna in Megawatt.

In case the Mobile Tower is proposed to be installed in the residential area or in vicinity thereof or near school or hospital or public, semi- public buildings, No Objection Certificate from owners of adjoining buildings and concerned Education or Health Department and requisite stakeholders shall have to be obtained.

No Objection Certificate to this effect shall be submitted from the Himachal Pradesh Pollution Control Board.

In case the Mobile tower is proposed to be installed in the vicinity of any Airport, No Objection Certificate from Airport Authority shall have to be submitted.

First preference shall be given to the location of tower in the Forest areas.

Second preference shall be given to the location of tower in the open or public areas away from residential locations.

Where it is not possible to avoid the location of the tower in residential area, the same shall be located in open space or park, with prior consent of owners of adjoining residential houses.

Erection of tower shall not be allowed within a radius of 100 metres from residential building, school and hospital.

The Telecom Operators may share the towers for fixing their respective antennas. The same are however, required to adhere to the prescribed technical requirements, so as to curtail multiplicity of towers as well as to optimize the use of the existing ones.

B. Right way of Policy

The Engineer-in-Chief/ZonalChief Engineers will provide broad guidelines for various options depending upon topography and site conditions for availing of Right of Way facility are as under.

1. Trench less technology where cutting of road pavement is avoided and work can be carried out by drilling hole beneath the road pavement;
2. Creation of appropriate engineering structures on hill side of the road or on the valley side of the road at reasonable levels thereby avoiding digging of the road;
3. Providing structures/poles for overhead cables;
4. Underground ducts

The user Department/agency shall ensure that the debris/waste material if any shall be disposed off by them at their own cost failing which the owner of the road will do so at the cost of the user agency. The digging of the trenches would be strictly regulated so that cables are laid and trenches are filled up before the close of the work every day. Filling should be completed to the satisfaction of the Department. While carrying out digging work, necessary caution like barricading, traffic diversion signs, danger lighting etc. shall be provided by the user.

C. Agriculture Resource Information Systems and Networking (AGRISNET)

AGRISNET is a Mission Mode Project under National e-Governance Plan of Government of India, Department of Agriculture & Co-operation. Ministry of Agriculture has decided to launch a Central Sector Scheme titled, "Strengthening / Promoting Agricultural Informatics & Communications". The portal provides the end users with the ability to access services through an online platform.

AGRISNET proposes to create an interactive interface for Government to Citizen (G2C) i.e. for Farmers and Government to Government (G2G) services i.e. services for the Department of Agriculture, Horticulture, Animal Husbandry and Fisheries. The proposed system would maintain a database of information about various activities of the respective Departments. This database would be used to provide

information and services to the users. For this project Govt. of India released an amount of Rs. 7.03 crores out of which an amount of Rs. 3.27 crores have been spent and remaining amount is meant for software. Hardware and software system has been supplied and Area installed in all 4 departments. For covering block level offices in the second phase, Govt. of India, Ministry of Agriculture has approved additional funds of Rs. 5.70 crores recently. Out of which Rs. 2.95 crores has been released to HPSEDC for purchase of Computer hardware/ Software. On 31.10.08 and the Software development work has been started already. HIMSWAN connectivity will be given to all the offices under the Project.

Objective of AGRISNET

1. **AGRISNET** Project will bring farmers, researchers, scientists and administrators together by establishing online information for **Agriculture, Animal Husbandry, Horticulture and Fisheries**departments. The citizens can put their queries online along with the scanned photographs (if any) on the web and get the advice from the experts of concerned departments
2. The main objective of **AGRISNET** Project is to create a sustainable data bank of all Agricultural Inputs in the State of Himachal Pradesh containing entries for all relevant information pertaining to Agriculture and its related activities and to access the same through a secured Network.

Expected Impacts of AGRISNET

Improved information access and effective delivery of services to the farming community.
Establishing Agriculture on-line.
Faster and efficient Redressal of Farmers' Grievances.
Efficient and improved communication system among all the offices of the department of Agriculture in the state through the use of e-mails services.
Improved transparency and accountability of the Departments.
Direct feedback from farming community to the decision makers in the state.
Better monitoring of Government Schemes, which directly impact the farmers.
Efficient management (Development, Conservation, allocation and utilization) of resources.
Improved productivity and profitability of farmers through better advisory systems.
Efficient & Increased utilization of Information by Stakeholders for their decision-making.

Summary of Skill Development Initiatives - Department of Education

A summary of skill development initiatives undertaken by Department of Education is given in table 11.

Table 11: Initiatives Taken by Department of Education

Sr. No.	Principal Initiatives/ Principal Initiatives/Focus	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
1	Introduction of new courses	Introduction of basic computer literacy, communication and personality improvement courses at Govt. Degree College, Chamba so that students can be imparted skills required in BPO companies.	Department of Education		District Development Plan
		Compulsory inclusion of computer education in government schools for XI and XII students with a basic	Department of Education		

Sr. No.	Principal Initiatives/ Principal Initiatives/Focus	Sub-initiatives	Implementation Agency		Reference
			Lead Agency	Supporting Agency	
		functioning knowledge of operating systems			
		Computerisation of government colleges and introduction of computer training in specific BPO processes for different courses ***Bachelor of Commerce***: Revenue Accounting and MIS, Insurance Claims Processing, Tele-marketing for financial products ***Bachelor of Science***: Medical Transcription ***Bachelor of Arts***: Customer Support for credit card, telecom services, consumer durable Bachelor of visual communications ***Bachelor of Science:*** Animation, Media etc., ***Bachelor of Arts:*** Journalism To invest in computer labs and voice training labs in the colleges	Department of Education		
		IATA / UFTAA certification in ticketing, tour planning and pricing for school drop-outs after class X in Shimla, Solan and Sirmaur	Department of Education	Department of Tourism	District Development Plan
2	Creating Market Awareness	Short term exchange programme (duration of 4 to 6 weeks) with leading educational institutions and companies in India	Department of Education		Employability Focussed Skill Development Initiative
3	Skill Assessment and Monitoring	Identification of assessment agency Identification of students Testing Administration Review and Monitoring	Department of Education	Industry Department	Employability Focussed Skill Development Initiative

2.7 Environment Related Studies Carried out in the Sector

Though the E-waste guidelines and E-waste regulations have been notified the state is yet to establish E-waste management system. This requires carrying out of studies on inventorization, establishment and management of system.

2.8 Environment Monitoring (key parameters such as air and water pollution) Carried out for Activities Related to the Sector

No Environment monitoring is conducted by the sector. Environment clearance accorded to Software Technology Park and other IT centres need to be strictly monitored as per their management plans.

2.9 Institutional Mechanisms with in the Sector to Address Identified Environmental issues

The Department of Information Technology is headed by the Director, at the Directorate level. Director is assisted by Joint Director, Deputy Director, Manager and Deputy Manager. The

existing institutional framework of Department is shown in Figure 1 and responsibilities of the officers are described below:-

Director: Director of Information Technology being administrative and professional head of the Department State is responsible for the efficient working of his department; exercise of all administrative and financial powers as adjoined upon the heads of the department in the Himachal Pradesh Government.

Joint Director: Joint director is responsible for Policy Planning, Administration, Promotions, Framing of R&P Rules for all categories, General Inspection, Annual Administration Report/Assembly Business/ Rules of Business and Procurement of Machinery & Equipment.

Deputy Director: Deputy Director responsible for Promotion of Information Technology and training in educational institutions and government departments/semi-government organizations and facilitation of development/dissemination of educational software and promoting programs in Information Technology enabled education.

Manager: Manager is assisted by Deputy Manager, DEP and Assistant She/he responsible for Identification of laws and rules which need to be modified or enacted to enable legal validation for transaction and also to develop specific Cyber-Coding for ensuring and maintaining secrecy and also to act as nodal agency/authority on behalf of the State Government for matters relating to Information Technology Act and similar other central and state legislations.

Deputy Manager: Deputy Manager is assisted by Programme Officer, DEP and assistant. She/he is responsible for Maintenance of database for all Information Technology related material and human resources available in the state.

Based on the above institutional structure, gaps have been identified within the existing institutional framework which is described in Institutional Mechanism report (Volume 4). Further, institutional responsibilities to implement actions identified and approved by the nodal department and line departments have also been described in volume 4. In order to address environmental issues identified in chapter 5 a number of interventions are required from the nodal department with identified line departments.

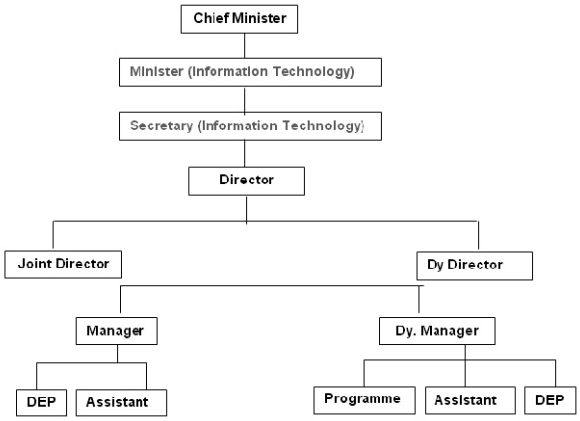


Figure 1: Organization Structure of Information Technology Department

2.10 Data/ documentation pertaining to addressing demographic issues in the context of requirements of populations and ments of populations and changing lifestyles;

Himachal Pradesh State Electronics Development Corporation Ltd. (HPSEDC) has been working under the administrative control of Department of Information Technology.

HPSEDC Ltd. has been supplying computer hardware & accessories/ software,(such as Servers, Desktops, Computers, Printers,

Laptops, UPS, consumables) and computer furniture to all the Government Departments/ Boards/ Corporations in the state with the administrative and technical support from IT Department. The systems are being supplied with 6 years' warranty to the Government Departments and 3 years to the private customers. Even private customers now prefer to purchase computer from HPSEDC Ltd. Besides, the Corporation is supplementing the efforts of Government in implementation of IT and e-Governance related project by actively participating in executing the projects of LAN/WAN and site preparation for computer installations in the State. HPSEDC Ltd. also ensures adequate maintenance and after- sales support by entering into Agreements with the Supplier Companies for timely supply, installations and maintenance support thereafter. The Corporation has also been doing data processing jobs for various Departments/ Boards/ Corporations including result processing of various examinations (i.e. middle, Metric, +1, +2 and other Entrance Tests) being conducted by Himachal Pradesh Board of School Education from time to time.

Supply of Medical equipment such as X-Ray Machines, Ultrasound Machines, ECG, EEG, Colour Doppler, Automatic Analysers and Blood Bank equipment etc. to various Health Institutions as well as Hospitals is the other major activity of the Corporation. Besides, other general office automation equipment such as Photocopiers, LCD Projectors, Overhead Projectors, Fax Machines, EPABX, PA Systems and Digital Cameras etc. are also supplied by HPSEDC Ltd. to the Government Departments/ Boards/ Corporations in the State after finalizing the rates of such equipment with technical support from the IT Department.

Department of Information Technology is engaged in computerisation of various Government Department. IT Department is providing hardware as well software for their computerization. Departments like Police, Social Justice & Woman Empowerment, Labour & Employment, Municipal Corporation, Administrative Tribunal, Prosecution, Advocate General, Food & Supplies, Chief Architect, Home Guards, Industries, Election, Economic & Statistics and many more have been provided computer hardware/software as summarized in table 12.

The Department of Information Technology has established about 3200 Community Service Centres and proposing IT Park in the State though various schemes or program.

Table 12: Hardware Provided to the Line Department (2009)

Sr. No	Department	Servers	PC's	SBS	MS Office	LJ	DMP	Office jet	Cameras	Laptop	LCD	UPS	Scan jet	Digital cam	IJ	Webcam	SQL Server	Switch	Scanners	Touch screen kiosks
1	Election	2	75	2	13	13		17	46	1	1									
2	Economics & Stats	1	16	1	12	2	13													
3	Prosecution	43				40														
4	Weights & Measurement	1	8	1	6	7														
5	Home Guards	1	28	1	1	15														
6	Industries	1	33	1	17	23														
7	SJE (DWOs/CDPOs)		107		26	84				1	1			12	12	12				
8	Police		113		28															
9	Food & Civil supplies	1	46		13	16														

Sr. No	Department	Servers	PC's	SBS	MS Office	LJ	DMP	Office jet	Cameras	Laptop	LCD	UPS	Scan jet	Digital cam	IJ	Webcam	SQL Server	Switch	Scanners	Touch screen kiosks
10	Labour & Emp	4	131	4	13	22	95								1		9	2		
11	IPR	1	21	1	11	10							7							
12	ULBs	1	50	1	20	20														
13	Advocate General	1	20		5	5	5													
14	Div Comm.(Kangra and Mandi)	2	12		2	4											2			
15	DC offices	12	166	12	36	36						12	12							
16	HPSSSB	1	10	1	3	2	3													
17	Health(IGMC)	2	130		5	15	15												2	
18	Chief Architect		20		3	4														
19	Legal Services		2			1						2								
20	MC Shimla	1	15			2	6											1		
21	Training centres at Kangra,Mandi	2	42			2	2				2							4		
22	High Court																			2
	Total	**77**	**1045**	**25**	**214**	**323**	**139**	**17**	**46**	**2**	**4**	**14**	**19**	**12**	**13**	**12**	**11**	**7**	**2**	**2**

Source: - Department of Information Technology- Him achal Pradesh

Recent Initiatives taken By the IT Department: Based on IT Policy of the State Government, certain initiatives have been taken in the State to further the growth of IT.

The Department of Information Technology (DoIT) has been created to ensure the process of furthering the development of IT in the State. The Department strive for:

- Encouraging investments in the IT sector industries in the State.
- Facilitating the establishment of IT institutes and improving the quality of IT education in the State.
- Using IT tools to ensure a SMART (Simple, Moral, Accountable, Responsive and Transparent) Government.

The Secretary (Information Technology) is the functional Head of the Department of Information Technology. The Department has three wings viz. Industrial Development Wing, Human Resource Development Wing and Electronic Governance Wing. The work distribution amongst these wings, as also the recent initiatives taken under different sectors, is narrated below:

Integrated Community Services Centres (I-CoSC): Integrated Community Service Centre (i-CoSC) aims at setting up one-stop shop information resource and service centre for the people in the State using simple but state-of-the-art methods of organizing, sharing, and communicating information. This project is unique because the citizen centric services of various levels (viz. District, Sub-Division, and Tehsil) will be available across all tiers of administration. i-CoSC will ensure greater transparency, efficiency, objectivity, accountability and speed that can help overcome unbridled discretion and corruption by providing improved services in a time bound manner. In the first phase, all tehsils and sub-tehsils of Shimla, Kangra and Mandi districts are being covered. NISG-UNDP have provided financial assistance for i-CoSC pilot project in Shimla. This concept of i-CoSC shall be a much enlarged and improved version of "LOKMITRA" project, which was started on a pilot basis in Hamirpur District. Lokmitra is basically District-wide INTRANET with Servers at the District headquarters,

connecting 25 Citizen Information Booths located in the rural areas throughout the District. The objectives of the project are as follows:

Electronic Governance Wing: This wing is responsible for furthering the use of IT in Government, which includes setting up of State Wide Area Network; Designing, Development & Implementation of Computerised Systems & Web-Enabled Interfaces for E-Governance, providing Govt. to Citizen (G2C) Interface and delivery mechanisms; Complete Computerisation in selected Govt. Departments; etc. The State Unit of the NIC, headed by the State Informatics Officer is actively assisting the State Government in achieving its e-Governance objectives.

1. In Himachal Pradesh, the efforts regarding E-Governance have been largely NIC driven, which could broadly be covered under the following three categories:

- **Back Office Activities:** Office Automation & Computerised Transactions Processing / Information Systems in various Departments, and Training.
- **INTERNET Applications:** Web Sites/Applications of the State Government/ Departments/ Corporations/ Boards etc. on World Wide Web (WWW).
- **INTRANET Applications:** Government to Citizen (G2C) Interface.

2. The Back Office Activities: These activities cover computerisation at Chief Minister's Office, H.P. Secretariat, Deputy Commissioner Offices, and several Government Departments at the Directorate & District level, Himachal Pradesh High Court & District Courts, Himachal Pradesh Vidhan Sabha etc. The Satellite-based Computer Communication Network (NICNET) of NIC connects all Districts and the State Headquarters with each other and with all other such locations in the country and to the Internet, facilitating interactive communication, Data transfers, Email, Internet browsing, and various other value-added network services available on NICNET to the State Government. Training to the Government employees is being imparted in collaboration with Himachal Institute of Public Administration (HIPA) by extending necessary faculty support, and also with infrastructure support at District level.

3. INTERNET Applications: The official website of the Himachal Pradesh Government has been launched on the World Wide Web (WWW) with the URL http://himachal.nic.in and http://himachal.gov.in. This site is a one stop Information Center relating to various aspects of the State and the various Departments/ Corporation/ Boards of the State Government.

4. INTRANET Applications: The Government of Himachal Pradesh is committed to take the benefits of Information Technology to the general public living in distant rural areas of the State by establishing a H.P. State Wide Area Network (HIMSWAN) and by providing a Government to Citizen (G2C) Interface through this network. Presently some of such Government to Citizen (G2C) Interfaces have been made available through the INTERNET on the above mentioned official website of the State Government e.g. Email facility to the Chief Minister; Government Telephone Directory search; dynamic and interactive information in respect of Excise & Taxation Department, Rural Development Department , Police Department etc. **HIMSWAN-I:** A Local Area Network (LAN) with more than 600 nodes has been established in Himachal Pradesh Secretariat with the provision of 600 nodes. Presently, 256 PCs are connected in first phase. The network has successfully started functioning. Referencing Monitoring System and other applications have been implemented

on this network. The LAN is also connected to Internet. This network is useful in saving lots of energy and resources.

Upgradation of the Existing Airports: The three existing airports in the State at Shimla, Kullu and Kangra have been improved/ upgraded. There are regular flights from Delhi to all the three airports. **Two of the airports will soon be capable of landing Boeing 737 and ATR respectively.**

2.11 Information on Human Resource Management issues (which may have relevance to environment management) in sector such as manpower, vocational training , awareness level etc.

1. IT Human Resource Development

Human resource development is the single most important factor in the IT industry and has played a key role in developing India as a software hub. Himachal Pradesh has to undertake effective measures to produce quality IT human resource. IT / ITES industry is vastly underdeveloped in Himachal Pradesh with only a few small companies in operation today. However, availability of vast pool of graduates, educated population can encourage development of ITES industry initially. IT industry would absorb local population at junior levels in the initial stages while recruiting skilled professionals at supervisory level from outside. However, the development of industry would encourage skill development in the local population and prepare them for assuming middle and senior level positions in organizational hierarchy.

2. Human Resource Development Wing:

This wing is responsible for the human resource development for the IT sector. This includes setting up of Institutes of Information Technology, Computer education in Schools, Networking of various Educational Institutes etc. The wing would also facilitate continuous revision of syllabi of various IT related courses running in NIT/ Universities/ ITIs /Polytechnics/ Colleges/ Schools etc., commensurate with the latest IT developments and employment opportunities. The status of human resources management in information technology department is given in table 13 & table 14.

Table 13: Staff at DIT

Sr. No.	Designation of the Post	Number of Posts Sanctioned	Number of Posts Filled	Number of Posts Vacant
1	Joint Director/Deputy Director or Senior Manager (IT)	2	1	1
2	Manager (IT)	2	1	1
3	Deputy Manager	2	1	1
4	Data Entry Operator/Steno	5	5	-
5	Assistants	3	3	-
6	Peons	3	3	-
7	Peon-cum-Chowkidar	1	1	-
8	Peon-cum-Sweeper	1	1	-
9	Driver	2	2	-
Total		**21**	**21**	**3**

Table 14: Staff in SITEG

Sr. No.	Designation of the Post	Number of Posts Filled
1	Assistant Controller (F&A)	1
2	Programmers	6
3	Supervisor	1
4	Data Entry Operator	2
5	Computer Operators	3
6	Senior Faculty	1
7	Lab Instructor	1
Total		**15**

2.12 Regulatory analysis to identify any regulation that have environment implications (negative or positive), and compliance with the same

IT and telecom infrastructure sector and cross sector policy and regulatory framework at state level shows the intent of the state government to address inadequate service delivery in order to reduce the burden in the state. A list of policy and program is given below.

- The Environment (Protection) Act, 1986.
- E -Waste (Management and Handling) Rules 2012.
- Hazardous Wastes (Management Handling
- and Transboundary Movement Rules, 1989).
- National policy on safety, health and environment at work place 2010.
- Environmentally Sound Management Guidelines for E-waste.
- MoEF scheme or integrated E-waste recycling facility.
- National Health Policy 2002.
- Telecom Policy 1994.
- New Telecom Policy 1999.
- Forest Act.
- TRAI Act, 1997.
- Energy Conservation Building Code.
- Energy Conservation.
- Reference
- Department of Information Technology.
- Ministry of Environment & Forest.
- Department of Information Technology, Govt. of India.
- Department of Telecommunication, Govt.
- of India.
- Himachal Pradesh Pollution Control Board.

CHAPTER 3 LIVELIHOOD

3.1 Resource inventory of existing assets of the sector

Agriculture is the largest occupation and source of livelihood to 66.71% population in Himachal Pradesh. The topography of the state is largely hills where cultivation is mainlydoneonterraces. Due to ideal climate for fruit and vegetable cultivation and horticulture (seasonal as well as off-season), well-diversified farm economy has developed rapidly during the past three decades.

In Himachal Pradesh, the net cultivated area is only 17.2% of the total area. The cropping intensity was 170.9% during 2000-2001 period. New opportunities emerging for cultivation include flowers, medicinal and aromatic plants and new fruits like kiwi and hazel nut. The percentage of agricultural laborers to total workers is 1.83% as per 2001 census. Table 1 depicts the decadal increase in work force for the period (1991- 2001)

Table 1: Details of Work Force 1991-2001 Decade

Sr. No.	Item	Unit	1991 Census	2001 Census	%age Increase/ Decrease
1.	Total Population	Lakh Persons	51.71	60.78	17.54
2.	Main Workers	Lakh Persons	17.79	19.64	10.40
a.	Cultivators	Lakh Persons	11.25	10.89	03.2
b.	Agricultural Labourers	Lakh Persons	0.59	0.36	38.98
c.	Household Industry	Lakh Persons	0.25	0.35	40.00
d.	Other Workers	Lakh Persons	5.70	8.04	41.05
3.	Marginal Workers	Lakh Persons	4.35	10.29	136.55
4.	Non-Workers	Lakh Persons	29.56	30.56	4.36

Source:-11th Plan 2007-12

The above table reveals that during 1991-2001, work force increased from 22.14 lakhs in 1991 to 29.93 lakhs in 2001, recording a growth of 35.18% as against 17.54% growth of population. In the year 1991, the work force constituted 42.82% of the total population while in 2001, it accounted for 49.24%. Thus, during the 1991-2001 decade, the workforce increased by 6.42%. The percentage of main workers, to total population decreased from 34.41% to 32.31% during 1991-2001, while marginal workers increased more than double from 8.41% to 16.92% during the same period while non-workers decreased from 57.16% to 50.76%.

The other feature of the work force reveals that "other workers" recorded a growth of 41.05% over the period of a decade. Noticeable feature of the main workforce is the decrease in the category of cultivators and agricultural labourers. Table 1 indicates that cultivators decreased by 3.2% and agricultural labourers by 38.98% during 1991-2001. The declining trend shows that main workforce preferred jobs in private sector. It also indicates shifting of the workforce from the traditional occupation of agriculture to commercial and industrial activities.

Table 2: District wise livelihood details in Himachal Pradesh

District Name	Population (%) 1991-2001	Occupation through Animal husbandry	Economy Resources	Forest	Crops	Population Dependence on Agriculture
Kangra	22.02	Main occupation next to	Primarily Agrarian	Diverse Vegetation (28.56%)	wheat, paddy, maize, oil seeds, potato,	Main occupation

District Name	Population (%) 1991-2001	Occupation through Animal husbandry	Economy Resources	Forest	Crops	Population Dependence on Agriculture
		agriculture			sugarcane etc.	
Bilaspur	5.61	90%	Agrarian & cultivation, agricultural land, fisheries	Not very rich & extensive (36.7%)	Maize, rice & wheat	80%
Chamba	7.5	Main occupation next to agriculture	Agriculture& cultivation	Great variety of products (35.25%)	Paddy, Maize, Rajmah, Wheat, Gram, etc.	70%
Hamirpur	6.78	Main occupation next to agriculture	Agriculture	Useful for commercial production (19.6%)	Maize, paddy, oil seeds, puls- es, wheat, barley	Main
Kullu	44.42	Important occupation	Agriculture & cultivation	Extensive (35.9%)	cereals, wheat, maize, paddy and barley	More then 80%
Shimla	17.2	Main occupation next to agriculture	Horticulture	Rich forest	Varieties of Apple and other fruits	80-85%
Mandi	16.1	Main occupation next to agriculture	Agrarian	Rich forest	potato, off season vegetables and ginger	80%
Solan	8.2	Primarily economic source	Agriculture	Thick reserved forest.	sugarcane and potato	90-95%
Una	16.1	Main occupation next to agriculture	Agriculture	Rich in commercial prod- ucts	Cereal, pulses & others	90%
Kinnaur	9.91	Main occupation next to agriculture	Primarily dependent on Agriculture	Rich in products for cattle	Wheat, barley, maize, potato, vegetables and pulses.	Predomina-ntly
Sirmaur	10.6	Main occupation next to agriculture	Agriculture & Cultivation	scrub, sal, bamboo, fur and alpine forests	Maize, ginger, turmeric, po- tato & wheat	80%
Lahaul & Spiti	6.71	Primarily dependent on agro-commercial activity & predomi- nantly agro-pastoral	Agrarian	Poor	seed potatoes, hops and kuth etc.	Predominant occupa- tion

(Source -http://himachal.nic.in/tour/census.htm, census data 2001, baseline report of Agriculture, Forest, Livestock and Horticulture).

The population of Himachal Pradesh according to 2001 Census is 60.78 lakhs out of which 54.82 lakhs (90.21%) live in rural areas and 5.95 lakhs (9.79%) in urban areas. Thus,

the majority of population is associated with such economic activities as are related to rural economy.

Table 3: Percentage of Population Living Below Poverty Line by Social Groups (2004-05)

	Rural(%)			Urban (%)		
	SC	ST	OBC	SC	ST	OBC
Himachal Pradesh	19.6	14.9	9.1	5.6	2.4	10.1
All India	**36.8**	**47.3**	**26.7**	**39.9**	**33.3**	**31.4**

Source: National Sample Survey (61st round)

In Himachal Pradesh, where about ninety percent of its population lives in rural areas, the head count ratios for the poor have remained higher in rural areas as compared to those for the urban areas. While, over time, the head count ratios of the poor both in rural and urban areas have come down considerably, the number of poor hardly changed during the last two decades in Himachal Pradesh.

Agriculture being the main livelihood of the rural population of Himachal Pradesh, incidence of higher head count ratios of the poor in the rural areas of the State indicates the occupational composition of poverty in the State.

Agriculture and Allied Activities were accorded fourth priority by the State Government by envisaging 10.57% funds of the aggregate plan size to check deceleration in agricultural productivity, enhancing horticultural production and conserve environment and ecology. In the 11th Plan of the state added thrust was given to Agriculture Sector to enhance food security, generate additional employment opportunities and to boost rural economy. Different heads of development wise outlays under this sector along with priorities is given in table 4.

Table 4: Head of Development wise Break up of Outlay

Sr. no.	Head of Development	Approved outlay for 2007-08	% age of priority
1	Agriculture	11.43	5.15
2	Horticulture	6.89	3.1
3	Soil & Water Conservation	15.17	6.83
4	Animal Husbandry	17.53	7.9
5	Dairy Development	0.85	0.38
6	Fisheries	2.39	1.08
7	Forestry and Wild Life	103.53	46.64
8	Agriculture Research & Education	53.83	24.25
9	Marketing and Quality Control	9.15	4.12
10	Co-operation	1.22	0.55
	Total	**221.99**	**100**

Source:-11th Plan 2007-12

Though fifth priority was given to Energy Sector, yet the plan outlay did not indicate true reflection of Government endeavour to harness massive hydel potential identified in the state. This was on account of the hydel projects have been awarded to private and joint sectors. However, in the coming years, after the completion of ongoing major irrigation projects, Govt. equity contribution to power projects is bound to accelerate. The physical targets of selected items approved for the year 2007-08 are given in table 5.

Table 5: Targets of Selected Items - Annual Plan 2007- 2008

Sr. No.	Item	Unit	target
1	Food grain Production	Thousand M.T.	1650.6
2	Vegetable Production	Thousand M.T.	1060
3	Fertilizer Consumption	Thousand Tonnes	48
4	Fruit Production	Thousand M.T.	746
5	Mushroom Production	M.T.	6000
6	Hops Production(Dry)	M.T.	41
7	Production of Honey	M.T.	1500
8	Milk Production	Thousand Tonnes	860
9	Wool Production	Lakh Kgs.	16.55
10	Fish Production	Tonnes	7,500
11	Afforestation (SVY)	Ha.	200
12	**IRD Families to be assisted:**		
13	Swarna Jayanti Gram Sawarozgar Yojana	Disbursement of Credit (Rs. In Lakh)	1500
14	Additional CCA to be Created	Ha.	4500
15	Installed Capacity to be	MW	4.5

Sr. No.	Item	Unit	target
	added		
16	Opening of Ayurvedic Hospitals	Nos.	1
17	Opening of Homeopathic Health Centres	Nos.	2
18	Opening of Ayurvedic Health Centers	Nos.	10
19	Rural Water Supply left-out Habitations to be covered	Nos.	4510
20	Coverage under EIUS	Nos.	5850
21	Construction of Housing Units	Nos.	9102
22	Hand Pumps to be installed	Nos.	1500

3.2 Sector Wise Resources in Himachal Pradesh

Sector wise resources in the state, which are major contributor to livelihood are described below.

(a) Agriculture:

Agriculture is the largest occupation and source of livelihood to most people in Himachal Pradesh. It provides employment to about between 67-71% of residents. Total area available for agriculture is less than 17%.Cultivation is mainly (80.9%) rainfall dependent. The size of land holdings are less than one or one hectare which covers 61.5% farming community. The small and marginal farmers put together account for 82.1% and cover an area of 43%. The medium farmers with land holdings ranging from two hectare to ten hectares cover an area of 47.2%.Approximately 80% of all land holdings fall in the categoryof small and marginal farmers. The agricultural work force constitutes 34.41% of the total population, of which 63.25% are cultivators. The ratio of agricultural labourers to total workers wasonly 2.66% as per 1991 Census.

According to, the total geographical area for the year 1999-2000 was 115,445 hectares. Out of which 30,239 hectares was net sown area and 57,622 hectares was total cropped area sown. The average cropped area sown was 0.102 hectares per person. According to District statistical Abstract, the total cropped area was 56,714 hectares during the year 1998-99. Out of which 26,305 hectares area was sown more than once. The Net area sown was 30,409 hectares. The area under food-grains was 5,4597 which includes 26,863 hectares under wheat, 24,830 hectares under maize, 2,068 hectares under rice and 325 hectares under barley, 4 hectares under other crops and 196 hectares under gram and 34 hectares under other pulses.

Land Holding Size: Agriculture happens to be the premier source of State income (GSDP). About 18 % of the total GSDP comes from agriculture and its allied sectors. Out of the total geographical area of 55.67 lakhs hectare, the area of operational holdings is about 9.79 lakhs hectares and is operated by 9.14 lakhs farmers (Table 6). The average holding size comes to 1.1 hectare. Distribution of land holdings according to 2000-01 Agricultural Census shows that 86.4% of the total holdings are of small and marginal farmers. 13.2% of holdings are owned by semi medium/ medium farmers and only 0.4% by large farmers (Table 7). As per Agriculrure Census 2001, the highest average land holding size (0.0214 Sq.km.) was found in district Sirmaur and the lowest (0.0068 sq.km.) in District Kullu (Table 8).

Table 6: Number & Area of Operational Holdings by Size Class of Holding 2000-01

Size class (Hectares)	Number of Holdings	Percentage (%)	Area(sq. Km)	Percentage (%)
<0.05	404553	44.3	1006.94	10.3
0.5-1.0	210389	23.0	1510.78	15.4
Marginal Farmers	614942	67.3	2517.72	25.7
1.0-2.0	174230	19.1	2446.29	25.0
Small Farmers	174230	19.1	2446.29	25.0
2.0-3.0	63119	6.9	1519.01	15.5

Size class (Hectares)	Number of Holdings	Percentage (%)	Area(sq. Km)	Percentage (%)
3.0-4.0	26754	2.9	914.15	9.3
Semi-Med Farmers	89873	9.8	2433.16	24.8
4.0-5.0	13604	1.5	607.14	6.2
5.0-7.5	12863	1.4	773.99	7.9
7.5-10.0	4432	0.5	377.66	3.9
Medium Farmers	30899	3.4	1758.79	18.0
10.0-20.0	3439	0.3	440.22	4.5
>20.0	531	0.1	191.38	2.0
Large Farmers	3970	0.4	631.60	6.5
Total	**913914**	**100**	**9787.56**	**100**

Source: Agriculture Census, Directorate of Land Rec ords H.P.

Table 7: Distribution of land Holdings

Size of Holdings (ha.)	Category (Farmers)	No. of Holdings (Lakh)	Area (Lakh ha.)	Average size of Holding (ha.)
Below 1.0	Marginal	6.15 (67.3%)	2.52 (25.8%)	0.4
1.0-2.0	Small	1.74 (19.1%)	2.45 (25.0%)	1.4
2.0-4.0	Semi Medium	0.90 (9.8%)	2.43 (24.8%)	2.7
4.0-10.0	Medium	0.31 (3.4%)	1.76 (18.0%)	5.7
10.0-Above	Large	0.04 (0.4%)	0.63 (6.4%)	15.7
Total		**9.14 (100%)**	**9.79 (100%)**	**1.1**

Source: Economic Survey Report, H.P., 2009-10

Table 8: District Wise Operational Holdings and Area-2000-01

District	Number	Area (Ha)	Area (Sq. Km)	Average size of holding (Sq. Km)
Bilaspur	54609	50954	509.54	0.0093
Chamba	68125	56227	562.27	0.0083
Hamirpur	72878	74449	744.49	0.0102
Kangra	229690	206581	2065.81	0.009
Kinnaur	10037	13831	138.31	0.0138
Kullu	62625	42399	423.99	0.0068
Lahaul & Spiti	4097	6390	63.9	0.0156
Mandi	146247	128472	1284.72	0.0088
Shimla	101537	122010	1220.1	0.012
Sirmaur	48066	102682	1026.82	0.0214
Solan	50576	90148	901.48	0.0178
Una	65427	84613	846.13	0.0129
Himachal Pradesh	**913914**	**978756**	**9787.56**	**0.0107**

Source: - Directorate of Agricultural Census, H.P.

Area of High Yielding Varieties (HYV) Crops: The area of maize and paddy crops has increased in the state while area under wheat crop has been decreased from 345.85 ha in 1997-98 to 325.22 ha in the year 2008-09. The farmers of district Lahaul and Spiti cultivate more cash crops, so this district has lowest HYV crop area. Table 9 shows that the, farmers C of Shimla, Kangra and Mandi districts also cultivate more cash crops. Majority of the area covered under wheat and maize in high yielding varieties crops which are under paddy were very low in all districts except Kangra and Mandi. The year wise and district wise status of area under HYV crops and cash crops are given below:

Table 9: District wise Area under High Yielding Variety Crops and Cash Crops

District	Wheat (Sq Km)		Paddy (Sq Km)		Maize(Sq Km)		Potato Area(Sq.km)		Other Vegetables Area(Sq.Km)	
	High Yielding Variety Crops								Cash Crops	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
Bilaspur	265	244.5	12.5	13	256	255.1	0.3	0.3	20.5	27.5
Chamba	172	152.2	15	16	262	263.2	6	6	21.5	25.5
Hamirpur	336.5	317	18	19	305	304.9	0.44	0.41	16.35	20

District	Wheat (Sq Km)		Paddy (Sq Km)		Maize(Sq Km)		Potato Area(Sq.km)		Other Vegetables Area(Sq.Km)	
	High Yielding Variety Crops								Cash Crops	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
Kangra	887.5	867.5	364	364.5	506	506.3	27.4	26.8	64.91	52.5
Kinnaur	4	4	0.3	30	4.5	4.8	2	2	27.15	22
Kullu	205	186.1	100	10	150	150.2	1.5	14.5	41.25	40
Lahaul & Spiti	2.5	2.5	-	-	0.5	0.5	14	7.42	41.67	29
Mandi	640	641	191.2	191.8	466.1	466.5	24.19	15.91	57.62	70
Shimla	174.5	155.5	14.5	14.7	131	129	39.79	43.39	87.5	90
Sirmaur	274	254.5	52	53.5	215.5	213.6	17.1	14	55.14	57.5
Solan	227.5	208	29	31	237.5	237.1	2.51	1.3	73.78	71
Una	307.5	288.1	20	21.3	272	271.9	7.9	8.8	13.16	25

Source: Directorate of Agriculture, Himachal Prades h

Production of Principal Crops: During the period 1998-99, there was a record production of principal crops through out the district. During this period 58,513 metric tonnes food-grains including both cereals and pulses were produced, which includes 11,045 M.T. of wheat, 44,998 M.T. maize, 2,384 M.T. of rice, 22 M.T. of barley, 45 M.T. gram and 69 M.T. of other pulses. Other food crop like sugar cane (Gur) worth 518 M.T. and Ginger (Green) worth 341 M.T. were produced in the districts.

Target 2009-10: The food grain production targets for 2009-10 were expected to be around16.50 lakh MTs. The Kharif production mainly depends upon the behaviour of south west monsoon, as about 81.5% of the total cultivated area is rainfed. During kharif, 2009, against the Kharif target of 9.16 lakh MTs it is expected that about 8.14 lakh MTs of food grains will be achieved. Due to deficient rainfall during October to December, 2008, it was expected that during 2008-09 target of 7.22 lakh M.T. the total production of 5.86 lakh M.T. could be achieved. The production of food grains and commercial crops in the State during 2006-07 to 2007-08, 2008-09 likely anticipated achievement for 2009-10 and target for 2010-11 is shown in Table 10.

Table 10: Food grains Production (In '000 tonnes)

Crop	2006-07	2007-08	2008-09 (Likely)	2009-10 (Anti. Ach.)	2010-11 (Target)
I. Food grains					
Rice	123.49	121.45	118.28	50.98	130.00
Maize	695.38	628.61	676.64	331.67	785.00
Ragi	3.16	2.49	3.1	1.48	4.50
Millets	5.08	5.46	5.09	1.9	6.60
Wheat	596.49	562.01	531.49	523.85	687.00
Barley	33.87	30.68	26.4	27.11	37.00
Gram	1.02	1.37	1.6	0.62	4.00
Pulses	17.98	34.59	36.96	18.77	16.50
Food grains	1,476.47	1,440.66	1,399.56	956.38	1,670.60
II. Commercial Crops					
Potato	163.21	155.26	145.6	61.08	185.00
Vegetables	991.44	1,040.49	1,090.33	1130.00	1250.00
Ginger (Dry)	2.06	2.55	4.16	2.00	5.20

Source: Economic Survey Report, HP, 2009-10

(b) Horticulture: In Himachal Pradesh, the area under fruits has increased by 7.39% (145.79 Sq.Km) between 1994 and 2007. The area under Apple and other fruits has increased while area under citrus and nut & dry fruits have decreased from 1994 to 2007 (Table 11).

Table 11: Area under Fruits 1994-2007 (Sq. Km)

Year	Apple	Citrus	Nuts & dry fruits	Other fruits	Total
1993-94	724.06	379.61	145.53	579.46	1828.66
1994-95	754.69	383.23	149.35	609.62	1896.89
1995-96	782.92	385.95	152.37	635.60	1956.84
1996-97	803.38	383.69	154.78	620.27	1962.12
1997-98	830.56	386.35	158.32	648.39	2023.62
1998-99	856.31	387.11	160.61	668.37	2072.40
1999-00	886.73	391.38	163.96	687.44	2129.51
2000-01	903.47	396.27	166.19	706.33	2172.26
2001-02	928.20	401.74	169.56	730.85	2230.35
2002-03	816.30	197.84	107.00	640.92	1762.06
2003-04	841.12	202.61	109.39	671.29	1824.41
2004-05	862.02	204.02	111.00	691.99	1869.03
2005-06	885.60	207.29	112.10	711.69	1916.68
2006-07	918.04	211.18	113.28	731.95	1974.45

Source: Horticulture Department, Himachal Pradesh

The highest fruit production was found in district Shimla (315200 tons), Kullu (162328 tones) and Kangra (86308 tones). The district wise details of fruit production are given in Table 12.

Table 12: District wise fruit production in 2005-06 (in tones)

District	Fruit								
	Apple	Plum	Peach	Pear	Almond	Mango	Lime	Orange	Total Fruit
Bilaspur	0	37	72	209	1	3173	88	16	4297
Chamba	10367	356	140	345	35	361	272	[illegible]	[illegible]
Hamirpur	0	67	104	248	12	2196	151	110	5143
Kangra	650	1232	648	2045	314	49885	4367	16789	86308
Kinnaur	41101	3	2	24	225	0	0	0	41632
Kullu	140633	6452	18	14988	12	4	10	0	162328
Lahaul & Spiti	193	9	0	2	4	0	0	0	227
Mandi	36421	1232	175	908	350	870	400	198	43084
Shimla	310252	557	147	2632	273	51	63	1	315200
Sirmaur	680	761	6367	437	74	2799	289	154	13996
Solan	59	991	133	1251	3	1027	245	36	6006
Una	0	16	17	903	0	2725	37	[illegible]	[illegible]
State	**540356**	**11713**	**7823**	**23992**	**1303**	**63091**	**5922**	**18397**	**695517**

Source: Department of Horticulture, Himachal Prades h

(c) Animal Husbandry

Livestock thus is integral to the sustainability of economy and livelihood in the State. The contribution of major livestock products which contributed to livelihood during the year 2008-09 was 8.84 lakh tonnes of milk, 1,617 tonnes of wool, 98.00 million eggs and 3,309 tonnes of meat which was expected to be 8.90 lakh tonnes of milk, 1,665 tonnes of wool,105.00 million eggs and 3,400 tonnes of meat during 2009-10. The per capita availability of milk has also been increased from 398 to 400 gm. per day between 2008-09 and 2009-10. Milk Production and Per Capita availability in the

state during 2008-09 & 2009-10 is shown in Table No. 13.

Table 13: Milk Production and Per Capita Availability

Year	Milk Production(lakh tonnes)	Per Capita Availability (gm./Day)
2008-09	8.84	398
2009-10	8.90	400

Source: Economic Survey Report, 2009-10

Animal Husbandry plays an important role to boost the rural economy. Livestock development programme is supported in the state by way of:

(I) Animal Health & Disease control.
(ii) Cattle Development.
(iii) Sheep breeding and Development of Wool.
(iv) Poultry Development.
(v) Feed and Fodder Development.
(vi) Veterinary Education.
(vii) Livestock Census.

More than 80% livestock of the State is with small and marginal farmers including nomadic/migratory tribes who have been rearing livestock as means of livelihood as well as supplementary profession. More than 90% of rural population rear livestock which caters to the needs of entire population in the form of milk and milk products. Average daily milk production varies from 1.5 liters in case of indigenous cows to 3 liters in crossbred and improved cows.

Milk Based Industries in Himachal Pradesh: Himachal Pradesh MILKFED is implementing dairy development activities in the State. The Himachal Pradesh MILKFED has organized 668 Societies. The total membership of these societies is 34,587 out of this 120 woman Dairy Cooperatives are also functioning. The surplus milk from the milk producers is collected by village dairy Co-operative societies, processed and marketed by Himachal Pradesh MILKFED. At present, the MILKFED is running 23 milk chilling centres having a total capacity of 70,000 litres milk per day and five milk processing plants having a total capacity of 75,000 litres milk per day. The average milk procurement is about 50,000 litres per day from the villages through village Dairy co-operatives. The milk produced about 153.33 lakh liters out of which 52.96 lakh litres has been marketed. The MILKFED is marketing approximately 20,000 litres of milk per day which includes milk supply to army units in Dagshai, Shimla, Palampur and Yol area. In addition to this, Himachal Pradesh MILKFED is also supplying milk to Model Dairy Karnal and Reliance Dairy Foods Ltd., Saha, District Ambala. The MILKFEDS Societies and production of various milk products in the organized sector is shown in Table 14.

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Table 14: Production of Milk Based Industry

Sr. No.	Particulars	Units	2005-06	2006-07	2007-08	2008-09	2009-10 up to 31.12.09
1	Organized Societies	No.	404	525	594	639	668
2	Membership	No.	22044	25325	26956	28704	34587
3	Milk procured	Lakh ltrs.	91.70	89.11	139.51	167.15	153.33
4	Milk Marketing	Lakh ltrs.	49.72	58.15	60.52	65.86	52.96
5	Ghee sold	MT	37.90	43.74	70.56	116.19	130.12
6	Paneer sold	MT	49.79	59.25	66.4	52.38	36.11
7	Butter Sold	MT	8.41	8.14	11.45	13.28	11.59
8	SFM	Lakh bottles	0.19	0.11	0.00	0.02	0.02
9	Dahi Sold	MT	103.18	179.14	216.33	174.46	126.55
10	Cattle Feed	Qtls	19344	17941	23856	30078	28207

Source: Economic Survey Report, 2009-10

(d) Forest: The forests and other natural ecosystems of Himachal Pradesh that constitute two-thirds of the geographical area of the state are crucial for its environment, ecologY and economic well- being and that the influence of the state's forests transcends well beyond its boundaries, significantly impacting on the ecology and economy of the Indo-Gangetic plains. The forests of the state are rich in biodiversity and play a vital role in preserving the fragile Himalayan ecosystem while also being a primary livelihood source for the rural population and the prime source of fresh water

for both urban and rural populations. Forests, besides performing important ecological functions, provide essential services, such as food, fuel wood, fodder, timber, raw material for forest based industries and non-timber forest products. As per records nearly 66% of the geographical area of the state is forest lands; however, the extent of actual forest cover on all categories of land is only 26%. Himachal Pradesh has more than 12% of its area under two National Parks and thirty two Wildlife Sanctuaries, which are home to some rare and endangered faunal and floral species such as the Snow Leopard, Musk Deer, Pheasant and Himalayan Yew. The cold desert region of the state comprising Spiti sub-division of Lahaul and Spiti District and Pooh sub-division of Kinnaur district is a distinct biome and manifests remarkable ecological and biological diversity unique characteristics of isolation and marginality.

(e) Water Resources of Himachal Pradesh: The State's water resources owe their existence to the good precipitation during winter and during monsoon season. These resources include glaciers, perennial streams draining into rivers, water bodies including natural lakes and manmade reservoirs, innumerable water springs and large stocks of sub-soil water. Water resources of the State have a major bearing on making the State a very rich repository of biodiversity.

(f) River Systems of Himachal Pradesh: The State is drained by nine major river systems. Total catchment areas of these rivers are 55,673 square kilometers out of which moré than 50% of catchment area is covered by Sutlej (20,398 Km^2) and Beas (13,663 Km^2) rivers. Detailed descriptions of these rivers are listed in Table 15.

Table 15: Catchment Areas of Major Rivers

Sr. No.	Name of River System	Area of Catchment (in Km^2)	percentage
1	Sutlej	20,398	30.69%
Sr. No.	**Name of River System**	**(in Km^2)**	**percentage**
2	Beas	13,663	24.50%
3	Chenab	7,850	14.20%
4	Yamuna	5,872	10.60%
5	Ravi	5,528	09.90%
6	Indus	1,450	02.60%
7	Markanda	360	00.60%
8	Ganga	290	00.50%
9	Ghaggar	262	00.50%
	Total:	**55,673**	**100.00**

Source: State of Environment Report 2006 (Forests of Himachal Pradesh, 1993)

Other Sources of Water

Besides the natural water sources, rainwater are also harvested in the State in village ponds dug up and maintained for the purpose. This water helps to tide over the lean period water requirements during dry months and act as a good source of water for the livestock. 'Khatries' – the horizontal tunnels bored into the mountain slopes to tap water accumulated in the mountain folds, form an important source of water in the water scarce district of Hamirpur and Mandi.

Sub-soil water is also tapped in the State through bore wells and open wells. These wells form the mainstay of irrigation in the districts of Una, Sirmour, Solan and Kangra.

(g) Fisheries: The state of Himachal Pradesh has rich infrastructure and natural & man made source of water for development of fisheries. According to State Agriculture Plan, Himachal Pradesh, the state has 42000 ha of surface water area under reservoirs, 3000 km rivers, 725 ha of high altitude lakes, about 675 ha of surface water area under community, dugout and impoundment ponds. Fisheries serve as source of direct livelihoods to about 7000 families. The state produced 6887 tonnes of fish in 2006-07 out of which 58.47% was accounted by the rivers' fish production. Also, it was spread across most of the districts. The fish production increased to 7333 tonnes during 2007-08.

In the state of Himachal Pradesh, there are many licenced fishermen, who depend only on the fisheries for livelihood. The fisherman has been divided into three categories based on the nature of fishing catch source. In the year 2007, the licenced issued to the 4743 fisherman for general water which has increased 5102 in 2008 and 5180 in 2009. Licenced issued for fisherman in trout and reservoirs were also increased from the year 2007 to 2009 as described in table 16.

The production of fisheries in the year 2009 was 7798.6 tonnes and the value of these fishes about 3988.5 lakhs (Table 17). Table 16 and table 17 indicate that, the average income per licence holder fisherman from fisheries source is about Rs. 24803.

Table 16: Status of Licence holders from March 2007 to March 2009

Division	License- 2007					License-2008					License-2009				
	General Water		Trout Water		Reservoir	General Water		Trout Water		Reservoir	General Water		Trout Water		Reservoir
	Target	Achieved	Target	Achieved	Achieved	Target	Achieved	Target	Achieved	Achieved	Target	Achieved	Target	Achieved	Achieved
Bilaspur	360	360	0	0	1710	378	398	0	0	1600	400	404	0	0	2013
Chamba	320	203	50	10	96	336	233	20	20	127	240	241	22	20	127
Hamirpur	360	360	0	0	0	378	340	0	0	0	350	350	0	0	0
Kangra	1800	1571	0	0	0	1890	1653	0	0	0	1700	1702	0	0	0
Kullu	280	285	600	401	0	294	267	630	525	0	270	277	550	591	0
Mandi	870	800	100	112	0	914	816	115	164	0	820	822	170	187	0
Shimla	300	274	50	7	0	315	331	15	8	0	335	413	15	9	0
Sirmour	600	554	0	0	0	630	732	0	0	0	735	630	0	0	0
Solan	250	236	0	0	0	262	227	0	0	0	235	236	0	0	0
Una	100	100	0	0	0	105	105	0	0	0	105	105	0	0	0
Kinnaur	0	0	50	7	0	0	0	20	7	0	0	0	10	13	0
Lahaul & Spiti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pong Dam	0	0	0	0	3450	0	0	0	0	3422	0	0	0	0	3536
Directorate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**5240**	**4743**	**850**	**537**	**5256**	**5502**	**5102**	**800**	**724**	**5149**	**5190**	**5180**	**767**	**820**	**5676**

Source: Department of fisheries, Himachal Pradesh

Table 17: Source wise Production & Values of Fisheries for the month March 2009

Name of District	Fish Production (tons)						Value of Fish Production (Rs. Lakhs)					
	Rivers	Ponds	Reservoirs	Carp Farms	Table Size Trout	Total	Rivers	Ponds	Reservoirs	Carp Farms	Table Size	Total
Bilaspur	300.5	201.0	1028.4	0.3	0.0	1530.2	150.3	100.5	440.0		-	690.9
Chamba	267.5	25.0	2.8	0.6	0.2	296.0	133.7	12.5	1.5	0.1	0.5	148.5
Hamirpur	256.0	244.0	0.0	0.0	0.0	500.0	128.0	122.0	-	0.3	-	250.0
Kangra	1481.7	775.0	283.6	0.1	0.0	2540.4	740.9	387.5	201.6	-	-	1330.0
Kullu	252.0	15.0	0.0	0.0	37.3	304.3	151.2	9.0	-	0.0	73.1	233.3
Mandi	608.2	87.0	0.0	0.1	3.1	698.5	304.1	43.5	-	-	6.1	353.8
Shimla	270.6	53.6	0.0	0.0	2.7	326.9	189.4	37.5	-	0.1	5.3	232.3
Sirmour	488.0	278.4	0.0	0.0	0.0	766.4	244.0	139.2	-	-	-	383.2
Solan	166.3	138.2	0.0	0.0	0.0	304.5	83.1	69.1	-	-	-	152.2
Una	79.4	451.0	0.0	0.0	0.0	530.4	31.8	180.4	-	-	-	212.2
Kinnaur	0.0	0.0	0.0	0.0	1.1	1.1	0.0	0.0	-	-	2.2	2.2
Lahaul & Spiti	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	0.0
Total	**4170.1**	**2268.2**	**1314.8**	**1.0**	**44.5**	**7798.6**	**2156.4**	**1101.2**	**643.1**	**0.5**	**87.2**	**3988.5**

Source: Department of fisheries, Himachal Pradesh

(h) District wise Work Participation Rate

The work participation rate is defined as percentage of total workers to total population. Similar procedure has been adopted to define for main workers and marginal workers.

Bilaspur: According to 2001 Census the total workers including main & marginal workers comes to 48.9% of the total population of the district. Of the total workers, 32.5% and 16.4% is shared by the main and marginal workers respectively. The remaining 51.1% of total population is occupied by the category of non-workers. As per 2001 Census the main workers participation among male is 40.5% and for females is 24.4%. Males and females have 11.7% and 21.2% in the category of marginal workers. The proportion of female marginal workers is subsequently higher than that of males as the females are attending to one or more economic chores in addition to their household duties in order to increase the family income. It is observed that the proportion of male main workers is higher than that of female workers in the district.

Chamba: According to 2001 Census, the total workers including main and marginal workers constitute 50.0% of the total population of the district. Of the total workers, the share of the main workers is 27.9% and the marginal workers are 22.1%. The remaining half of population belongs to the category of non-workers.

As per 2001 Census among the main workers male participation rate in the district is 40.3% and corresponding proportion of females is 14.9%. Male and female marginal workers account for 13.6% and 31.0% respectively. The proportion of female marginal workers is substantially higher than males, as the females are attending to one or more economic activities in addition to their house duties to improve the family income. It is observed that in rural as well as in the urban areas of the district, the proportion of male main workers is higher than that of the female main workers.

Hamirpur: According to 2001 Census, the total workers including main and marginal workers constitute 49.8% of the total population of the district. Males being 50.9% and females 48.7%. Of the total worker's the share of main workers is 29.1% and the marginal workers is 20.7%. The remaining 50.2% of population belongs to the category of non-workers.

Sex-wise work participation rates among the main workers in the district indicates that, males constitute 35.3% and the corresponding proportion of females is 23.3%. Male and female marginal workers account for 15.6% and 25.4 per cent respectively. The proportion of female marginal workers is substantially higher than males, as the females are attending to one or more economic activities in addition to their household duties to improve the family income. It is further observed that in rural as well as in urban areas of the district the proportion of male main workers is higher than the female main workers.

Kangra: According to 2001 Census, the total workers including main and marginal workers constitute 44.0% of the total population of the district. Of the total workers, the share of the main workers is 25.1% and the marginal workers is 18.9%. The remaining 56.0% of population belongs to the category of non-workers.

As per 2001 Census, among the main workers male participation rate in the district is 36.6% and corresponding proportion of females is 13.9%. Male and female marginal workers account for 14.1% and 23.5% respectively. The proportion of female marginal workers is substantially higher than males, as the females are attending to one or more economic activities in addition to their household duties

to improve the family income. At tehsil level the highest percentage of total workers has been recorded in Rakhar sub-tehsil (66.7%) and is followed by Khundian tehsil (65.0%). Nurpur tehsil has lowest proportion of 32.3%.

It is observed that in rural as well as in the urban areas of the district, the proportion of male main workers is higher than that of the female main workers.

Kinnaur: According to 2001 Census, the proportion of total workers that includes main and marginal workers comes to 61% of the total population of the district. Of the total workers the share of main workers is 51.4% and of marginal workers is 9.6%. The remaining 39% of the population belongs to the category of non-workers. Sex wise among the main workers, the ratio of males is 59.4% where as in females it is 42.3%. In the category of marginal workers, the proportion of female i.e. 12.4% and is slightly higher to the males proportion of 7.1 as the females are attending to one or more economic activities in addition to their household duties to improve the family income.

Kullu: The work participation rate is defined as percentage of total workers to total population. According to 2001 Census, the total workers including main and marginal workers constitute 56.7 per cent of total population of the district. Of the total workers the share of the main workers is 43.7 per cent and marginal workers is 13.1 per cent. The remaining 43.3 per cent of population belongs to the category of non-workers.

As per 2001 Census among the main workers male participation rate in the district is 50.6% and corresponding proportion of females is 36.3%. The proportion of female marginal workers is substantially higher than males, as the females are attending to one or other economic activities in addition to their household duties, to improve the family income. Majority of the workers are engaged in agricultural activities. Of the total 216,513 workers in the district 76.0% of these total workers are categorized as cultivators, 2.6% agricultural labourers, 1.3% in household industries and 20.1% in other services.

Lahaul & Spiti: Of the total population of district, 21,088 persons have been categorised as a total workers including main and marginal workers constituting 63.5 per cent of the total population. The share of main and marginal workers comes 57.8% and 5.7% respectively. At tehsil level, the highest percentage of total workers has been recorded in Lahaul (70.2%) and is followed by Udaipur (63.5%) sub-tehsil. Spiti tehsil has lowest proportion of 55.3%.

For male & female participation rate, the proportion of total male workers comes to 68.3% of the total male population while female participation rate works out 57.4% in the district. Male marginal workers constitute only 4.4 per cent and the proportion of female marginal workers in 7.2%. At tehsils level percentage of male workers is higher than females in all tehsils/sub-tehsils.

Mandi: According to 2001 Census, the total workers including main and marginal workers constitute 50.4% of the total population of the district. Of the total workers, the share of main workers is 29.9% and marginal workers are 20.5%. The remaining 49.6% of population belong to the category of non-workers.

As per 2001 Census among the main workers male participation rate in the district is 39.4% per cent and corresponding proportion of females is 20.4%. Male and female marginal workers account for 13.2% and 27.8 per cent respectively. The proportion of female marginal workers is substantially higher than males, as the females are attending to one or more economic activities in addition to their house duties, to improve the family income. It is observed that in rural as well as in the urban areas of the district, the proportion of male

main workers is higher than that of female main workers.

Shimla: As per 2001 Census, the proportion of the total workers works out to 51.2% of the total population of the district 2001 Census recorded 42.3% of the district population as main workers, 8.9% as marginal workers and the remaining 48.8% as non workers. The corresponding for state are 32.3%, 16.9% and 50.9% respectively. Thus the ratio of persons engaged in economically productive activity to total population for the district is slightly higher than that of the state.

Among the main workers, male participation in the district is 51.6% and 31.9% of females as compared to state average of 43.1% for males and 21.1% for females. Male and female marginal workers account for 5.9% and 12.3%. The percentage of females marginal workers is higher than males. The remaining 42.5% of males and 55.8% of females are non workers. Total workers among tehsils vary from 62.9% in Tikar sub-tehsil to 42.4% in Nerua sub-tehsil. There are considerable variation in work participation rates among the tehsils between males and females. The differential is larger among the females than the males.

Sirmaur: According to 2001 Census, the total workers including main and marginal workers constitute 49.3% of the total population of the district, as a whole. Of the total workers the share of the main workers is 38.4% and the marginal workers come to 10.9%. The remaining 50.7% of the population belongs to the category of non-workers.

According to 2001 Census, the participation rate of male main workers in the district comes to 48.8 per cent and that of females is 26.7 per cent. The percentage of males and females marginal workers is 7.6 and 14.6 per cent respectively. The proportion of female marginal workers is higher than that of males as the females have engaged themselves in one or more economic activities in addition to their daily household duties to improve the family economy. The percentage of main workers among males is 49.2 per cent while in case of females it is 28.6 per cent in rural areas. The proportion of male and female main workers in urban areas is comparatively low which comes to 45.4 per cent and 9.7 per cent at district level respectively.

Solan: The work participation rate is defined as percentage of total workers to total population. In the same way, it is defined for main-workers and marginal-workers. According to 2001 census, the total workers including main and marginal workers constitute 52.6% of the total population of the district as a whole of the total workers, the share of the main workers is 34.4% and the marginal worker comes to 18.2%. The remaining 47.4% of the population belongs to the category of non-workers.

According to 2001 census among the main workers, male participation rate in the district stands at 50.8% and of females is 15.2%. The percentage of males and females marginal workers is 10.4% and 27.4% respectively. The proportion of females marginal workers is higher than that of males as the females are generally engaged themselves in one or more economic activities in addition to their daily household duties to improve the family income. It is observed that in rural as well as in the urban areas of the district the proportion of male main workers is higher than female main workers.

Una: According to 2001 Census, the total workers including main and marginal workers constitute 45.0% of the total population of the district. Of the total workers, the share of the main workers is 26.6% and the marginal workers are 18.4%. The remaining more than half of population belongs to the category of non-workers.

As per 2001 Census among the main workers, male participation rate in the district is 41.1% and corresponding proportion of females is

12.0%. Male and female marginal workers account for 11.8% and 25.0% respectively. The proportion of female marginal workers is substantially higher than males, as the females are attending to one or more economic activities in addition to their house duties to improve the family income.

It is observed that in rural as well as in the urban areas of the district, the proportion of male main workers is higher than that of the female main workers.

Educational Facilities in Himachal Pradesh: Table 18 indicates that, the state has 10409 primary schools, 1994 middle schools, 2014 high schools and 68 colleges in 12 districts. The status of trained teachers in primary, upper primary and high school was also analysed. It was observed that the 75.84% of primary teachers, 96.65% of upper primary teachers and 96.83% of high school teachers were trained in Himachal Pradesh. District wise detailed status is given in table 18 and table 19.

Table 18: District wise Educational Institutions (Primary & above) in Himachal Pradesh

Sr. No.	District	Primary school	Middle school	High school/ sr sec. school Govt.	Colleges/ Institutions affiliated to H.P.U.
1	Bilaspur	600	125	127	13
2	Chamba	1125	238	172	15
3	Hamirpur	505	141	134	28
4	Kangra	1768	389	408	58
5	Shimla	1625	351	307	49
6	Sirmaur	988	206	152	23
7	Solan	769	166	139	42
8	Una	508	119	140	33
9	Lahaul & Spiti	206	38	35	2
10	Kinnaur	190	35	49	2
11	Kullu	744	130	105	9
12	Mandi	1739	365	326	48

Source: Government of HP, 2010-1 Deptt. Of Economics & Statisites and H.P.U. Website

Table 19: Percentage of the Trained Teachers, Himachal Pradesh

Level	Trained	Untrained	Total
Primary	18804	5990	24794
	(75.84)	(24.15)	(100.00)
Upper Primary	5774	200	5974
	(96.65)	(3.34)	(100.00)
High	10180	333	10513
	(96.83)	(3.16)	(100.00)

Source: SCERT, Government of HP, 2001.

Health Facilities in Himachal Pradesh: The state has 51 Hospitals, 73 Community Health Centres, 447 Primary Health Centres, 22 Civil Dispensaries and 2070 Sub-centres in rural and urban areas. It was found that in district Shimla these are more hospitals and in distt. Kangra there are more Community and Primary Health Centres. Detailed status of the above health facilities is given in Table 20.

Table 20: Health Facilities in Himachal Pradesh as On 31-07-2007

District	Population 2001 census	Hospitals	Community Health Centres	Primary Health Centres	Civil Dispensaries	sub Centres	Beds (sanctioned)	Beds (In-Position)	C.D. Blocks	Gram Panchayats
1. Bilaspur	340885	2	6	27	2	116	385	355	3	151
2. Chamba	460887	4	7	42	0	170	611	560	7	283
3. Hamirpur	412700	2	5	25	0	151	434	366	6	229
4. Kangra	1339030	8	14	77	2	434	1462	1204	14	760
5. Kinnaur	78334	2	3	21	0	33	226	197	3	65

District	Population 2001 census	Hospitals	Community Health Centres	Primary Health Centres	Civil Dispensaries	sub Centres	Beds (sanctioned)	Beds (In-Position)	C.D. Blocks	Gram Panchayats
6. Kullu	331571	2	5	17	0	101	392	345	5	204
7. L & Spiti	33224	1	3	16	0	36	136	94	2	41
8. Mandi	901344	6	11	60	0	311	1110	909	10	473
9. Shimla	722502	12	7	76	9	261	2224	1803	9	363
10. Sirmour	458593	5	3	35	3	148	604	391	6	228
11. Solan	500557	5	4	32	5	178	721	554	5	211
12. Una	448273	2	5	19	1	131	369	347	5	235
H.P.	**6027900**	**51**	**73**	**447**	**22**	**2070**	**8674**	**7125**	**75**	**3243**

3.3 Patterns of Planning and Development in the sector

(a) Livelihoods & Food security Program

Himachal Pradesh is also a part of Livelihood & Food security program of Government of India. Organizing and empowering the communities, institutionalization, training, education & extension, research and technical/ market support are the principal strategies to improve the livelihoods and food security of poor families – under this program.

(b) Current Projects

Agro-Biodiversity Conservation & Food Security

Recent introduction of High Yielding Variety (HYV) of food and fruit crops in Himachal Pradesh has subsequently diverted the farming systems from mixed crop cultivation to mono-crop cultivation leading to the loss of agro-biodiversity. The foremost reason of erosion in agro-biodiversity in the mountains is due to: (a) changing attitude of farmers towards fine grains, (b) supply of HVY seeds and other inputs at subsidized cost by the government, (c) attraction to maximize profits through cash crop monocultures, and (d) lack of market for produce of traditional crops. If there is little market available for traditional crops, the prices offered are unattractive to the farmers. The acreage under traditional crops has declined substantially in the last two decades. Loss of genetic diversity coupled with inequity in the society rapidly imperils the native landraces and overall sustainability of the agriculture systems in Western Himalayas. When any species or cultivar, is lost the centuries old traditional knowledge about the same also disappears. It disbalances the mountain agro-ecosystem and sustainability. Western Himalayan zone of Himachal Pradesh is characterized with fragile ecosystems in which the biodiversity is critical component. When the wild biodiversity is relatively protected and preserved by creation of National Parks and Sanctuaries, the agro-biodiversity is left on the mercy of farmers who are in fact prone to changing economic and social environments.

The activities of the project include:

a. Identification of agro-biodiverse area.
b. Mapping of agro-biodiversity and screening of varieties/ cultivars of traditional crops.
c. Documentation of indigenous wisdom of farmers to characterize the traits of cultivars/varieties.
d. Extension and education about the agro-biodiversity conservation in-situ.
e. Establishment of seed banks to preserve the gene pool ex-situ.
f. Linking the traditional food produce with the market for letting the farmers obtain comparable prices of their farm produce of traditional crops.

The project is currently operational in Kullu district with future possibility of extension in Mandi, Kangra and Chamba districts of Himachal Pradesh.

Sustainable Agriculture Development

The use of chemical inputs on a large scale in mountains of Himachal Pradesh has a variety of negative effects. Chemical fertilizers are destroying the soil structure with evidence of declining productivity, increasing health risks, loss of biodiversity on-farm, reducing food security and overall environmental damage in mountain agro-ecosystems. Monoculture is gradually taking over, which is obviously disastrous in the long-term. For example, garlic has been taking over the cereal and staple crops. The farmers who have been using chemicals for over a decade now look for alternatives of chemicals. Besides, other set of farmers want improvement of productivity of traditional cultivars they have been growing for years. The project, therefore, addresses the need of farmers to get rid of chemicals and increase productivity of diverse traditional cultivars of the crops. It invariably enhances the food security and ensures the livelihood of farmers in the long-term. The project is currently operational in Kullu district with future possibility of extension in Mandi, Kangra and Chamba districts of Himachal Pradesh.

Microcredit & Micro-entrepreneurship for Sustainable Livelihoods

The microcredit is the main tool, which is being used by the communities to improve their economic situation and alleviate the poverty. Microcredit activities have started an institutionalization process in the villages. Under institutionalization, the women address their impoverishment on priority and come forward to act for livelihoods development so that their economic empowerment can take place along with social upliftment. To achieve the results, the organization goes through a cumbersome process of bringing people together. The women, usually landless and poor, are organized to form SHGs that are linked to local banks. After formation of SHGs the women groups undergo intensive training and capacity building.

The microcredit activities address the following:

- Disparity in economic status of families;
- Lack of self-reliance;
- Disinterest in democratic system;
- Less mutual cooperation and coordination;
- Lack of proper information; and
- Rumors and misconceptions.

Micro credit programmes have proved to be an effective tool in freeing people from poverty and have helped to increase their participation in the economic and political processes of society. The organization embraces improving access to credit for small rural producers, landless farmers and other people with low or no income, with special attention to the needs of women and disadvantaged and vulnerable groups. Destination of the funds primarily includes agriculture, livestock, petty trading, small craft and processing industries.

The project is currently operational in Kullu district with future possibility of extension in Mandi, Kangra and Chamba districts of Himachal Pradesh. In Banjar and Kullu blocks, there were 50 SHGs with 642 women members in 360 villages till March 2008.

Proposed Projects

Interventions to support (Non-Timber Forest Produce) NTFP-based livelihoods through interventions such as market information, maneuvering trade chain, value addition, and other approaches in the State. Local communities of Himalayas substantially depend on non- timber forest products (NTFPs) for household consumptive uses and family incomes. Since the agriculture in majority of tribal groups is either in primitive stage or not so developed, the families rely on the supply of NTFPs from forests and their routine life is almost interwoven around the forests and forest products. GIT has ever

visualized the tribal livelihoods revolving around NTFPs, so is their development as such. As the family incomes generate out of selling of NTFPs in local markets, so interventions related to market of NTFPs seems inevitable. *Approx. Budget under such scheme is Rs. 10 lakhs (US$25000) for a cluster of 20 villages*

Livestock and pastoral development in Western Himalayas

Livestock is vital component of rural livelihoods and the products like milk, wool, meat, hairs and shit, draught power and social significance (animals win social status for a family) constitute substantial part of foods and family economy in rural areas everywhere. In mountains particularly, the livestock based livelihood systems are characterized with pastoralism and transhumance. In and around Great Himalayan National Park in Kullu district of Himachal Pradesh, countless local families graze and herd their animals in pastures, grasslands and forests of the GHNP and in its vicinity. On the backdrop of fast declining biomass in the grazing grounds or outside and its negative impact on keeping animals, and reducing productivities of animals at home, it appears essential to intervene to find viable options. Replacing the cattle-based economy is not possible as it has been part of traditional ways of augmenting food and livelihoods and of the local culture. So one of the option is to upgrade the quality of animals for better productivity. Doing so supports the families even if the number of animals reduces. Simultaneously, the pastoralists need to be educated about the improvement in breeds, hygiene and husbandry of animals, and, simultaneously, the conservation of bio-resources. Some veterinary and ethno-veterinary interventions are also required. *Approx. Budget under this scheme is Rs. 10 lakhs (US$25000) for a cluster of 25 villages*

Rainwater harvesting and management for sustainable agriculture and livelihoods in the Mountains of Himachal Pradesh and Uttarakhand

Himalayan mountains are the watersheds for most major rivers of North and North-East India and Pakistan. But the mountain communities often face acute shortage of irrigation water due to the fact that most of rainwater drains off into streams or rivulets. It is also happening because the rainwater is not conserved/ stored where it falls. To remove the problem of unavailability of irrigation water in hills managing the rainwater is last solution. Grassroots India Trust (GIT) has held consultations with poor farmers of Mandi, Kullu and Kangra districts of Himachal Pradesh and Kumaon region of Uttarakhand for undertaking 'Rainwater Harvesting and Management' and improve their agricultural lands. This project is expected to enhance the farm productivity and household economy by 300-400 percent. *Approx. Budget under this project Rs. 20 lakhs (US$50000) for a cluster of 20 villages*

Gender Rights & Development Program 21

Ongoing Projects under this program are given below in table 21.

Table 21: Ongoing Projects Under Gender Rights & Development Program

Project	Location	Budget
Women Empowerment	Himachal Pradesh; Uttar Pradesh	Rs. 10 lakhs (US$25000) for a cluster of 50 villages in HP or 10 villages in UP
Adolescent Health Education	Kullu district (HP) [expansion possible in Mandi district]	Rs. 10 lakhs (US$25000) for a cluster of 40 villages
Female Reproductive Rights	Kullu & Mandi districts (HP) [expansion possible in Uttar Pradesh]	Rs. 12 lakhs (US$30000) for a cluster of 30 villages

Human Rights & Social Justice Program

Ongoing Projects under this program are given in table 22.

Table 22: Ongoing projects under human rights & social justice program

Project	Location	Budget
Dalit Rights & Empowerment	Himachal Pradesh [expansion possible in Mandi, Kangra district]	Rs. 10 lakhs (US$25000) for a cluster of 20 villages
Tribal Land Rights (Litigation)	Santal Parganas region of Jharkhand	Rs. 15 lakhs (US$37500) for 3 years

Communication in Development Program

Ongoing Initiatives under this program are given in table 23.

Table 23: Ongoing initiative under communication in development program

Project	Location	Budget
Dalit Rights & Empowerment	Himachal Pradesh [expansion possible in Mandi, Kangra district	Rs. 10 lakhs (US$25000) for a cluster of 20 villages
Tribal Land Rights (Litigation)	Santal Parganas region of Jharkhand	Rs. 15 lakhs (US$37500) for 3 years

(c) Targets & Achievements in 11th Five Year Plan (2007-2012)

The National Development Council, in its meeting held on 19th December, 2007 unanimously adopted the resolution of 'faster' and 'more inclusive growth' spelt out in the Approach Paper to the 11th Five Year Plan. It focuses on the revival of agriculture, rural development and on a long effort in promoting programmes that delivers essential services to the common man and also provides livelihood support. In brief, emphasis is on agriculture, education and health care. At the national level, the 11th Plan will aim at putting the economy on a sustainable growth trajectory with a growth rate of approximately 10%. The Planning Commission has set a 9.5% average annual growth rate target for Himachal Pradesh to be achieved by the end of 11th Plan. The State will endeavour to achieve double digit growth rate by the end of the plan period.

The 'Social Services Sector' has been accorded the highest priority. It speaks of the State Government resolve to make Human Development as the main plank of its development strategy which has also been given the over riding priority during all previous plans. The second priority has been given to 'Transport & Communication' especially to spread the road network all over the State. Keeping in view the national emphasis on agriculture growth, third priority has been given to 'Agriculture & allied Services Sector'. This is followed by 'Irrigation and Flood Control', 'Energy', 'General Economic Services', 'General Services', 'Rural Development', 'Industries & Minerals' and 'Special Area Programmes'. Proposed targets of some of the selected items are given in the table 24.

Table 24: Proposed Targets for 11th Plan (2007-2012)

Sr. No.	Item	Unit	Eleventh Plan (2007-20012) Target
1	Food grain Production	000 M.T.	1700
2	Vegetable Production	000 M.T.	1300
3	Fertilizer Consumption	000 Tonnes	50
4	Fruit Production	000 M.T.	906
5	Mushroom Production	M.T.	6000
6	Hops Production(Dry)	M.T.	45
7	Production of Honey	M.T.	1500
8	Milk Production	000 Tonnes	920
9	Wool Production	Lakh Kgs.	16.75
10	Fish Production	Tonnes	40,000
11	Afforestation (SVY)	Ha.	1000
12	IRD Families to be assisted:		
13	i) SGSY (Swarna	Disbursement	7500

Sr. No.	Item	Unit	Eleventh Plan (2007-20012) Target
	Jayanti Gram Sawarozgar Yojana)	of Credit (Rs. In Lakh)	
14	Additional CCA to be Created	Ha.	31000
15	Installed Capacity to be added	MW	5744.1
16	Opening of new Hospitals	Nos.	3
17	Opening of new Health Centres	Nos.	60
18	Rural Water Supply left-out Habitations to be covered (State Sector)	Nos.	3000
19	Coverage under EIUS	Nos.	51600
20	Construction of Housing Units	Nos.	54036
21	Hand Pumps to be installed	Nos.	1500
22	Opening of new Colleges	Nos.	15
23	Opening of new ITI's	Nos.	20

(d) Employment Strategy of Himachal Pradesh

The development strategy of the state envisages implementing of such programmes and schemes, which aim at increasing productive employment in different sectors of the economy. Broad strategy of the government will focus on the following areas for the rising unemployment situation in the state.

- Supplementing and complementing land based agricultural activities and animal husbandry and other diversified horticultural activities to make livelihoods of marginal cultivators and agricultural labourers sustainable.
- Diversification of cropping pattern, promoting production of off- season vegetables by increasing new areas under vegetables and fruit crops by raising productivity for all cash crops including maize crop.
- Promoting the production of floriculture in the State.
- Strengthening marketing system for farm products.
- Increasing marginal returns on investment in the Primary Sector.
- Promoting emerging biotechnology for generating employment in the field of agriculture and horticulture.
- Policies for the provision of income generating assets aimed at encouraging small scale and cottage industries and providing gainful employment opportunities through backward and forward linkages.
- Direct expenditure on employment generation.
- Enhancing labour productivity by investing on health and education.
- Strengthening of industrial units in all districts and backward pockets as per revised Backward Area Industrial Policy announced by the Central Government.
- Improving and locating new tourist destinations for the domestic and foreign tourists by providing ideal infrastructure facilities to the visiting tourists in the State. Improving of airstrips at Bhuntar (Distt. Kullu), Gaggal (Distt. Kangra) and Jubberhatti (Distt. Shimla). This would generate additional employment to the local people, besides significant increase in the foreign tourists flow to the State.
- Accelerating actualisation of power potential.
- Increasing private sector investment in transport and tourism.
- Implementation of National Rural Employment Guarantee Act. 2005

Estimation of Employment through Employment Exchange Data: Table 25 shows that, the total number of registrants on the live register were 7,56,980 out of which 36.18% of registrants are already employed (as per estimates of survey study by the Planning

Department). The number of registrants already employed were 2,73,875 while 4,83,105 were found unemployed. Thus the unemployment position of the State from both approaches i.e. the NSSO data and Employment exchange data ranges between 4.83 lakh to 5.90 lakh.

Table 25: Number of Registrants on the Live Register of the Employment Exchange According to Educational Status Since 2001

Year	Post Graduates	Graduates	Matric	Below Matric	Illiterate	total
2001	27348	74866	592765	192014	9548	896541
2002	29478	79330	595025	188546	8129	900508
2003	34950	82454	597740	183356	7574	906074
2004	37548	87081	571946	167577	6390	870542
2005	38178	94007	572581	157017	5359	867142
2006	37989	91376	537514	145498	4491	816878
2007	40846	94856	492351	125275	3651	756980

Source:-11th Plan 2007-12

(e) BPL families brought under health cover in Himachal

A health insurance cover scheme for below poverty line families (BPL) that was made operational throughout the state only in April has already brought free cover to over 81 % of such families after being issued biometric smart cards. About 261,644 BPL families to be provided with the health cover, 212,108 (81.07%) had been issued smart cards in 11 of the 12 districts within the state.

Under the scheme, a general health cover of Rs 30,000 per head is provided for which the premium is shared in the ratio of 75:25 between the centre and the state. The state has gone a step ahead and included Rs 1 lakh worth of critical care insurance for specified diseases for which the premium is being paid by the state.

The health cover for 2010-11 provided by New India Insurance has a premium of Rs 20.15 crores, which has been shared as Rs 12.52 crores by Himachal Pradesh and Rs 7.63 crores by the central government. While the process of issuing all BPL families smart cards is going on, at the same time 644 beneficiaries in Shimla, Hamirpur, Kangra and Solan districts had already availed insurance benefits for the treatments undergone in designated hospitals under the scheme.

Started as a pilot project in Shimla and Kangra districts on 1st January 2009, there were 3107 beneficiaries who availed the insurance cover till March 2010. For the 80,242 health smart cards in operation under the pilot program, the overall claim amounted to Rs 1.54 crores for which a premium of Rs 5.12 crores had been paid to the insurance company. Of the premium paid, Rs 3.96 crores was paid by the central government and Rs 1.16 crores by the state government.

Under the scheme the member of the BPL family affords a cashless treatment worth the amount insured for at specific private and government hospitals designated under the scheme. By end of May, the health department targets to issue biometric smart cards to 2.50 lakh families that would bring about 10 people under an health insurance cover.

Though the state records 298,291 BPL families but the central government has only validated

289,987 families of whom 275,927 are rural and 14,360 are urban. Going by the central government budget announcement, the scheme is likely to be extended to all families who comes under National Rural Employment Guarantee Act (NREGA) Scheme.

(Source:http://himachal.us/2010/05/13/81-bpl-families-brought-under-health-cover-in-himachal%E2%80%93-rajiv-bindal/19873/news/ravinde)

(f) Rural Development Programmes

The details of the development programmes being implemented in the State is given below.

(i) Community Development Programme: The present set up of the schemes under Community Development Programme is based on old community development concept, which aims at the development of community with the initiative and participation of the community itself. The grant -in-aid is being provided to the Panchayat Samitis under the head Social Education and General Education for developmental activities in the social educational fields. Funds are provided to the Blocks for the construction/ completion of staff residential buildings and Gram Sewak huts. Besides, the funds are also provided for completion of on- going office buildings. Provision of funds is made for providing staff salary of the employees posted at various levels. Grants are also provided for the promotion / strengthening of Mahila Mandals, incentive awards to Mahila Mandals and organisation of awareness camps for non-officials etc. During the year 2008-09, an amount of Rs. 1227.87 lakh was spent on the above set of schemes up to 31st March, 2009.

(ii) Swarnjayanti Gram Swarozgar Yojana (SGSY): "SGSY" had been launched from the year 1999-2000. This Yojana is a holistic package covering all aspect of self-employment such as organisation of poor into Self Help Groups, Training, Credit, Technology, Infrastructure and Marketing. The beneficiaries under this scheme are called "Swarozgaries". The objective of SGSY is to bring the assisted poor families above the poverty line, by providing them income-generating assets. This scheme is a credit-cum-subsidy programme. Subsidy under SGSY is uniform at 30% of the project cost subject to a maximum limit of Rs.7500/-. In respect of SCs / STs and disabled persons, the maximum limit is 50% and Rs.10000/- respectively. For groups of swarozgaries (SHGs), the subsidy is 50% of the project cost subject to per capita subsidy of Rs.10,000/- or Rs.1.25 lakhs whichever is less.

The focus of SGSY is on the vulnerable groups among the rural poor. Accordingly, the SC/STs account for 50% of swarozgaries, women for 40%, the disabled for 3% and minority community for 15%.

The scheme is being implemented on 75:25 cost sharing basis between Central and State Government. The district wise financial progress under the scheme during the year 2010-11 is given below in table 26 and table 27.

Table 26: District wise Financial Progress During the Year 2010-11

Sr. No.	District	Target of Credit Mobilization	Credit Disbursed to		Total (Rs.)	Subsidy Disbursed to		Total (Rs.)
			SHGs	Individual		SHGs	Individual	
1.	Bilaspur	157.94	177.11	73.79	250.90	43.69	12.39	56
2.	Chamba	422.63	433.654	169.779	603.433	91.415	28.615	120.03
3.	Hamirpur	177.77	249.10	78.91	328.01	58.99	12.73	71
4.	Kangra	576.20	707.21	190.863	898.073	176.536	33.25	209.786

5.	Kinnaur	25.73	33.57	7.27	40.84	9.44	1.67	11.11
6.	Kullu	102.64	149.05	26.48	175.53	35.07	2.87	37.94
7.	Lahaul & Spiti	21.86	9.75	17.81	27.56	2.84	5.89	8.73
8.	Mandi	376.59	414.67	131.58	546.25	108.42	21.4	129.83
9.	Shimla	288.62	336.79	96.50	432.29	81.63	15.57	97.2
10.	Sirmaur	124.76	163.165	44.215	207.38	33.825	8.24	42.065
11.	Solan	159.22	151.93	94.42	246.35	44.38	14.79	59.17
12.	Una	138.39	209.36	78.80	288.16	42.775	15.555	58.33
Total		**2572.35**	**3035.359**	**1009.417**	**4044.776**	**729.011**	**172.98**	**901.991**

Table 27: District Wise detail of Swarozgaries Assisted in SHGs and Individuals benefited for the year 2010-11

Sr. No.	District	No. of SHGs Formed	SHGs taken up Economic Activity	No. of members in SHGs					Individual Swarozgaries Assisted				
				Total	SC	ST	Women	Disabled	Total	SC	ST	Women	Disabled
1.	Bilaspur	55	55	439	154	11	355	0	155	72	2	50	0
2.	Chamba	140	156	1409	495	325	611	24	662	182	82	54	14
3.	Hamirpur	72	77	697	289	8	691	0	165	55	9	59	1
4.	Kangra	203	227	2209	863	144	1914	30	338	156	47	83	10
5.	Kinnaur	9	14	102	62	40	61	0	18	12	6	4	0
6.	Kullu	10	50	427	247	3	202	16	33	15	1	16	0
7.	Lahaul & Spiti	3	3	36	0	36	36	0	82	0	82	41	0
8.	Mandi	164	138	1400	571	9	1008	11	238	140	0	39	11
9.	Shimla	222	121	1068	485	0	676	5	199	80	0	37	1
10.	Sirmaur	68	56	444	195	9	393	12	99	45	5	28	6
11.	Solan	78	53	596	305	15	526	0	183	103	10	56	2
12.	Una	76	48	453	123	9	380	5	163	129	7	69	2
Total		**1100**	**998**	**8280**	**3789**	**609**	**6853**	**103**	**2335**	**989**	**251**	**536**	**47**

Table 28: District Wise Detail of SHGs Formed and Assisted Since Inception of the Scheme i.e. 1-4- 1999 to 31-3-2011

Sr. No	Districts	No. of Self Help Groups Formed Since Inception	No. of Self Help Groups Taken up Economic Activities Since Inception.
1	Bilaspur	626	395
2	Chamba	1520	1112
3	Hamirpur	738	514
4	Kangra	2279	1950
5	Kinnaur	178	84
6	Kullu	1211	411
7	L & Spiti	53	20
8	Mandi	1467	1131
9	Shimla	1169	752
10	Sirmour	934	564
11	Solan	664	353
12	Una	771	371
Total		**11610**	**7657**

Source: Rural Development Department Website, Annual Report, GoHP

(iii) SGSY Special Projects Installation of Hydrams

The Government of India has approved a Project for Installation of 400 Hydrams under SGSY Special Project Component with total Project Cost of Rs. 1047.20 lakhs which includes subsidy of Rs. 770.48 lakhs, Rs. 161.40 lakhs as loan component and Rs. 115.32 lakhs as beneficiaries share. The subsidy component will be shared by Centre and State Government on 75:25 sharing basis. For the implementation of this project total funds Rs.616.80 lakhs (Rs. 462.60 lakhs as central share and Rs 154.20 lakhs as state share) have been released so far out of which an expenditure of Rs. 414.326 lakhs has been incurred up to 31-03-2009. About 208 Hydrams have been installed as shown in table 29.

Table 29: District-wise Physical and Financial progress under SGSY Spl. Projects component "Installation of Hydrams" up to March, 2011

Sr.	Item	BLP	CHB	HMR	KGR	KNR	Kullu	L & Spiti	Mandi	Shimla	SMR	Solan	Una	Total
1.	Hydrams installed	25	19	1	15	1	0	0	99	5	16	25	2	208
2.	Area covered (in ha)	31.05	10.00	--	80	--	--	--	288	--	0.97	54.00	5.76	470.23
3.	Beneficiaries covered	81	35	--	64	--	--	--	901	--	5	54	22	1162
4.	Expdt. incurred on procurement	262 Hydrams have been purchased by the HIMURJA @ of Rs. 96000/-per Hydrams												251.52
5.	Expdt. incurred on installation of Hydrams													81.526
6.	Expdt. incurred on Ropeways													81.28
7.	Total Expdt.													414.326
	Beneficiaries contribution	Beneficiaries contribution is in the shape of labour. In case they do not work as labour only then they have to pay the beneficiaries contribution.												

Construction of Ropeways: Besides above, Rs. 100 lakhs have been released to DRDAs Kinnaur, Mandi, Shimla, Sirmour and Solan for construction of Ropeways. The 17 ropeways has been constructed which have span of 15311 meters and expenses incurred about 81.28 lakhs. The progress achieved so far is given below in table 30.

Table 30: Construction of Ropeway in Himachal Pradesh

Sr. No.	District	Funds released (Rs. In Lakhs)	Ropeways constructed	Span in meters	Exp. Incurred (Rs. In Lakhs)
1.	Shimla	25.00	1	2100	21.74
2.	Mandi	40.00	6	5711	33.08
3.	Sirmour	15.00	7	4000	16.46
4.	Solan	15.00	3	3500	10.00
5.	Kinnaur	5.0	0	0	5.0
	Total	**100.00**	**17**	**15311**	**86.28**

Marketing of Rural Goods

The Government of India has approved a Project titled Marketing of Rural Goods in Himachal Pradesh under SGSY, Special Project Component with a total Project Cost of Rs. 914.52 lakhs which includes subsidy of Rs.769.52 lakhs and Rs. 145.00 lakhs as loan component. Centre and State Government will share the subsidy component on a 75:25 sharing basis. Under this project 50 Himachal Grameen Bhandars and 1 Central Grameen Bhandar will be constructed throughout the State.

For the implementation of this Project funds to the tune of Rs. 384.76 lakhs (Rs.288.57 lakhs as Central Share and Rs. 96.19 lakhs as State Share) have been released so far.

Up to March, 2009, construction work of 24 Grameen Bhandars have been completed and construction work at 8 sites is in progress. So far an expenditure of Rs. 353.56 lakhs has been incurred.

Gold Mines Project in District Bilaspur: The Government of India has approved a Project titled "Gold Mines in Bilaspur" District under SGSY Special Project Component with a total Project Cost of Rs. 840.35 lakhs, which includes subsidy of Rs.327.76 lakhs, and Rs. 512.59 lakhs as loan component. Centre and State Government will share the subsidy component on 75:25 sharing basis. Under this project three activities viz., Floriculture, Sericulture and Mushroom Cultivation have been taken up.

For the implementation of this Project funds to the tune of Rs. 262.208 lakhs (196.656 lakhs as Central Share and Rs. 65.552 lakhs as State Share) have been released so far.

Up to March, 2011, an expenditure of Rs. 277.759 lakhs has been incurred. 803 beneficiaries have been benefited under Floriculture, Sericulture and Mushroom cultivation.

Milch Livestock Improvement Project in District Solan: The Government of India has approved a Project titled "Milch Live Stock Improvement", for District Solan under SGSY Special Project Component with total Project Cost of Rs. 886.95 lakhs, which includes subsidy of Rs.715.15 lakhs, and Rs. 171.80 lakhs as loan component. Centre and State Government will share the subsidy component on 75:25 sharing basis. Under this Project activities for the development of Dairy Farm will be taken up. So far, Rs.572.104 lakhs (Rs. 429.084 lakhs as Central Share and Rs. 143.02 lakhs as State Share) have been provided to DRDA Solan for the implementation of this project. Out of these available funds, Rs. 600.456 lakhs have been spent up to March, 2011. Under this project 62212 cattle's have been treated in 317 field levels camps and 12273 breeders have been trained. Besides this 508 Quintals fodder seeds have also been distributed to the farmers.

Rural Development through Diversification in Agriculture project in District Mandi: The Government of India has approved a Project titled "Rural Development through Diversification in Agriculture" under SGSY Special Project Component with total Project Cost of Rs. 1385.32 lakhs, which includes subsidy of Rs.1204.00 lakhs, and Rs. 181.32 lakhs as loan component.

So far Rs.963.20 lakhs have been provided to DRDA Mandi for implementation of this project. Out of which an expenditure of Rs. 873.30 lakhs has been incurred up to March, 2011. Under Cultivation of Medicinal plants, Aromatic plants, Flowers and Orchids components of this project 10 Poly houses have been constructed. One tissue culture laboratory at Chauntra is under construction and one oil extraction unit at Sauli khud has been constructed. Under Sericulture component 3 technical service stations and 3 nurseries have been established. Under Innovative practices in Animal Husbandry component of the project, 105 non-AI centres have been converted into AI centres.

Self Reliance through Sericulture and Dairy Development Project in District Hamirpur: The Government of India has approved a Project titled "Self Reliance through Sericulture and Dairy Development" for District Hamirpur under SGSY Special Project Component with a total Project Cost of Rs. 1499.981 lakhs, which includes subsidy of Rs. 980.98 lakhs, and Rs. 519.00 lakhs as loan component. Centre and

State Government will share the subsidy component on 75:25 sharing basis. Under this Project Sericulture and Dairy Development activities have been taken up. So far, Rs. 902.187 lakhs have been provided to DRDA Hamirpur for the implementation of this project. Up to March, 2011, an expenditure of Rs. 848.11 lakhs has been incurred. Under Sericulture component of the project, 100 Self Help Groups have been provided assistance. Under Dairy Development component fodder seeds and mineral mixture have also been distributed to the farmers besides organising training camps.

Under Sericulture component, SHGs have produced 27393 Kg. cocoon worth Rs. 23.49 lakhs.

Green Gold Project in District Chamba: The Government of India has approved a Project titled "Green Gold" in respect of District Chamba under SGSY Special Project Component with total Project Cost of Rs.1488.73 lakhs, which includes subsidy of Rs.1361.23 lakhs, Rs. 127.50 lakhs as loan component and beneficiaries share. Centre and State Government will share the subsidy component on 75:25 sharing basis. Under this Project, the following activities have been taken: -

1. Cultivation of Medicinal plants, Aromatic plants, Flowers and Orchids.
2. Cultivation of Off Season vegetables.
3. Cultivation of Mushroom.
4. Improved Dairy Management.

So far, Rs. 1281.005 lakhs have been provided to DRDA Chamba for the implementation of this project, out of which Rs. 1005.72 lakhs have been spent up to March 2011. Under Cultivation of Medicinal plants, Aromatic plants, Flowers and Orchids component of the project, seven number nurseries have been established and 200 SHGs have been trained. Under Cultivation of off Season vegetables components six nurseries have been established and fertilizers, seeds and chemicals etc. have been provided to the farmers. Under Cultivation of Mushroom component 550 SHGs have been imparted training. Under Improved Dairy Management component of the project, various training and workshops have been organised and fodders seeds have been provided to the farmers.

Intensive Dairy Development Project in District Kangra: The Government of India has approved a Project titled "Intensive Dairy Development Project" for District Kangra under SGSY Special Project Component with total Project Cost of Rs 1301.25 lakhs, which includes subsidy of Rs.1151.40 lakhs, Rs. 149.85 lakhs as loan component, and beneficiaries share. Centre and State Government will share the subsidy component on 75:25 sharing basis. Under this Project Dairy Development activity will be taken up.

For the implementation of this project funds to the tune of Rs.921.12 lakhs (Rs.690.84 lakhs as Central Share and Rs.230.28 lakhs as State Share) have been released so far. Out of which Rs.751.85 lakhs have been spent up to March, 2011.

Cultivation, Value Addition Processing and Marketing of Medicinal and Aromatic Plants (state specific): The Government of India has approved a Project titled Cultivation, Value Additional Processing and Marketing of Medicinal and Aromatic plants in Himachal Pradesh under SGSY Special Project component. This project has been sanctioned in September 2006, for the period of 5 years. The cost of this project was Rs. 1448.35 lakhs. The share of central government was Rs. 1086.25 lakhs and State share Rs. 362.10 lakhs. The grant has been received from central government were Rs. 225.46 lakhs and from State Rs. 75.15 lakhs. About 18750 beneficiaries would be covered in the project.

Beneficiary covered: This project is being implemented through Environment Science & Technology. Department. Presently BPL beneficiaries of 24 development blocks viz Mashobra, Rampur, Chirgaon, Pachchad, Banjar, Kullu, Tissa, Bamson, Amb Kalpa, Pooh, solan, Rajgarh, Ghumaruin, Bilaspur Sadar, Bijhari, Baijnath, Panchrukhi, Fathepur, Kaze, kaylong, bharmour and Salooni have so far been covered. The major activities covered are: To uplift rural BPL beneficiaries by providing medicinal and flowering plants namely *Aconitum heterophyllum*, Atis,*Geranium*, *Tinospora cordifolla*, *Rosemarinus*, Lavender and *Glycyrrhiza glabra*.

Skill Development for Rural Youth Grameen LABs (State Specific): The Government of India has approved Skill Development for rural youth Grameen LABs (state specific) Himachal Pradesh under SGSY Special Project component. This project has been sanctioned in February 2007, for the period of 2 years. The cost of this project was Rs. 250 lakhs. Total cost is borne by the central government. The grant has been received from central government was Rs. 100 lakhs. The project will cover about 5000 beneficiaries.

Total 2592 rural BPL youth have so far been trained and 1893 have been given placement up to March, 2009. District wise details of beneficiaries covered are given in table 31.

Table 31: Beneficiaries covered under this scheme

Sr. No.	Name of District	Rural BPL	
		Youth given training	Youth given Placement
1	Shimla	607	471
2	Solan	631	460
3	Una	352	230
4	Kangra	453	352
5	Bilaspur	486	340
6	Kullu	63	40
	Total	**2592**	**1893**

The major activities include the training of the rural BPL youth according to their demand in various trades.

Rural Haat Project (state specific): The Government of India sanctioned a project under SGSY for setting up of Village, District and State Capital Haats. This project has been sanctioned in order to provide marketing facilities to the rural BPL artisans for selling their products at all levels. The cost of Haats is 15 lakh for Village Haat, 150 lakh for District Haat and 300 lakh for State Haat. The Government of India has released Rs. 16.875 lakhs to every DRDA as 1st installment for setting up of Village Haat only.

Mahatma Gandhi National Rural Employment Guarantee Scheme: The Mahatma Gandhi National Rural Employment Guarantee Act was notified by the Government of India on September, 2005 and was made effective w.e.f. 2nd February 2006. In the first phase, the Mahatma Gandhi National Rural Employment Guarantee scheme (MGNREGS) was introduced in District Chamba and Sirmour on 2nd February, 2006. In second phase MGNREGS was started in District Kangra and Mandi from 1st April, 2007. In the third phase all the remaining 8 districts of the State have been covered under the scheme with effect from 1st April, 2008.

Indira Awas Yojana: Indira Awas Yojana is a Centrally Sponsored scheme. Under this scheme, assistance of Rs.48500/- per beneficiary is being given to BPL families for the construction of new house. Gram Sabha does the selection of beneficiaries under this scheme. This scheme is being financed by Centre and State Government on a 75:25 sharing basis. District wise physical and financial progress during the year 2008-09 is given below in table 32.

Table 32: District wise physical and financial progress of construction of houses during the year 2010-11

Sr. No.	District	Target (No. of Houses)	Achievement (No. of Houses)	expenditure (Rs. in lakhs)	Houses under Construction
		New Const.	New Const.	New Const.	New Const.
1.	Bilaspur	246	212	119.675	53
2.	Chamba	604	660	323.006	330
3.	Hamirpur	278	278	138.118	0
4.	Kangra	1272	1362	663.368	16
5.	Kinnaur	143	131	77.67	254
6.	Kullu	317	317	153.745	16
7.	L & Spiti	107	211	47.10	377
8.	Mandi	772	584	388.77	136
9.	Shimla	475	436	238.36	122
10.	Sirmour	434	518	236.087	155
11.	Solan	541	540	262.335	9
12.	Una	604	675	330.778	107
	Total	**5793**	**5924**	**2979.01**	**1575**

Note: A part from 4634 targeted houses, 1442 houses were of spill over and the achievement including spill over.

Atal Awas Yojna: This is a state plan housing scheme which is being implemented on the pattern of Indira Awas Yojana. District wise status of this scheme is given below in table 33.

Table 33: District wise physical and financial progress of construction of houses (under Atal Awas Yojana) during the year 2010-11

Sr. no.	District	Target	Houses constructed	Expenditure (Rs. in lakhs)	Houses under construction
1	Bilaspur	195	195	97.26	23
2	Chamba	355	398	209.886	195
3	Hamirpur	296	316	143.56	0
4	Kangra	982	1055	477.019	2
5	Kinnaur	29	80	26.19	48
6	Kullu	264	264	128.04	0
7	L & Spiti	66	82	29.47	48
8	Mandi	611	649	290.76	88
9	Shimla	469	539	240.86	0
10.	Sirmour	294	322	148.185	28
11.	Solan	273	273	132.405	0
12.	Una	304	304	147.595	25
Total		**4138**	**4477**	**2071.23**	**457**

National Family Benefit Scheme: In case of the death of a breadwinner of a family living below the poverty line, financial assistance of Rs.10, 000/- per family is provided to bereaved family under this scheme. District wise status of this scheme is given below in table 34.

Table 34: District wise physical and financial progress under NFB Scheme during the year 2010-11

Sr. No.	District	Families assisted	Amount disbursed (Rs. in lakhs)
1	Bilaspur	114	11.40
2	Chamba	253	25.30
3	Hamirpur	126	12.60
4	Kangra	517	51.70
5	Kinnaur	19	1.90
6	Kullu	83	8.30

Sr. No.	District	Families assisted	Amount disbursed (Rs. in lakhs)
7	L & Spiti	15	1.50
8	Mandi	252	25.20
9	Shimla	239	23.90
10.	Sirmaur	60	6.00
11.	Solan	11	11.10
12.	Una	113	11.30
	Total	**1902**	**190.20**

Matri shakti Bima Yojna: Matri Shakti Bima Yojna scheme covers all women living below the poverty line within the age group of 10-75 years. The scheme provides relief to family members/ insured women in case of their death or disablement arising due to any kind of accident, surgical operations like sterilization, mishap at time of child birth/delivery drowning washing away in floods, landslide, insect bite & snakebite etc. The scheme also gives benefit to a married woman in case of accidental death of her husband. District wise disbursement status during the year 2010-11 finance department has released Rs. 240.00 lakhs out of which 252 cases have been disbursed table 35.

Table 35: District wise status of Matri Shakti Bima Yojna

Sr. No.	District	Cases disbursed	Amount Disbursed (Rs. in lakhs)
1	Bilaspur	24	23.00
2	Chamba	26	25.00
3	Hamirpur	18	16.00
4	Kangra	31	31.00
5	Kinnaur	7	7.00
6	Kullu	9	9.00
7	L & Spiti	0	1.00
8	Mandi	48	46.00
9	Shimla	63	59.00
10.	Sirmour	17	16.00
11.	Solan	4	2.00
12.	Una	5	5.00
	Total	**252**	**240.00**

(g) Horticulture Development Activities: Horticulture Development scheme is the major programme aiming at the creation and maintenance of infrastructural facilities in the rural areas for ensuring equitable access to the resources and inputs required for the promotion of all fruit crops. Under this scheme, the programmes like development of fruit production, area expansion programme, demonstration of new technologies and improved package of practices on the orchards of fruit growers, development of Walnut/ Hazelnut / Pistachio nut, development of olive, development of mango / litchi in lower hill areas, development of strawberry and other small fruits, development of medicinal and aromatic plants, Horticulture information services, development of hops schemes, short term research projects for solving the field problems of emergent nature, other schemes and externally added projects will be carried out.

Source: Economic Survey, 2009-10

STATE SPONSORED SCHEMES

Quality seed Multiplication and Distribution: Department owns 21 Seed Multiplication Farms where foundation seeds of *Kharif* and *Rabi* crops are produced. Annually about 3500 to 4000 quintals seed of Cereals, Pulses and Vegetables are produced. Further, about 1,00, 000 quintals of Certified Seeds of various crops are distributed to the farmers in the State.

Crop Protection: The department of agriculture controls the supply of pesticides in the state. About 160-168 M.T of pesticides is distributed through 991 Sale Centers to the farmers. For quality control, pesticide testing laboratory has been set up with a analysing capacity of 500 samples per year. One Bio Control Laboratory has been set up at Palampur where conservation pest situation augmentation, rearing and multiplication of bio-agents and training to extension staff and farmers are being done. The plant protection material including equipments are supplied to the SCs/ STs/ IRDP families and farmers of the backward areas at 50% cost.

Seed Potato Development: The Department owns 13 Potato Development Stations where foundation Seed Potato is produced.

Vegetables Development Project: Annually more than 12.06 lakh tonnes of fresh vegetables are produced. The Department owns three Vegetable Seed Farms where Quality Seed is produced**.**

Ginger Development: For productions of disease free Ginger, the Department is providing Training, Demonstrations and Quality Seed to the farmers. Annually, about 35,609 tones of Green Ginger is produced which is marketed to the neighbouring States. The Department owns two Ginger Farms where Quality Seed is produced**.**

Agricultural Marketing: This is regulated in the State through new APMC Act, The Himachal Pradesh Agricultural and Horticultural Produce Marketing (Development and Regulation) Act, 2005. At present, 10 Market Committees are functioning and 48 markets have been made functional. Market fee @ 1% is levied on buyers. Information on daily market rates is also disseminated through All India Radio/ Doordarshan/ AGRIMARKNET.

Agricultural Economics And Statistics: Under this programme, three Centrally Sponsored Schemes viz. (i) Timely Reporting Schemes (TRS) for estimation of area and production of crops (ii) Improvement of Crop Statistics (ICS) for bringing quality in the land record data at grass root level and (iii) Estimation of Production of Commercial crops like Potato and Ginger are being implemented. The estimation is done accordingly to statistical techniques. Production estimates on principal crops like Wheat, Barley of Rabi season and Maize, Paddy, Potato and Ginger crops of Kharif are released on the basis of results of crop cutting experiments conducted accordingly Random Sampling Method. The Director of Land Records is the agency in the State responsible for collection and release of area estimates, forecast report etc.

Tea Development: Total area under Tea is 2,312 hectares. The Department is disseminating the latest production technology of tea cultivation to the tea growers.

Rashtriya Krishi Bima Yojna (RKBY): The State Government has adopted this Scheme from Rabi 1999-2000 season. Crops covered are Wheat, Barley, Maize, Paddy and Potato. 50% subsidy in premium was allowed to small and marginal farmers on sunset basis. The scheme is compulsory for loanee farmers and optional for non-loanee farmers. The scheme provides comprehensive risk insurance against yield losses viz. drought, hailstorm, floods and pests disease etc. The Agriculture Insurance Company of India (AICI) is implementing the scheme. The farmers of the State can get benefit out of this programme. State and Government of India share the losses equally. The subsidy on premium has been raised from 10% to 50% to small and marginal farmers. From Kharif, 2008 season, Ginger crop of District Sirmour has also been taken up on Pilot basis for coverage under the Crop Insurance Scheme. Besides this, Tomato and Potato in Solan and Kangra/ Una respectively have been covered under Weather Based Crop Insurance Scheme (WBCIS).

Rural Infrastructure Development Fund (RIDF): The Department of Agriculture is participating in RIDF for creation of irrigation potential through minor irrigation/ WHS. The Department got funds under RIDF-V during 1999-2000 where NABARD sanctioned 157 Flow Irrigation Schemes (FIS) amounting to Rs.14.85 crores which has created irrigation potential of 3,560 hectare. These schemes are being executed through Water Users Associations (WUA) who will also maintain them after their completion. Under RIDF-VI, 140 Flow Irrigation Schemes were posed to NABARD which have been sanctioned for Rs.11.37 crores covering an area of 3,031 hectare. Under RIDF-VII, 125 Minor Irrigation schemes worth Rs.7.84 crores have been sanctioned, which will create CCA of 2,395

hectare. Besides, 90 water harvesting projects have been sanctioned for Hamirpur, under RIDF-VII with cost of Rs.6.78 crores. Under RIDF-IX, 200 minor irrigation schemes amounting to Rs.8.32 crores have been executed creating CCA 7,161 hectares. Under RIDF-XII, 118 minor irrigation soil conservation schemes amounting to Rs.10.74 crores have been executed creating CCA 1512.03 hectare during 2006-2007. During the year 2007- 2008, an amount of Rs.9.58 crores has been incurred creating CCA 1821.71 hectares. During 2008-2009, an amount of Rs.12.00 crores have been incurred by creating CCA 1104.22 hectare. During 2009-2010 an amount of Rs.7.50 crores has been proposed for minor irrigation/ water harvesting projects.

Pandit Deen Dayal Kisan Bagwan samridhi Yojna: The Department of Agriculture has launched Pt.Deen Dayal Kisan Bagwan Samiridhi Yojna with the assistance of NABARD under RIDF-XIV Tranche. The project is being implemented in all District of the State with an outlay of Rs.353.01 Crores. This project comprises two parts i.e. Production of cash crops through adoption of precision farming practices through poly house cultivation for Rs.154.92 Crores and Project on Diversification of Agriculture through Micro-Irrigation and other related infrastructure for Rs.198.08 Crores. The detailed guidelines are available in the web site. For poly house and micro irrigation 80% subsidy is available, whereas, for creation of water source 50% subsidy is available. This project has been launched in January, 2009 and the project period is 4 years.

CENTRALLY SPONSORED SCHEMES

Integrated Scheme of Oilseed, Pulses, Oil Palm and Maize (ISOPOM)

The Government of India launched this scheme during the year 2004-2005. In the new scheme all the ongoing scheme of OPP, NPDP and AMDP etc. have been merged. Only Maize crop has been included in Himachal Pradesh. The main component of the scheme are block demonstrations, IPM demonstrations, distribution of HDPE pipes for carrying water from the source to field, involvement of private sector in seed production, supply of input extension support etc. and publicity regarding development of Maize etc. The scheme is being implemented on 75:25 basis except for the component of publicity where Central Government share is 100%.

Seed Village Programme: Major constraint in increasing production and productivity of crops is the lack of availability of sufficient quantitis of quality seed of improved varieties to be made available to the farmers in time. To overcome this constraint, Government of India has started a novel programme known as "Seed Village Programme" by which sufficient seed multiplication can be achieved in order to meet local seed requirement besides facilitating supply of seeds at reasonable cost and ensuring quick multiplication of new varieties in a shorter time. Under this programme, areas of better seed production will be identified and a compact area approach will be followed. 50 to 150 suitable responding/ willing farmers for the same crops will be identified/ selected preferably in compact area/ cluster approach. Foundation/ certified seed at 50% cost will be made available to these identified farmers. Under this scheme, the seed for half an acre per farmer is allowed. Training on seed production and seed technology will be imparted to the identified farmers for the seed crops grown in the seed villages. Besides this, assistance @ 33% on seed storage bins of 2.1quintal capacity is also available.

Rashtriya Krishi Vikas Yojna (R.K.V.Y): Concerned by the slow growth in Agriculture and allied sectors, the Government of India has launched Rashtriya Krishi Vikas Yojna (RKVY) during 2007-2008. The RKVY aims at achieving 4% annual growth in the agriculture sector during the XI Plan period, by ensuring a holistic development of agriculture and allied

sectors. The main objectives of the scheme are as under;

(I) To incentivise the states as so as to increase public investment in agriculture and allied sectors.
(ii) To provides flexibility and autonomy to states in the process of planning and executing agriculture and allied sector schemes.
(iii) To ensure the preparation of agriculture plans for the districts and the states based on agro-climatic conditions, availability of technology and natural resources.
(iv) To maximize returns to the farmers in agriculture and allied sectors.
(v) To bring about quantifiable changes in the production and productivity of various components in agriculture and allied sectors by addressing them in a holistic manner.

This scheme has been commenced during the year 2007-2008. During the year 2009-10, a sum of Rs. 3,303 lacks was released to the state out of which expenditure to the tune of Rs. 3264.28 lacks has been made by all the stakeholder departments. For the year 2010-11, an allocation to Rs. 94.85 crores has been recived from the Government of India.

Farm Women empowerment: The Department of Agriculture has taken up Farm Women Empowerment Programme in a big way in 73 blocks of the State covering 11,800 women farmers. 8 women groups have been constituted in each block.The objectives of the programme are: assessment of needs of women farmers; prioritization of activities; providing package of technical training to women farmers in agriculture and allied areas; to provide organisation and functional support to women groups to make them Self Help Thrift Groups, to develop their managerial, organizational, entrepreneurial and decision making skills so as to enable them to develop them into a viable unit to start their own economic activities. These women groups are also being exposed to various parts of the State and Country. The Government closed this scheme in December, 2005 and new concept of Gender Budgeting is introduced by the Government from the financial year 2006-2007 under which 30% of the budget is to be spent on Women specific programmes.

3.4 Technology Adopted in the Sector along with any Changes in Technology

(A) Technologies/Alternatives Available in Agriculture Sector: Eco- friendly agricultural practices are necessary in order to protect our environment and to keep it safe for the health of farming families and for millions of others who daily consume the produce. Such practices were traditionally inherited in the hill agriculture. However, due to recent trends in modernization of agriculture, some practices have become alarming to the environment. These are application of chemical pesticides, fungicides, antibiotics, acaricides, nematicides, herbicides, NPK fertilizers, use of dust powders such as DDT, BHC, Sevin for treating stored grains or cellphos fumigation. The other pollutants are tractors replacing bullock cultivation, diesel pumps or gensets. Removal of many tree species from agro-forestry systems was another damaging factor because these tree species had great influence on the environment. For example, mango trees in rural areas purify the environment through their leaves which contain antibacterial and antiviral substances. Similarly, winds from pine trees and deodars environmental purification give network of roads connecting villages and the growing number of vehicles is also increasing pollution. The following technologies/alternatives will be useful to protect the environment in rural areas.

Significance of Agro-forestry in Hill Agriculture: The agro-forestry systems have been an essential component in the traditional farming systems. However, in the present time without realizing its significance, farmers are

removing fast the tree components from their farming lands because of small damage done by birds, shade etc. This has encouraged the damage by rodents, wild beasts and insects-pests.

Use of Bullocks as Draught Animals: The use of bullocks for ploughing and other purposes in agriculture has distinct advantages. It is a renewable energy source, provides manure, consumes grass and crop wastes and has no damaging influence on environment.

Enhancing Crop and Varietal Diversity for sustainable Crop Harvests: It is widely realized that the loss of biodiversity in agriculture in the hills is responsible for crop failures in adverse years. The sustainability in crop production was attained in the hills through diversification of crop species and growing a large number of varieties of each crop. The small millets tolerate drought much better than cereal crops. In rice, there were varieties, e.g. Rahru, Rohda, which were grown mixed with the maize crop without any standing water.

Mixed Farming and Mixed Cropping: Mixed farming offers much scope to earn a good income through agriculture at least on small and marginal farms. Mixed farming involves animal husbandry, dairy, apiculture (bee- keeping), pisciculture, sericulture, floriculture, mushroom growing and the cultivation of medicinal and aromatic plants. Mixed cropping utilizes the available farm resources to the maximum possible level and provides good returns to the grower.

Present Method of Irrigation: The four common methods being used for irrigation in Himachal Pradesh are flooding, furrow, border and basin. Flooding and border irrigation method are mostly used by the farmers. The details of methods with crops irrigated are given in table 36.

Table 36: Present Method of Irrigation

Method	Crop Irrigated
Flooding	Rice, Maize, Fodder
Furrow	Vegetables
Border	Wheat, Oilseeds, Pulses
Basin	Orchards

Water storage structures like small irrigation tanks, ponds, check dams etc. have been constructed for irrigation.

- High Yielding varieties of seeds have been introduced.
- Fertilizers are made available to cultivators.

Since irrigation is a crucial input for increasing productivity of crops many major, medium & minor irrigation projects have been set up.

(B) Horticulture Technology Mission (HTM): Realizing the importance of Horticulture in the economic development of Himachal Pradesh, the Government of India has sanctioned Rs. 80 Crores for implementing Horticulture Technology Mission for the state for the 10th Five Year Plan. The mission was launched during October, 2003, funded 100% by the Central Government through designated agencies. Before coming up of this Mission into operation, the centrally sponsored scheme was implemented under the programme 'Macro management of Horticulture in the ratio of 90:10 Centre and State share. The main objective of the mission is to establish convergence and synergy among numerous ongoing governmental programmes; achieve horizontal and vertical integration of these programmes; ensure adequate, appropriate, timely and concurrent attention to all the links in the production, post harvest and processing chain; maximize economic, ecological and social benefits from the existing investment and infrastructure created for horticulture development; promote ecological sustainable intensification, economically desirable diversification and skill development and generate value addition, promote the

development and dissemination of low cost versatile technologies. Under Horticulture Technology Mission, four mini missions are being implemented for the integrated development of horticulture industry. Main emphasis is being given for the cluster approach so that the farmers get well-developed infrastructure right from production till marketing and processing. Under mini mission-I, research and development activities are being carried out. Under mini mission-II, activities for improving production and productivity of horticulture crops are being undertaken. Mini mission-III is being implemented for carrying out post harvest management, marketing and export activities and under mini mission-IV, the farmers are being promoted to undertake processing activities and marketing of processed products. The list of various programmes being implemented under mini mission-II of HTM is given below.

Area Expansion
Rejuvenation of senile plantations
Model floriculture centres
Creation of water sources
On farm water management
Protected cultivation
Centres of excellence for Horticulture Mission Programmes
Production of planting material
Transfer of technology
Popularization of organic farming and use of bio-fertilizers
Promotion and popularization of horticultural equipments
Promotion of integrated pest management
Promotion of integrated nutrient management
Establishment of plant health clinic
Establishment of tissue/leaf analysis laboratory
Development of bee keeping
Establishment of integrated mushroom unit
Entrepreneurial development of women farmers
Development of information base through remote sensing
Strengthening of horticulture infrastructure

With the inception of Horticulture Technology Mission, there has been a revolutionary change in the pace of horticulture development of the state and the impact of this mission can be gauged from the data given below in table 37.

Table 37: Performance of HTM

Increase in fruit production	7%
Farmers assisted	33628
Farmers provided trainings in other States	1568
Farmers provided trainings within State	4693
Women farmers trained	1972
Area brought under horticulture:	
Area under fruits	8704 hectares
Area under vegetables	1392 hectares
Area under flowers	294 hectares
Area under medicinal plants	150 hectares
Area under aromatic plants	67 hectares
Area under spices	257 hectares
Area covered under poly houses	1.107 sq. m.
Storage capacity of community tanks	1455 lakh liters
Area brought under micro-irrigation	723 hectares

The assistance which is available for Mini Mission -II under the Horticulture Technology Mission, being implemented by the Department of Horticulture, Himachal Pradesh is given below.

Training of Farmers: The fast development of horticultural industry in the past four decades has opened vast opportunities for skilled manpower on various aspects of horticultural operations. Implementation of suitable human resources development programme for skill formation/ skill improvement in various horticultural techniques is the need of horticultural industry and for catering to the manpower employment to the educated youths in rural areas. Training is an important tool for thetransfer of technology by "Learning and Doing" method. The

importance of training is realized more in an avocation like horticulture whose specialized practices like pruning, plant protection, fruit preservation, beekeeping, mushroom production, floriculture, hops production, medicinal and aromatic plant cultivation etc. can be effectively learnt only through practical training. Table 38 describes training programme which shall be organized for the farmers during the 11th Five year Plan 2007-12 under this scheme.

Table 38: Training Program under HTM

Sr. No.	Training Programme	Duration	No. of Farmers to be Trained
1	Village/Block and Distt. Level training camps	1-2 days	200000
2	Training Courses		
	1.Mushroom Cultivation	5-10 days	2000
	2.Beekeeping		1000
	3.Horticulture		2000
3	Study tours		
	1.Within state (40 farmers/tour)		1000
	2.Outside the state (40 farmers/tour)		1000

During the training period each trainee will be provided subsistence allowance and other charges if any, in accordance with the approved procedure by the State Govt. for organizing the training programme.

Exposure Visit of the Farmers to the Foreign Countries:

It is proposed that during 11th Five year Plan 2007-12, 80 farmers (4 farmers per group) be sent for exposure visit to different countries.

Fruit Processing and Utilization: The department of horticulture is implementing a scheme for the utilization of unmarketable surplus of fruits and vegetables since the year 1959. Two type of approach is being under taken in this regard.

1. Setting up of fruit processing units in the fruit growing areas.
2 Organizing community canning service and training in home scale preservation of fruits and vegetables in rural areas.

At present, the department of horticulture, Himachal Pradesh is running 8 small fruit processing units in different districts with total installed capacity of processing of 500 MT fruit products. Besides these, one micro biological laboratory for product development and standardization of recipe of different fruit products and other laboratory for testing the quality of fruit product being manufactured in departmental units, have also been set up. The objectives of the scheme are given below.

1. Utilization of unmarketable surplus of fruits and vegetable in the state.
2. Creation of infrastructural facilities for providing community canning services to the local population in each district.
3. Organizing training in home scale preservation of fruits and vegetables in rural areas especially for women folk.
4. Standardization of recipe of the fruit products based upon the raw material available in the state.
5. Ensuring quality control over the production of fruit products for making the same available to the consumer on the reasonable rates through departmental units.
6. Providing consultancy and technical advisory services to the entrepreneurs for setting up of their own processing units.

A target of manufacturing 1000 MT fruit product in the departmental units and 250 M.T. fruit products to be processed under community canning services is proposed for 11th Five year Plan 2007-12. A target of manufacturing 200 MT of fruit products at departmental units and 50 MT through Community Service is proposed for the year 2007-08.

Horticultural Research and education: The application of science and technology is the most crucial factor in the process of development of horticulture in the state. With the increase of the area under different fruit crops in the state, the problem of the horticulture industry has increased to the greater extent requiring solution to solve them so as to keep the industry in the line of business. Increasingly problems of insects, pests and diseases, low productivity of fruit crops, plant nutritional problems, post harvest losses of horticultural produce etc, are the major problems which are threatening the economic viability of the state horticultural industry. A strong research support is required to solve the problems of the horticulture industry. Therefore, emphasis will be given on intensification of research programme of the horticulture industry.

The State Government under the Act No. 6 of 1986 established a full- fledged Dr. Y.S. Parmar University of Horitculture & Forestry at Nauni, District Solan with the following objectives:

1. Creation of infrastructural facilities for the research and education programme of the State Horticulture University.
2 Making provision for imparting education in horticulture, forestry and other allied services of learning and scholarships.
3 Furthering the advancement of learning and prosecuting of research both basic and applied in various fields of horticulture and forestry.
4. Undertaking the spread of education of such sciences especially to the rural people of the state.
5. Such other purpose as the University may determine from time to time.

Since the Dr. Y.S. Parmar University of Horitculture & Forestry, Nauni, Distt. Solan does not have enough financial resources for the maintenance and creation of its infrastructural facilities required for the research and education programme, the financial support in the form of grant-in-aid is being provided by the State Government to the University under the Head of Development "Research and Education".

(C) Marketing and Quality Control: Himachal Pradesh is one of the major fruit growing state in the country and has witnessed remarkable progress in fruit production during previous five year plans. The success in raising fruit plantation, however, does not stop with the production of fruits but it is also extended to taking the produce to the consumers through various marketing processes and channels. For getting remunerative prices for his produce, the orchardists need proper facilities for quality control and smooth transport system besides adequate training in the post harvest operations like picking, packing, grading and also market advisory service. To keep the farmers informed with day-to-day market trends in the consuming markets, the market information through various media needs to be provided to them so that they can harvest the benefits of remunerative prices prevailing in different markets of the country. The following schemes and sub schemes are proposed to be implemented under this major head of development during 11th Five Year Plan 2007-12.

Market Intervention scheme: During the heavy crop year, the fruit growers receive very low price from the market as a result of glut in the market. This situation is also faced by them when the crop is damaged by weather vagaries like hail storms. Therefore, to stabilize the market prices for fruits and to save the fruit growers from economic losses, the State Government has formed a policy to provide market support to the growers for their fruit produce under Market Intervention Scheme. The procurement of fruits under this scheme is done through HPMC and HIMFED for utilization in fruit processing industries, with the extension support of the Department of Horticulture, Himachal Pradesh. It is also proposed to introduce the policy of Apple

Crop Insurance during the 11th Five Year Plan. Efforts are being made at Government level to include Apple fruit under Crop Insurance Scheme.

3.5 Stakeholder Involvement in Environment Preservation and Restoration

The livelihood in Himachal Pradesh depends on many sectors such as Horticulture, Agriculture, Animal Husbandry & Livestock, Fisheries etc. The major stakeholders for livelihood are given below:

- BPL families
- Farmers
- Fisherman
- Government Departments/ Employees
- Non-Govt. Organizations (NGO's)
- Schedule Tribes & Schedule Caste Population
- Educational Institutes

(a) Number of Enterprises and Workers: Persons usually working in all enterprises are 659479, out of them 19116 persons are working in agriculture enterprises. The highest contribution of workers comes from district Kangra (124235) and Shimla (101888). The details of enterprises & persons are working with these enterprises are given below in table 39.

Table 39: Number of Enterprises and Number of Persons usually working (Fifth Economic Census, 2005)

Sr. No.	District	Enterprises			Persons Usually Working		
		Total	Agricultural	Non-Agricultural	All Enterprises	Agricultural Enterprises	Non-Agri. Enterprises
1.C	Bilaspur	17950	851	17099	36838	1118	35720
2.C	Chamba	16886	1383	15503	37418	2102	35316
3.C	Hamirpur	19962	355	19607	40037	420	39617
4.C	Kangra	60250	2504	57746	124235	4127	120108
5.C	Kinnaur	3969	58	3911	11357	70	11287
6.C	Kullu	19246	1597	17649	42295	2088	40207
7.C	L-Spiti	1963	1	1962	5888	5	5883
8.C	Mandi	39190	2714	36476	81821	3357	78464
9.C	Shimla	30013	1399	28614	101888	3952	97936
10.C	Sirmaur	17007	773	16234	47324	1189	46135
11.C	Solan	22405	262	22143	89794	477	89317
12.C	Una	18932	117	18815	40584	211	40373
	H.P.	**267773**	**12014**	**255759**	**659479**	**19116**	**640363**

(b) Livestock: For carrying out various activities related to livestock sector, proper training and skills are required, which can be addressed by proper training. Thus the State is taking various steps to provide proper guidance and training which includes:

a. To demonstrate improved variety of livestock.
b. To disseminate information about livestock management.
c. or basic animal health care.

For providing extension services for raising and caring of livestock, the State is conducting various training courses for proper management of livestock. Since it is generally the women who look after the livestock, such training courses is targeting women. Plans have been made by the State to conduct these training programs through the local Panchayati Raj Institutions.

(c) Fisheries: Major Stakeholders and their Current Role are given below.

Government Agencies: Draft Environment Policy Guidelines of the state have been developed with a view to develop approaches compatible with the mountain ecosystems and its unique aspects such as fragility, inaccessibility, marginality, diversity, climatic peculiarities etc. The policy guidelines cover important areas such as; land,

water, air, mineral resources, health, bio-diversity, agriculture, horticulture, fisheries etc

Himachal Pradesh abounds with vide varieties of natural and man-made water systems. These wetlands are spread in the various ecological zones, from sub-tropical to trans-Himalayan regions ranging from 350-5000 m. In view of their ecological variation and wide regime of temperature, these wetlands support a wide range of flora and fauna.

Further, wetlands occupy 1% of the total geographical area of other State. The total number of wetlands (>.2ha.) in the State of Himachal Pradesh are 92 out of which 7 are man-made while remaining 85 are natural. The area of natural wetlands (85) is 1,556 ha. And of the remaining 7 is 53,210 ha. The total area under wetland is 54,766 ha. During the peak seasons (post-monsoon) and 30366 ha. during the lean seasons. In addition, there are 176 wetlands smaller than 2.25 ha. Some of the initiatives taken by the Government are given below.

- Monitoring / studies on abiotic and biotic parameters
- Bathymetric mapping of wetlands.
- Steps to reduced sediment influx.
- Intensive fishing so that local fishermen could reap more harvest
- Formulation of strategic policy for protection and conservation of these water bodies.
- Exo-oriented approach for development of these ecosystems as tourist spots.

Make local fishermen stakeholders: In order to increase fish productivity, there is a need to involve local fisherman as major stakeholders. The major issue is the issue of ownership of ponds, tanks & other water bodies. For example, the Himachal Pradesh government has given fishing rights in the reservoir to people displaced by the dam.

Stakeholder Involvement in Environment Preservation & Restoration

Some of the other examples, of stakeholder involvement in the state are given below in table 40.

Table 40: Examples of Stakeholder Involvement

Stakeholder Name	Role/Involvement
Farmers	Helps to procure seeds to Agriculture Department
The Himachal Pradesh State Cooperative Marketing And Consumer's Federation Ltd. (HIMFED)	Provides fertilizers to Fruit Growers.
Agriculture Department	Impart latest technology to farmers for increasing agricultural production. To ensure timely supply of agricultural inputs. To educate farmers about soil & water conservation technologies To impart training regarding Integrated Pest Management and use of farmers friendly bio-fertilizers. To create irrigation facilities through minor/tank irrigation schemes to obtain maximum returns from their land.
Horticulture Department	Provides Fertilizers & Pesticides
HPMC	Helps in marketing fresh fruits and vegetables, processing the un-marketable surplus and marketing the processed products. In near future H.P.M.C. is planning to link its offices

Stakeholder Name	Role/Involvement
	with Internet to help farmers to sell their fruits directly to various markets in India.
ATMA	Involved For Sustainable Agriculture Development

(d) Education: According to table 41, the highest literacy rate was found in District Hamirpur (82.5%) followed by Una (80.4%) and Kangra (80.1%), while the lowest literacy rate was in district Chamba (60.9%). The maximum students enrolled in primary, middle, high school and colleges was found in district Kangra, Mandi and Shimla table 42. The status of literary rate and students enrolled are given below in table 41, table 42 and table 43.

Table 41: District wise Literate Population in Himachal Pradesh

Sr. No.	District	Literacy Status		
		Persons	Male	Female
1	Bilaspur	504,330 (79.1%)	293,745 (87.2%)	210,585(70.1%)
2	Chamba	246,169 (62.9%)	152,533 (76.4%)	93,636 (48.8%)
3	Hamirpur	298,498 (82.5%)	152,537 (90.2%)	145,961 (75.7%)
4	Kangra	940,505 (80.1%)	500,383 (87.5%)	440,122 (73%)
5	Shimla	504,330 (79.1%)	293,745 (87.2%)	210,585(70.1%)
6	Sirmaur	274,643 (70.4%)	163, 415 (79.4%)	111,228 (60.4%)
7	Solan	332,410 (76.6%)	199,444 (84.8%)	132,966 (66.9%)
8	Una	312,278 (80.4%)	168,450 (87.7%)	143,828 (73.2%)
9	Lahaul & Spiti	NA	NA	NA
10	Kinnaur	58,839 (75.1%)	35,551 (84.4%)	23,287 (64.4%)
11	Kullu	72.90%	83.98%	60.88%
12	Mandi	587884(75.2%)	331171(85.9%)	256713(64.8%)

Source: Census 2001

Table 42: District wise Enrolled Students in Himachal Pradesh

Sr. No.	District	Primary School	Middle School	High School	Colle-ges
1	Bilaspur	26,901	19,447	20,103	4,866
2	Chamba	56,615	29,058	23,449	3,828
3	Hamirpur	28,643	21,598	33,691	7,400
4	Kangra	104,304	69,657	87,457	16,816
5	Shimla	64,897	40,288	46,194	14,000
6	Sirmaur	48,999	32,532	23,968	3,409
7	Solan	43,616	27,862	34,577	5,181
8	Una	38,480	25,769	28,257	6,180
9	Lahaul & Spiti	NA	NA	NA	NA
10	Kinnaur	NA	NA	NA	NA
11	Kullu	NA	NA	NA	NA
12	Mandi	96,353	58,145	30,557	11,927

Source: Government of HP, 2005-06 NA-Not Available

Table 43: Role and Responsibilities of Zila Parishad, Panchayat Samiti and Gram Panchayat

EDUCATION DEPARTMENT		
Zila Parishad	**Panchayat Samiti**	**Gram Panchayat**
1. To assess the requirement of High School teachers, equipment etc. in the district and plan for them.	1. To supervise the functioning of the middle schools.	1. Ensure full enrolment of school age children in primary schools.
2. Supervision and monitoring of the quality of education services.	2. Supply and distribution of material and equipments to the middle schools.	2. Maintenance of primary school buildings, play grounds etc.

EDUCATION DEPARTMENT		
Zila Parishad	**Panchayat Samiti**	**Gram Panchayat**
3. Campaign for full enrolment and reduction of dropouts.	3. To assess the dropout position and initiate appropriate action to reduce it.	3. Vigilance on regular attendance of primary school teachers and non teaching staff and students reporting to the concerned authorities.
4. Assessment of requirement for hostels of targets group students and plan for them.	4. Distribution of middle school uniform, books and other materials to the target group students.	4. Assist primary schools in the distribution of study material to the target group students.
5. Supervision of distribution of high school uniforms, books etc. for target group students.	5. Assist in the maintenance of hostels of middle schools.	5. Supervision of mid day meal scheme.

***(e)* BPL families in Himachal Pradesh:** The maximum families Below Poverty Line are found in district Chamba (54.15%) and Lahaul-Spiti (43.50%). Lowest BPL families are found in Kullu (16.24%) and Una (16.92%). The details are given below in table 44.

Table 44: Number of BPL Families in Rural areas (2002-07)

Sr. No.	District	Total Families at the time of Survey	No. of families below poverty line	% of families below poverty line to total families
1.C	Bilaspur	75,051	17,337	23.10
2.C	Chamba	85,676	46,393	54.15
3.C	Hamirpur	95,795	19,514	20.37
4.C	Kangra	2,89,185	63,250	21.87
5.C	Kinnaur	13,255	2,824	21.31
6.C	Kullu	69,388	11,267	16.24
7.C	Lahaul-Spiti	5,517	2,400	43.50
8.C	Mandi	2,06,096	41,339	20.06
9.C	Shimla	1,08,999	31,682	29.07
10.C	Sirmaur	70,439	13,695	19.44
11.C	Solan	73,733	17,478	23.70
12.C	Una	89,792	15,191	16.92
Himachal Pradesh		**11,82,926**	**2,82,370**	**23.87**

Source: Rural Development Deptt. Himachal Pradesh

(f) Horticulture: The horticulture extension services of the Department have been strengthened up to the grass root level. In addition, the programme relating to the farmers training, demonstrations, fruit shows, exhibitions, seminars and workshops are organized for the dissemination of the technical know how to the farmers. Stakeholders (farmers) have been primarily the beneficiaries of the schemes of the horticulture department. They have also been part of the awareness, training and demonstration of various schemes and projects.

(a) Training Programme: Training and extension is an important programme for the transfer of technology to the farmers for increasing horticultural production. This programme is also very important for human resource development to meet the skilled manpower need of the horticulture industry. This scheme aims at organizing training camps/ workshops/ seminars/ courses/ study tours etc. for the farmers as well as to the technical officers and field functionaries of the Department of Horticulture. Therefore, this scheme has the following two aspects.

i) Training Courses for Technical Officers: The training exposure of the high, middle and grass root level functionaries is an important critical technical input for upgrading their knowledge, skills and attitude for planning implementing and follow up of horticulture extension activities. Moreover, specialized training courses are required for up gradation of skills of the existing technical staff posted at various Progeny-cum-Demonstration orchards /Nurseries and other departmental units. Therefore, to achieve the above objectives, the work shops, refresher training courses, seminars etc. are proposed to be organized in collaboration with the Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni Distt Solan for technical officers/ field functionaries of the Department of Horticulture.

ii) Organization of Exposure visit of Farmers /Departmental Officers to Foreign Countries: It is important that the farmers in the state and the technical officers of the department get themselves equipped with the knowledge of the recent trends in horticulture technology prevailing worldwide to keep pace with the process of development. This can only be achieved if they are exposed to horticulturally developed countries to see for themselves and gain experience. This scheme, therefore, aims at organizing exposure visits/study tours of the farmers as well as the technical officers and field functionaries of the department to foreign countries to expose them to the modern horticulture technologies being adopted by the advanced countries in the fast changing scenario under WTO regime, to provide them opportunities to augment their knowledge and understanding through the concept of 'Seeing is Believing'.

3.6 Critical Environmental Issues / Hotspots Associated with the Sector

Depleting natural resource base leading to loss of livelihood: Nearly 70-75% rain occurs during monsoons which flow as run-off with least conservation. As a result all areas without assured irrigation suffer from water stress & low productivity leading to loss of livelihood. Inundation of forest areas and inadequacy of vegetation cover in catchment areas is increasing the problems of low productivity of soils as well as observation of natural water sources.

Progressive fragmentation of agricultural lands is leading to non-subsistence farming and increase in unemployment. Inheritance laws have promoted further fragmentation which is also responsible for migration of rural people in search of job to urban areas.

Unremunerative agriculture in certain areas leading to loss of livelihood: Approximately 80% of all holdings in the state fall in the category of small and marginal farmers. The majority of people suffer scarcity of resources and that too when about 80% of the total cultivated area is rainfed. Increase in fallow land is indicative of the people switching over to other means of livelihoods. However, owing to introduction poly- house technology people are also reverting to agriculture.

Change in environmental conditions leading to loss of livelihood: The topography of the state is largely hills where cultivation is mainly done on terraces. The cultivation in hills is subjected to soil erosion since crop cultivation is practised on 5% to over 30% slopes. This also affects soil fertility status and changes in pH values as well.

The abnormal pattern of rainfall over the past few years has caused great fluctuations in crop production and consequent price rise of food grains and vegetables in particular. This is manifested in fluctuation in yields and consumer price.

Applications ignored the long-term effects accruing from the immediate gains of fertilizers and pesticides. The problem has arisen because of extensive and wrong application of chemical pesticides which leave residual toxic effects on food articles. Indiscriminate use of chemicals has caused imbalance of nutrients available in soil and loss of useful microbial flora. Widely used chemicals in agriculture include chemical fertilizers (NPK), chemical pesticides, fungicides, and herbicides or weedicides. Furthermore, the indiscriminate and excessive use of chemical fertilizers, such as urea, has made soil unfit for growing legumes for their detrimental effect on nodulation bacteria.

The indiscriminate use of chemicals has resulted in price rise in pulses and pollution of potable water and edibles.

Inadequacy of access / delayed market access and market infrastructure leading to avoidable / wasteful expenditure and livelihood loss: Inadequacy of marketing infrastructure facilities including marketing yards, transportation facilities, collection facilities, storages, grading and packing facilities, difficulty in transportation of agricultural products due to difficult terrain and sparse population in interior areas, inadequacy of marketing information, high cost of surface transport produce to the consuming markets; and poor communication network due to hostile terrain. There are problems of access to the market for getting remunerative prices for their farm produce. The farmers are exploited by wholesale traders who take advantage of their limited capacity to hold small quantities of produce and their pressing need for cash soon after the farm harvest. There remains a large gap between the produce procurement price and the consumer price leading to loss of revenue and livelihood to farmer.

Inadequacy of diversified portfolio of subsistence livelihood: Due to inadequacy of availability of agricultural work force as well as high input cost e.g. Rs 80/- per day for the labor, compels farming families to change their agricultural land to some long- term usage such as a fruit orchard, timber tree cultivation or to grow some high value crops such as flowers, medicinal and aromatic plants and vegetable crops so as to earn immediate larger profits to pay the hired labour for better resource inputs. In such situation, portfolio of subsistence livelihood can create alternate means of income at least to meet the basic requirement of food and other essential needs.

Inadequacy of assessment of market / variation in demand and supply of major agriculture / horticulture produce leading to loss of livelihood: Systematic resource knowledge is inadequate, therefore it is difficult to plan for profitable and sustainable agriculture. High input modern agriculture is emerging fast which requires more money and energy input. Its one of the reason why agriculture production on sustainable basis is not being achieved as all areas in different agro ecological conditions have not recorded rise in production. Food insufficiency is further forcing people dependent on agriculture to seek other means of livelihoods. Market access or market facilities also become an important factor to fetch better prices of agricultural produce. Research planning for the hills need assessment of considerations such as resource crunch to small and marginal farmers, rainfed nature of crop growing, agro-climatic or agro-ecological potentials, communication systems in the hills, and market access.

Public health risk leading to loss of livelihood due to inadequacy of safe drinking water infrastructure: Due to improper management of sewage treatment and disposal, it mixes with the drinking water sources and pollute drinking water which leads to public health risk. At the state level, cases of admission in hospitals due to diarrhea increased from 16,263 in 1995 to 16,602 in 2002. Similarly cases of admission in hospitals due to hepatitis increased from 379 in 1995 to 421 in 2002. At district level, Chamba, Hamirpur, Kinnaur, Kullu, Lahaul & Spiti, Mandi, Sirmaur and Una reported increase in admission in hospitals due to diarrhea during 1995 to 2002. Similarly, Bilaspur, Chamba, Kangra, Kinnaur and Una reported increase in admission in hospitals due to hepatitis during 1995 to 2002.

Unexplored prospects of private sector participation / entrepreneurship for diversification of livelihood: Increased demand for urban and rural infrastructure e.g. road, water resources, tourism etc. and inadequacy of government funding for its development necessitates private sector participation in development projects. In Himachal Pradesh, private sector participation in infrastructure sector has been lagging behind and unexplored due to a number of factors. The participation of private sector will facilitate a number livelihood opportunities in the state.

Inadequate integrated land use planning The Himachal Pradesh State Land Use and Wasteland Development Board reconstituted in 2007 for the period of three years has not been adequately involved in integrated land use planning. Further, inadequate land use planning at the department level and inadequate Institutional structure for integrated land use planning in the state has led to sustained degradation of land resources due to exploitative and competing demand on finite land resources from various departments/ sectors.

Pressure on account of increasing threats and slow pace and inadequate implementation of policy, programmes, plans and projects is leading to emergence of sector specific issues and risks/impacts.

3.7 Environment initiatives taken by the Sector to Address Critical Environmental Issues

Implementation of various special programme: For increasing productivity of agriculture, seeds of high yielding varieties, fertilizers, pesticides provision of irrigation facilities to the land are being provided to the farmers. Subsidy of 50% on agriculture input is provided to Scheduled Castes and Scheduled Tribes under the Scheduled Castes component plan and tribal areas sub-plan. Similar subsidy is also available to Antodaya, I.R.D.P. families and farmers of backward areas.

Production and Supply of Elite Planting Material: Production and supply of planting material is arranged through 112 progeny-cum-demonstration orchards and nurseries and 629 private nurseries. The state is self-sufficient in the production and supply of most temperate fruit plants but is deficient in planting material for mango, citrus and other sub-tropical fruits, some nuts particularly grafted walnuts, pecan nuts, kiwi fruits, cherry and spur type of apples. Various programmes have been initiated for increasing the production of the plant material for these fruits in Himachal Pradesh. This will reduce the consumption of inputs like fertilizer, pesticides & other items, which will reduce the downstream pollution.

Introduction to Improved Plant Material: The Department of Horticulture has been making efforts from the seventh Five-Year Plan for the introduction of the improved varieties of fruits from the advanced countries as well as the other states of India for i) improving the quality and the productivity of fruit crops ii) diversification in crop production and iii) improving the economic viability of fruit farms.

Moisture conservation: In Himachal Pradesh fruit production in general is carried on under rainfed conditions and almost no irrigation is given to orchards. In the higher hills and mid hills, there is no arrangement for irrigation as there are no permanent sources for supplying water to fruit trees. In some areas, particularly in valley areas, life-saving irrigation is possible.

For raising flowers and ornamental plants, there is some facility for irrigation, but that is limited to valley areas only. Mulching is being practised in many areas. Water harvesting technology has also been adopted by growers. According to available statistics, the total area under cultivation is 6.15 lakh hectares, and out of this 1, 02, 617 hectares is under irrigation while 5, 12, 383 hectares is rainfed. These initiatives will reduce dependence on a resource intensive agriculture and its diversification or migration of population to urban areas.

Soil Conservation: Plantations made in the past are mostly on the gentle slopes, and the trees have small or large basins depending upon the availability of space. Almost the area near the tree trunks and basins are being used for grasses or for other agricultural purposes, thus, there seems to be no danger of soil erosion in the orchards. Moreover, growers are aware of the soil erosion by water in such areas and they protect their trees from it. It is only the natural

calamities that cause soil erosion near the orchards.

Organic Horticulture: Organically grown produce is considered good for health. It fetches better prices in and outside the country. There is a great need to follow the traditional method of organic farming. Much organic material in and around the orchards is being wasted for want of awareness about the use of this product. Therefore, organs horticulture is being encouraged in the state.

Agriculture Sector

Establishment of Tissue/Leaf Analysis Laboratory: The three plant tissue laboratories have been established at Shimla, Kullu & Dharamshala for determination of essential nutrient availability to the plants and enabling recommendations of different fertilizers & trace elements for supplementing the deficiency of these nutrients. This will reduce over consumption of fertilizers.

Incentives to farmers: This scheme is sponsored by State Government under Department of Agriculture. Government is providing 50% subsidy on cost of seeds, protection material & Agricultural implements and on nitrogenous fertilizers cost subsidy at Rs. 200/MT. It has been introduced on 01-01-2006 and valid up to 01-01-2012. Biogas models viz Deenbandhu & Janta are being popularized on which subsidy at the rate of Rs.3500 per plant up to 1 cubic meter & Rs. 4500 more than 1 cubic meter is being given. Subsidy at 50% on cost of micro-nutrients is being given to SC & ST farmers. Subsidy on tractors up to 35 horsepower at the rate 25% limited up to Rs.30, 000 only is provided. Sprinkler Irrigation subsidy at the rate 50% to SC/ST/SF/MF/Women farmers subject to a maximum of Rs. 15,000 per set etc.

Farmers Training & Education: Department of Agriculture runs 2 Training Centre one at Mashobra (Shimla) & other at Sundernagar (Mandi).

Watershed Development Programme:

(A) Integrated Wastelands Development Programme (IWDP): Integrated Wastelands Development Programme is being implemented in 9 districts of the State viz: Chamba, Hamirpur, Kangra, Kullu, Development Blocks Nichar and Kalpa of district Kinnaur, Mandi, Shimla Sirmour and Development Block Kandaghat, Solan and Nalagarh of district Solan on watershed approach since 1995-96. Total 67 projects comprising of 873 micro-watersheds have been sanctioned under IWDP till date. These projects were funded 100% by the Central Government up to 31.3.2000. Since 1.4.2000 these projects are being funded on sharing basis @ Rs. 5500:500 per ha between Central & State Governments respectively.

Table 45: Progress of Integrated Wastelands Development Programme

Sr. No.	Name of Project	Funds Released during the year 2008-09 (Rs. in Lakhs)			Expenditure during the year (Rs. in Lakhs)	Physical Achievement during the year (in Ha)
		Centre	State	Total		
1	2	3	4	5	6	7
Integrated Wastelands Development Programme :						
1.	Chamba-II	4832840.00	0	4832840.00	1.236	0
2.	Chamba-III	4811506.00	0	4811506.00	38.439	1083
3.	Chamba-IV	0	0	0	21.324	390
4.	Chamba-V	6649610.00	618000.00	7267610.00	36.385	756
5.	Chamba-VI	8244147.00	750000.00	8994147.00	36.602	713
6.	Hamirpur-I I	0	0	0	0	0
7.	Hamirpur-III	0	0	0	35.89	455.64

Sr. No.	Name of Project	Funds Released during the year 2008-09 (Rs. in Lakhs)			Expenditure during the year (Rs. in Lakhs)	Physical Achievement during the year (in Ha)
		Centre	State	Total		
8.	Hamirpur-IV	0	0	0	48.60	700.20
9.	Hamirpur-V	2641095.00	260000.00	2901095.00	35.92	521.66
10.	Hamirpur-VI	6847500.00	622500.00	7470000.00	59.16	992
11.	Hamirpur-VII	8208998.00	750000.00	8958998.00	51.53	711.65
12.	Hamirpur-VIII	7371922.00	657000.00	8046922.00	37.96	674
13.	Kangra-II	0	0	0	0	0
14.	Kangra-III	0	0	0	13.888	251
15.	Kangra-IV	5048753.00	940100.00	5988853.00	18.13	356
16.	Kangra-V	3870138.00	375000.00	4245138.00	39.513	116
17.	Kangra-VI	3586826.00	375000.00	3961826.00	29.81	491
18.	Kangra-VII	8206585.00	0	8206585.00	49.179	815.88
19.	Kangra-VIII	0	0	0	59.381	1101
20.	Kangra-IX	8195301.00	750000.00	8945301.00	40.111	675
21.	Kangra-X	0	0	0	28.784	302
22.	Kangra-XI	0	0	0	51.16	677
23.	Kangra-XII	4441010.00	407100.00	4848110.00	16.958	231.10
24.	Kangra-XIII	0	0	0	35.589	334
25.	Kangra-XIV	0	0	0	17.85	281
26.	Kangra-XV	0	644100.00	644100.00	38.854	561
27.	Kangra-XVI	0	448500.00	448500.00	37.423	605
28.	Kangra-XVII	8736105.00	798000.00	9534105.00	21.136	345
29.	Kangra-XVIII	0	650400.00	650400.00	50.340	872
30.	Kinnaur-I	0	0	0	0	0
31.	Kinnaur-II	0	0	0	25.70	375
32.	Kinnaur-III	12755069.00	1200000.00	13955069.00	83.30	1381
33.	Kullu-I	5991100.00	567100.00	6558200.00	86.57	3404
34.	Kullu-II	6770000.00	596400.00	7366400.00	87.15	894
35.	Kullu-III	3824535.00	375000.00	4199535.00	77.38	1564
36 .	Kullu-IV	8200781.00	750000.00	8950781.00	88.29	1540
37.	Kullu-V	8323621.00	762450.00	9086071.00	102.62	633
38.	Mandi-I	0	0	0	0	0
39.	Mandi-II	0	0	0	35.25	393
40.	Mandi-III	4561683.00	455325.00	5017008.00	44.10	428
41.	Mandi-IV	9553483.00	900000.00	10453483.00	20.76	372
42.	Mandi-V	8031549.00	837450.00	8868999.00	48.48	778
43.	Mandi-VI	8998388.00	837450.00	9835838.00	47.07	813.68
44.	Mandi-VII	9282223.00	871650.00	10152223.00	19.69	223.24
45.	Shimla-I	0	0	0	18.50	497
46.	Shimla-II	10048600.00	931500.00	10980100.00	32.31	549
47.	Shimla-III	0	0	0	19.95	507
48.	Shimla-IV	11357209.00	1050000.00	12407209.00	39.20	754
49.	Shimla-V	0	0	0	64.90	1297
50.	Shimla-VI	0	0	0	26.00	577
51.	Shimla-VII	0	900000.00	900000.00	75.29	1389
52.	Shimla-VIII	8195269.00	750000.00	8945269.00	24.93	541
53.	Shimla-IV	7243277.00	675000.00	7918277.00	17.38	591
54.	Sirmour-I	0	0	0	0	0
55.	Sirmour-II	6381227.00	599500.00	6980727.00	79.71	1523.80
56.	Sirmour-III	3100958.00	300000.00	3400958.00	68.24	1886.88
57.	Sirmour-IV	7801864.00	450000.00	8251864.00	80.44	1884.35
58.	Sirmour-V	8205156.00	750000.00	8955156.00	66.12	925
59.	Sirmour-VI	8206250.00	750000.00	8956250.00	21.28	311.65
60.	Solan-II	0	0	0	2.223	0

Sr. No.	Name of Project	Funds Released during the year 2008-09 (Rs. in Lakhs)			Expenditure during the year (Rs. in Lakhs)	during the year (in Ha)
		Centre	State	Total		
61.	Solan-III	6360264.00	0	6361914.00	43.925	771
62.	Solan-IV	3914172.00	37 5000.00	4289172.00	29.221	528
63 .	Solan-V	8205962.00	750000.00	8955962.00	43.585	758
		267004976	25479525	292502501	2470.716	43100.73

(B) Drought Prone Area Programme (DPAP):

Drought Prone Area Programme is being implemented in 3 districts of the state viz Bilaspur Una and Development Block Kunihar and Dharampur of district Solan. Up to the year 1998-99, the programme was being funded by Central and State Governments on 50:50 sharing basis but from 1st April 1999, the Government of India have changed the funding pattern from 50:50 to 75:25.

Under this programme 412 micro watersheds have been taken up for development for a period of five years. The detail of funds released, expenditure incurred and area treated during the year 2008-09 is given below in table 46.

Table 46: Progress of Drought Prone Area Programme

Sr. No.	Name of project	Funds Released during the year 2008-09 (Rs. in Lakhs)			Expenditure during the year (Rs. in Lakhs)	Physical during the year (in ha)
		Centre	State	Total		
1	2	3	4	5	6	7
Drought Prone Area Programme						
1.	Bilaspur 5th Batch	0	0	0	33.426	746
2.	Bilaspur 6th Batch	84.13107	28.04369	112.17476	47.455	632
3.	Bilaspur 7th Batch	0	0	0	40.941	612
4.	Bilaspur 8th Batch	49.64243	16.54748	66.18991	44.577	596
5.	Bilalspur Hariyali 1St	0	0	0	78.92	1023
6.	Bilalspur Hariyali 2nd	0	0	0	71.22	1046
7.	Bilalspur Hariyali 3rd	0	0	0	77.817	1102
8.	Bilalspur Hariyali 4th	93.56838	31.18946	124.75784	43.782	525
9.	Solan 1st Batch	0	0	0	0.20	0
10.	Solan 2nd Batch	52.28	17.426	69.706	0	0
11.	Solan 5th Batch	0	0	0	1.316	0
12.	Solan 6th Batch	38.15790	12.719	50.8769	22.89	363
13.	Solan 7th Batch	26.61	8.87	35.48	26.281	342
14.	Solan 8th Batch	33.65169	11.21723	44.86892	26.953	430
15.	Solan Hariyali 1st	50.93406	16.978	67.91206	25.283	407
16.	Solan Hariyali 2nd	0	0	0	20.508	343
17.	Solan Hariyali 3rd	66.4317	22.1439	88.5756	41.556	775
18.	Solan Hariyali 4th	66.46821	22.15607	88.62428	21.742	351
19.	Una 6th Batch	115.91612	38.638	154.55412	61.11	1002
20.	Una 7th Batch	58.15968	19.38656	77.54624	29.49	504
21.	Una 8th Batch	0	0	0	87.77	1543
22.	Una Hariyali 1st	0	0	0	99.85	1780
23.	Una Hariyali 2nd	129.01538	43.05127	172.06665	51.88	814
24.	Una Hariyali 3rd	0	0	0	117.37	2287
25.	Una Hariyali 4th	0	0	0	70.41	1072
		864.96662	288.36666	1153.33328	1142.747	18295

(C) Desert Development Programme (DDP)

Under DDP, 552 Micro Watersheds have been taken up for development in district Lahaul & Spiti and Pooh block of District Kinnaur. The detail of funds released, expenditure incurred and area treated during the year 2008-09 is given below in table 47.

Table 47: Progress of Desert Development Programme

Sr. No.	Name of project	Funds Released during the year 2008-09 (Rs. in Lakhs)			Expenditure during the year (Rs. in Lakhs)	Physical Achieve-ment during the year (in ha)
		Centre	State	Total		
1	2	3	4	5	6	7
Desert Development Programme						
1.	Lahaul & Spiti 5th Batch	77.54	21.60	99.14	18.09	211.78
2.	Lahaul & Spiti 6th Batch	129.03	45.00	174.03	112.20	1279.22
3.	Lahaul & Spiti 7th Batch	197.98	28.13	225.91	64.80	560.52
4.	Lahaul & Spiti 8th Batch	142.06	38.13	180.19	43.09	473.78
5.	Lahaul & Spiti Hariyali 1st Tandi	0	0	0	0	0
6.	Lahaul & Spiti Hariyali 1st	0	0	0	7.46	15
7.	Lahaul & Spiti Hariyali 2nd	0	0	0	14.01	160.21
8.	Lahaul & Spiti Hariyali 3rd	0	0	0	23.04	219.59
9.	Lahaul & Spiti Hariyali 4th	0	0	0	4.58	0
10.	Kinnaur 6th Batch	0	38.94	38.94	96.11	756
11.	Kinnaur 7th Batch	0	0	0	0.62	4
12.	Kinnaur 8th Batch	0	0	0	80.29	597
13.	Kinnaur Hariyali 1st	0	0	0	0.05	0
14.	Kinnaur Hariyali 2nd	98.21	32.73	130.94	4.75	27
15.	Kinnaur Hariyali 3rd	0	0	0	33.65	258
16.	Kinnaur Hariyali 4th	0			7.76	60
	Total	**644.82**	**204.53**	**849.15**	**510.5**	**4622.10**

Total Sanitation Campaign Projects (TSCP)

With a view to ensure Total Sanitation in the rural areas, the department is implementing Total Sanitation Campaign Projects in all the districts of the State.

A new sanitation strategy for the State: This strategy aims at introduction of a holistic concept of sanitation, to have a demand oriented, outcome based approach, to generate awareness of a 'need' for sanitation amongst people individually and as a community, involvement and ownership of the community, shift from individual subsidies to community incentives, local bodies undertaking responsibility for sustainable delivery of services, identifying appropriate institutional arrangements for delivery of services including partnership with NGOs/CBOs and address inter departmental co-ordination, emphasize on monitoring and evaluation to determine success and outcomes. A key component of the new State Sanitation Strategy is a Reward Scheme, to identify cleanest Gram Panchayat in each Block, District, Division and the State for being eligible for the reward. Under the scheme the District wise physical and financial progress for the year 2008-09 is given below in table 48.

Table 48: Component wise Expenditure during Finahcia Year 2008-2009

(Rs. in Lakhs)

Sr. No.	State/District	IHHL Exp	Sanitary Women Exp	School Toilet Exp	Balwadi Toilet Exp	Startup Exp	RSM/PC Exp	Administration Exp	IEC Exp
HIMACHAL PRADESH									
1	BILASPUR	0.00	0.00	33.60	4.63	0.00	0.00	4.15	28.79
2	CHAMBA	0.00	0.00	0.00	2.55	0.00	0.00	9.22	25.22
3	HAMIRPUR	0.68	2.10	13.64	2.05	0.00	0.00	4.00	18.55
4	KANGRA	0.00	0.00	29.26	21.00	0.00	3.89	5.32	74.66
5	KINNAUR	0.00	0.00	7.96	0.00	0.00	0.00	0.02	8.40
6	KULLU	0.00	13.22	25.00	8.00	4.56	0.00	3.83	15.92
7	LAHAUL & SPITI	0.00	0.20	0.18	0.16	0.00	0.00	0.00	0.00
8	MANDI	211.33	0.00	2.76	0.00	0.00	0.00	2.31	25.52
9	SHIMLA	13.85	3.50	62.25	6.40	1.25	2.08	7.50	9.91
10	SIRMAUR	0.00	0.00	7.00	0.00	0.00	0.00	6.10	7.15
11	SOLAN	0.00	7.17	16.51	4.01	0.35	0.00	1.88	13.41
12	UNA	0.00	0.00	47.40	1.25	0.00	2.50	0.57	18.24
	STATE TOTAL	**225.86**	**26.19**	**245.56**	**50.05**	**6.16**	**8.47**	**44.90**	**245.76**

Nirmal Gram Puruskar: During the year 2006-07 the names of 34 ODF Gram Panchayats (GPs) were forwarded to Government of India out of which 22 GPs have won the Nirmal Gram Puruskar. During the year 2007-08 245 GPs have won NGP for which GOI have released Rs. 343.00 Lakh as award money to GPs. For the year 2008-09 GOI has decided that only those Gram Panchayats which have reported 100% completion of their physical objectives as on 31st March, 2009 will be eligible for competing under NGP award for 2008-09 and the process of verification of GPs for the year 2008-09 NGP is ongoing. Status of physical achievement is given in table 49.

Table 49: Physical Achievement During 04-2008 to 03 -2009

Sr. No.	District	IHHL (BPL)	IHHL (APL)	IHHL Total	Sanitary Comp	School Toilets	Balwadi Toilets	RSM	PC	SLWM	Total Sch covered
1	Bilaspur	1740	5989	7729	0	108	95	0	0	476	70
2	Chamba	11634	15390	27024	0	106	67	0	0	0	62
3	Hamirpur	3346	17265	20611	0	72	41	0	0	0	72
4	Kangra	29463	99378	128841	1	170	420	1	0	16	260
5	Kinnaur	334	4894	5228	0	0	0	0	0	0	22
6	Kullu	6387	34543	40930	11	515	162	0	0	0	505
7	Lahaul & Spiti	647	461	1108	4	47	0	0	0	21	71
8	Mandi	8695	29746	38441	0	0	0	0	0	0	0
9	Shimla	2503	4034	6537	3	417	100	0	0	0	377
10	Sirmaur	2419	8441	10860	0	242	6	0	0	2	242
11	Solan	1555	11026	12581	16	84	103	0	0	0	76
12	Una	2729	11253	13982	0	198	0	5	0	0	198
	HP Total	**71452**	**242420**	**313872**	**35**	**1959**	**994**	**6**	**0**	**515**	**1955**

3.8 Environment related studies carried out in the sector

A number of studies had been carried out in this state which have recommended:

- Production of cash crops through adoption of precision farming practices in Poly houses.
- Department of Agriculture is experimenting with bio-fertilizers produced by bio-fertilizer lab at Shimla having capacity of 50 metric tonnes per year.
- Integrated Pest Management (IPM) has been adopted at State level. Area covered under IPM activities is 233.11 Sq.Km till January 2002 and crops covered are Paddy, Tomato, Cabbage, Peas, Cauliflower, Beans, Apple, Plum, Pear etc.
- Various Bio-gas plants which have been set up in all the districts is given in table 50.

Table 50: List of Bio-gas Plants in State

District	1994-95	1995-96	1996-97	1998-99	1999-00	2000-01	2001-02	2003-04	2004-05	2005-06	2006-07	2007-08
Bilaspur	193	201	170	104	93	95	67	35	25	7	5	5
Chamba	10	5	4	5	5	6	10	3	5	-	0	-
Hamirpur	150	150	155	110	106	105	75	35	25	6	5	7
Kangra	208	190	181	115	141	122	110	33	41	19	13	10
Kinnaur	-	-	-	-	-	-	-	-	-	-	0	-
Kullu	105	42	56	30	21	31	22	11	10	6	4	3
Lahaul-Spiti	-	-	-	-	-	-	-	-	-	-	0	-
Mandi	513	390	420	203	211	154	147	54	30	7	12	10
Shimla	19	9	43	23	26	20	15	5	5	-	0	-
Sirmaur	120	112	101	64	62	49	42	100	74	25	101	100
Solan	100	103	122	60	61	41	30	10	15	3	5	5
Una	48	29	90	80	75	69	50	20	20	6	10	10
Himachal Pradesh	**1466**	**1231**	**1342**	**794**	**811**	**692**	**568**	**306**	**250**	**79**	**155**	**150**

Source: Directorate of Agriculture, Himachal Prades h

Impact of Ornamental Horticulture & landscaping of the Environment:

During 8th five year plan Government of India has recognized floriculture as "Extreme Focus Segment Item". At present total area under floricultural crops are 50 hectares & this increase at an annual rate of 10%. The rapid industrialization in India has resulted in increased air pollution. Automobile exhaust contribute 60%, industries 20-30% & fossil fuel 10%. To control pollution landscaping with pollution tolerant trees in & around industrial areas is the most effective measure. List of these plants is given in table 51.

Table 51: List of Tolerant Trees in and Around Industrial Areas

Trees tolerant to Sulphur Dioxide for the hills	Trees tolerant to NO & NO_2	Trees tolerant to O_2	Trees against Peroxyacetyl nitrate (PAN)	Trees against Fluorides
Acer plantanoides.	*Fagus orientalis*	*Acer plantanoides*	*Acer negundo*	*Betula pendula*
A saccharinum	*Quercus robur*	*A negundo*	*A saccharinum*	*Forsythia suspense*
A negundo	*Robinia pseudocasia*	*A rubrum*	*A platanoides*	*Gleditsia tricanthus*
A rubrum	*Sambucus nigra*	*Quercus robur*	*Quercus palustris*	*Liquidambar styraciflua*

- *Forsythia suspense*
- *Ulnus* spp.
- *Quercus rubra*
- *Q. rubra*
- *Quercus palustris*
- *Quercus rubra*
- *Betula pendula*
- *Ligerstrum vulgare*
- *Liquidambar styraciflua*
- *Pyracantha coccinea*

3.9 Environment Monitoring Carried out for Activities Related to the Sector

Agriculture sector

Soil Testing: Department has 11 Soil Testing Labs besides 2 Mobile Soil Testing Labs to provide free soil testing facilities to the farmers. About 1,00,000 sample are analyzed annually in these labs.

Indiscriminate Use of Chemicals in Agriculture Widely used chemicals in agriculture include chemical fertilizers (NPK), chemical pesticides, fungicides and herbicides or weedicides.

The use of fertilizers has increased production in the state to a great extent since the late fifties and early sixties when fertilizer use was introduced to Himachal Pradesh. Then onwards the use of fertilizers has been constantly increasing. The consumption of fertilizers in 1985-86 was 23,664 tonnes increased to 46,808 tonnes in 2003-04. That is, the consumption has almost doubled. The trend in the use of fertilizers in depicted in the table 52.

Table 52: Consumption of Fertilizers in HP (in metric tonnes)

Year	Nitrogenous	Phosphorus	Potash	Total
1997-98	27002	4382	3468	34852
1998-99	29140	5219	4198	38557
1999-00	27593	5762	3988	37343
2000-01	24418	6540	4594	35552
2001-02	27503	7043	5610	40156
2002-03	25645	7916	6160	39721
2003-04	30909	8706	7193	46808

Source: State Environment Report, Himachal Pradesh

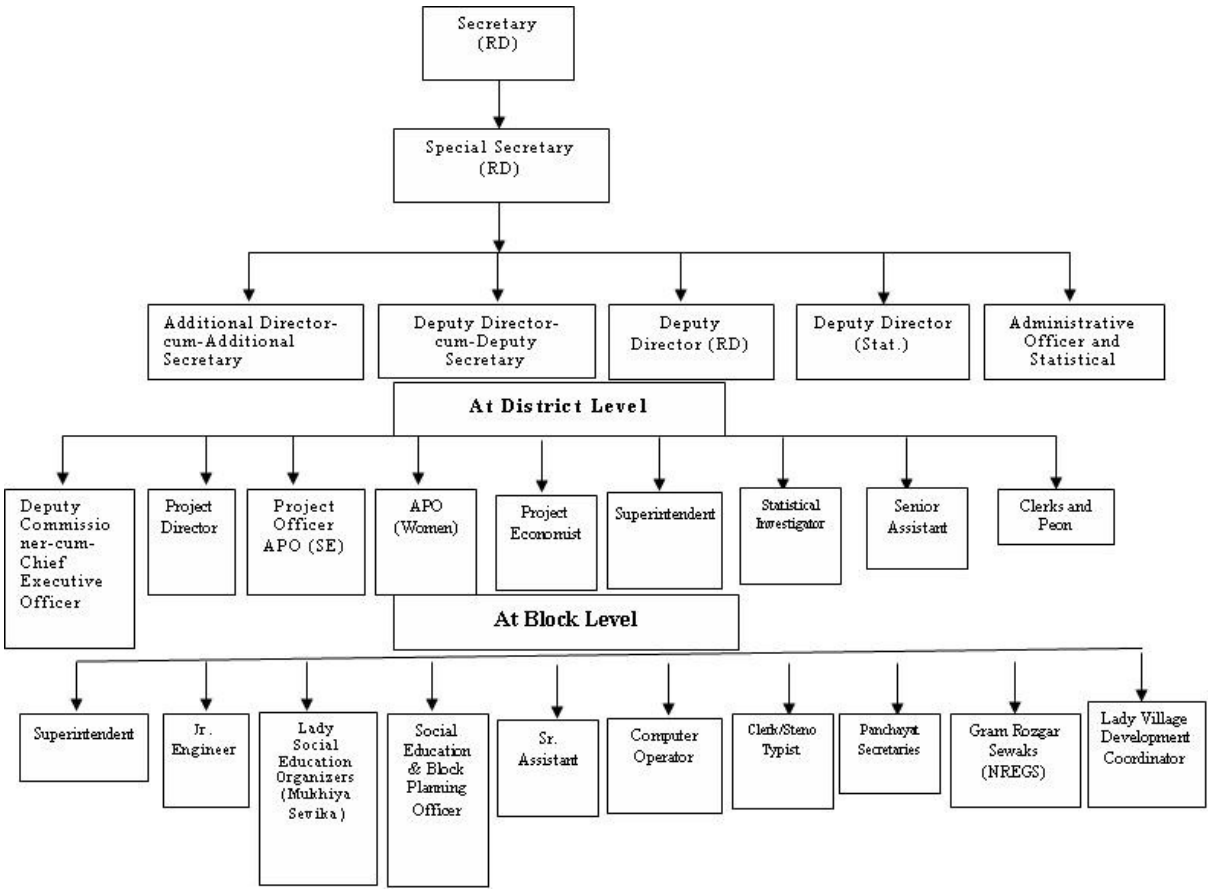
Regarding the use of fertilizers, three serious concerns have been brought out. These are (i) unbalanced use, (ii) excessive use of urea or other nitrogenous fertilizers, and (iii) reduced application of Farmyard Manure. Report on input survey 1991-92 revealed that urea was the most widely used nitrogenous fertilizer in respect of non-irrigated areas in the state and it is same situation in irrigated lands. Thus, urea is used to the maximum by all types of farmers irrespective of their holding sizes. Super Phosphate is used in small area and potash sources are rarely used, though fertilizer mixture (15N:15P:15k) is used on about 20% of the area yet the users were mainly marginal and small farmers under both irrigated and rain fed conditions of farming.

Air Pollution from Vehicles: Tourism in Himachal Pradesh is one of the most important sectors for the state's economy. The major attractions in the state are tribal areas, its pilgrim centers, mountaineering and winter sports. Religious tourism is big as the State has more than two thousand temples attracting thousands of devotees from all over the

country. The State ranks second in total tourism projects sanctioned between 2001-2004 in the country. Despite being small, the State ranks fifth in domestic tourist visits. The State enjoyed 14% growth in the tourist visits against a national average of 6% in 2001. *[Source: IBEF: March 30, 2005]*. During 2007-08, more than 88 lakhs of tourists visited the State, which increased from 79 lakhs during 2006-07 and 71 lakhs during 2005-06. The large number of tourist's inflow leads of very high vehicular influx as the State being hilly the rail and air connections are limited.

Air Pollution load from Industries: Mineral constitutes a fundamental component of State's economic base. The State has considerable mineral resources including rock salt, limestone, gypsum, silica-sand and baryte. Due to the high availability of quality limestone, a key raw material, the cement industry has flourished within the State. Besides these, there are many other mineral-based units like stone crushing, calcium carbonate units, hydrated lime units etc within the state. Pharma units are being set up in Himachal Pradesh since there is special incentive policy pursued by the government. The **Baddi-Barotiwala-Nalagarh** region in Solan district has emerged as prominent industrial belt in the State.*[Source: IBEF: March 30, 2005]*.

Air Quality Trends in H.P.: The recent trend of air quality revealed that higher concentration of SPM/RSPM in Residential areas such as Station No-1 in Paonta Sahib, Station No-1 in Jassur and station at Sector – IV in Parwanoo is mainly due to more traffic movement in these areas. Higher concentration of SPM in Paonta Sahib industrial area is contributed by industrial, construction activities & vehicle movement in the area.



Organisational Chart of Rural Development Department

3.10 Institutional Mechanisms within the Sector to Address Identified Environmental Issues

At present, there is no separate department of livelihood. The major issues related with livelihood are covered in department of rural development. Some line departmentare also involved to identify issues related with livelihood. These departments are Horticulture, Agriculture, Irrigation, Fisheries, Electricity, Information Technology, PWD, Mandi board, Tourism etc.

3.11 Data /documentation pertaining to addressing demographic issues

Himachal Pradesh has 16,997 inhabited villages and over 90% of State population lives in rural areas. According to 2001 Census, there were 29.92 lakh total workers in a population of 60.78 lakhs in the state (Table 53). Thus, the work participation rate (WPR) which is defined as the proportion of total workers (including main and marginal workers) expressed as percentage of total population, worked out to be 49.24%. Across districts, it varied from 43.99% in Kangra to 63.47% in Lahaul & Spiti. The classification of workers into main and marginal workers shows the duration for which a person has been employed in a year. If one is employed for more than 183 days (six months) he is regarded as main worker. And if he is employed for less than 183 days in a year, he is categorised as marginal worker. Of the total population, 32.31% were main workers while 16.92% were categorized marginal workers. There were wide variations across different districts. For instance, while the proportion of main workers was lower in Kangra (25.14%), Una (26.56%) and Chamba 27.87%, it was higher in Lahaul & Spiti 57.82%, Kinnaur 51.46% and Shimla 42.31%. The broad industrial classification of main workers further revealed that 65.33% of the total workers were cultivators in the state (Table 54). The proportion of agricultural labourers was 3.15%. Taken together, 68.48% of the total workers were directly dependent upon agriculture. Across districts, the dependence on agriculture was quite high for Kullu (78.63%), Sirmaur (74.09%), Mandi (73.95%) and Chamba (73.44%). In comparison, Lahaul & Spiti (54.53%) and Solan (56.91%) had lower dependence on agriculture. While household industry workers were only 1.75%, remaining 29.77% were categorized as 'other workers'.

Table 53: Distribution of Population by Workers in Himachal Pradesh

Districts	Population	Main workers	% Main workers	Marginal workers	% Marginal workers	Total workers	% Total workers	Non-workers	% Non-workers
Bilaspur	340885	110652	32.46	56056	16.44	166708	48.90	174177	51.10
Chamba	460887	128452	27.87	102000	22.13	230452	50.00	230435	50.00
Hamirpur	412700	119870	29.05	85535	20.73	205405	49.77	207295	50.23
Kangra	1339030	336649	25.14	252345	18.85	588994	43.99	750036	56.01
Kinnaur	78334	40313	51.46	7498	9.57	47811	61.03	30523	38.97
Kullu	381571	166715	43.69	49798	13.05	216513	56.74	165058	43.26
Lahaul & Spiti	33224	19209	57.82	1879	5.66	21088	63.47	12136	36.53
Mandi	901344	269076	29.85	185216	20.55	454292	50.40	447052	49.60
Shimla	722502	305709	42.31	64514	8.93	370223	51.24	352279	48.76
Sirmaur	458593	175913	38.36	49959	10.89	225872	49.25	232721	50.75
Solan	500557	172274	34.42	91171	18.21	263445	52.63	237112	47.37
Una	448273	119050	26.56	82608	18.43	201658	44.99	246615	55.01
HP	**6077900**	**1963882**	**32.31**	**1028579**	**16.92**	**2992461**	**49.24**	**3085439**	**50.76**

Note: *Percentages are with respect to total state population. Source: Census, 2001, HP.*

Table 54: Composition of Total Workers in Himachal Pradesh (number)

Districts	Total workers	Cultivators		Agricultural labourers		Household industry		Other workers	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Bilaspur	166708	114244	68.53	2923	1.75	2727	1.64	46814	28.08
Chamba	230452	167590	72.72	1655	0.72	2780	1.21	58427	25.35
Hamirpur	205405	143535	69.88	3291	1.60	2916	1.42	55663	27.10
Kangra	588994	335357	56.94	39534	6.71	19345	3.28	194758	33.07
Kinnaur	47811	30977	64.79	1101	2.30	871	1.82	14862	31.09
Kullu	216513	164646	76.04	5590	2.59	2733	1.26	43544	20.11
Lahaul & Spiti	21088	11160	52.92	339	1.61	136	0.64	9453	44.83
Mandi	454292	329472	72.52	6518	1.43	6747	1.49	111555	24.56
Shimla	370223	237490	64.15	9814	2.65	4392	1.18	118527	32.02
Sirmaur	225872	161598	71.54	5767	2.55	2595	1.16	55912	24.75
Solan	263445	143630	54.52	6309	2.39	3291	1.25	110215	41.84
Una	201658	115171	57.11	11330	5.62	3986	1.98	71171	35.29
HP	**2992461**	**1954870**	**65.33**	**94171**	**3.15**	**52519**	**1.75**	**890901**	**29.77**

Agriculture continues to be a major source of livelihood for majority of the people in Himachal Pradesh. The share of agriculture and animal husbandry in the net state domestic product (NSDP) has come down from 34.95% in 1980-81 to 19.61% in 2005-06. However, still about two-thirds of population in the state is dependent on agriculture for its living. The growth trends of the NSDP in the state indicate that except for the second half of 1980s, agriculture sector fared poorly throughout the decades of 1980s and 1990s. It is only during the period 2000-01 to 2005-06 that this sector registered a significant growth of 6.97%. Furthermore, a decomposition of the gross value of output in this sector revealed that horticulture sector is emerging as a prime mover of the growth in agriculture in the last few years. This is amply borne out by the fact that its share in gross value of output has gone up from 25.21% in 1999-2000 to 40.67% in 2006-07. The share of crop production, on the other hand, has come down from 42.60% to 29.22% during the same period. The contribution of livestock sector has remained almost stagnant at 30.0% level. The increasing contribution of horticulture in the state also becomes evident from the fact that the gross value added (GVA) in this sub sector increased from Rs.843.76 crores in 1999-2000 to Rs.2244.97 crores in 2006-07 registering a highly significant growth rate of 13.7% per annum.

Daily wages: Trend of wages during 1992-2006 for skilled and unskilled labourers (including Field Labour and Other Agricultural Labour is given in Table 55.

Table 55: Agricultural Wages Per Days (Rs.) in the Month of July-June

Year	Skilled Labour			Unskilled Labour		
	Carpenter	Blacksmith	Cobbler	Field Labour	Other agricultural labour	Herdsmen
1992-93	57.00	47.00	45.00	36.00	31.00	31.00
1993-94	59.36	50.06	48.81	34.78	31.30	30.49
1994-95	65.03	54.80	55.55	39.97	34.79	35.76
1995-96	69.64	62.43	62.19	49.32	43.44	45.48
1996-97	79.00	72.00	70.00	55.00	49.00	49.00
1997-98	94.00	88.00	81.00	64.00	57.00	54.00

Year	Skilled Labour			Unskilled Labour		
	Carpenter	Blacksmith	Cobbler	Field Labour	Other agricultural labour	Herdsmen
1998-99	102.00	96.00	93.00	61.00	60.00	57.00
1999-00	110.00	101.00	65.00	66.00	62.00	55.00
2000-01	120.66	112.91	105.75	80.91	67.75	65.58
2001-02	130.00	122.00	114.00	84.00	84.00	67.00
2002-03	132.00	125.00	115.00	88.00	70.00	68.00
2003-04	137.00	129.00	118.00	90.00	74.00	73.00
2004-05	141.73	130.82	117.75	93.36	75.36	75.72
2005-06	143.83	132.42	119	111.42	76.92	77.27

Source: Directorate of Land Records, Himachal Pradesh.

Decadal Trend of Production and Area of fruits

Fruits area in Himachal Pradesh has significantly increased during the last four decades. The fruits area was 44329 hectares in the year, 1970-1971, has increased to 223035 hectares in the year 2001-02, there after it declined all of sudden to 18244 hectares in the year 2003-04. The data in the Table-56 show the patterns of area of different fruits in the state.

Table 56: Decadal Variation of Areas under Different Fruits

Name of Fruit	1970-71	1980-81	1990-91	1998-99	1999-2000	2000-01	2001-02	2003-04
A. Temperate Fruits								
(a) Apples	26735	43331	62828	85631	88673	90347	92820	84112
(b) Other temperate fruits	7563	17464	28483	31925	32400	32801	33161	24378
(c) Nuts and dry fruits	1745	6892	13154	16061	16396	16619	16956	10939
Sub Total (A)	36043	67687	104465	133617	137469	139767	142937	119429
B. Sub-Tropical Fruits								
(a) Citrus fruits	5495	14471	36005	38711	39138	39627	40174	20261
(b) Other sub tropical fruits	2791	10267	22880	34912	36344	37832	39924	42751
Sub Total (B)	8286	24738	58885	73623	75482	77459	80098	63012
GRAND TOTAL	44329	92425	163330	207240	212951	217226	223035	182441

The production of fruits was 139828 metric tonnes in 1980-81 which increased to 446684 metric tones in 1998-99 but in the year 1999-2000 declined to 89415 metric tonnes during. In the year 2004-05 the production increased to 559977 metric tonnes. The Table 57 gives year wise production of fruits crops in metric tonnes:-

Table 57: Decadal Variation in production of different fruits

	NAME OF FRUITS	1980-81	1990-91	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
A	**Temperate Fruits**								
(a)	Apples	118013	342071	393653	49129	376736	180528	348263	459492
(b)	Other temperate fruits	9264	14934	17974	17901	20450	29236	63026	40652
(c)	Nuts and dry fruits	1782	3105	3025	1895	2755	2911	3256	3570
Sub	Total (A)	129059	360110	414702	68925	399941	212675	414545	503714
B.	**Sub-Tropical Fruits**								
(a)	Citrus fruits	4400	12100	13111	9257	11068	20465	16027	28121
(b)	Other sub tropical fruits	6369	13604	19871	11233	17040	30306	29051	28142
Sub Total (B)		10769	26204078	31983263	20490	28108	50771	45	
GRAND TOTAL		139828	386314	446684	89415	428049	263446	459623	559977

Table 58: Production of Fruits (Thousand Tons)

Year	Apple	Citrus	Nuts & Dry fruits	Other fruits	Total
1993-94	294.73	4.41	2.21	24.12	325.47
1993-95	122.78	6.67	2.37	38.72	170.54
1995-96	276.68	5.84	2.47	26.90	311.89
1996-97	288.54	13.83	3.35	45.91	351.63
1997-98	234.25	11.76	2.45	31.23	279.69
1998-99	393.65	13.11	3.07	37.85	447.68
1999-00	49.13	9.26	1.89	29.13	89.41
2000-01	376.73	11.06	2.75	37.49	428.03
2001-02	180.53	20.46	2.91	59.55	263.45
2002-03	348.26	16.03	3.25	92.08	459.62
2003-04	459.49	28.12	3.57	68.79	559.97
2004-05	527.60	28.55	3.73	132.13	692.01
2005-06	540.36	29.16	3.92	122.08	695.52
2006-07	268.40	12.67	2.91	85.12	369.10
2007-08	592.57	24.67	2.90	92.70	712.84

Source: Horticulture Department, Himachal Pradesh

Livestock Production: The production of important animal products is depicted in the following Table 59.

Table 59: Livestock Production

Year	Milk (000' Tonnes)	Eggs (Lakh Number)	Wool (Lakh Kg)
1997-98	713.962	750.384	15.65
1998-99	723.654	775.2	15.72
1999-2000	741.266	800.539	15.76
2000-01	760.411	815.677	15.82
2001-02	762.864	822.405	16.15
2002-03	772.494	887.743	15.94
2003-04	786.222	839.864	15.99
2004-05	869.51	811,375	16
2005-06	869.14	752.671	16.03
2006-07	872.395	771.978	16.05

Source:-11th Plan 2007-12,

Table 59 above depicts that milk production has increased at a steady pace. During the last 6 years 2001-02 to 2006-07, it has shown an increase of 14.36% which shows that animal health care services have paid dividend. The table also shows that egg production also increased at a considerable pace up to 2002-03 but thereafter it has slightly declined. This can be attributed to spread of communicable diseases like bird flu which created extra awareness among the producers as well as the consumers. This table also shows that wool production has remained almost static. This strengthens the belief that younger generation of the migrating *gaddis* has not come forward to adopt sheep rearing as their main occupation.

Animal Husbandry

Animal husbandry data shown in table 60 indicates two trends, one that the pastoral and livestock based livelihoods are declining in number and the other that the stock is improving in quality as the output is increasing.

Table 60: Livestock Population in Himachal Pradesh

Sr. No.	Category	1987	1992	1997	2003
1	Cattle	22.45	21.65	21.74	21.96
2	Buffaloes	7.95	7.04	7.48	7.73
3	Sheep	11.14	10.79	10.8	9.06
4	Goats	11.2	11.18	11.68	11.16
5	Horses and Ponies	0.2	0.14	0.13	0.17
6	Mules and Donkeys	0.31	0.24	0.26	0.33
7	Pigs	0.18	0.07	0.07	0.03
8	Other Livestock	0.02	0.06	0.08	0.02
	Total	**53.45**	**51.17**	**52.24**	**50.46**

Source:-11th Plan 2007-12

Table 61, table 62 & table 63 shows that potato & vegetable production has remained static over the years, though district wise production showed marked variation. Same trends have been observed for HVY during 1997-98 to 2008-09.

Table 61: District and Year wise Production of Potato (MT)

District	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Bilaspur	200	70	130	360	320	310	360	350
Chamba	6100	6276	6877	6,560	3,010	6,010	5,990	5300
Hamirpur	100	86	80	250	280	440	430	410
Kangra	9400	12182	15322	18,750	17,300	30,240	47,120	42140
Kinnaur	7500	1000	1579	6,500	5,870	1,670	2,600	2600
Kullu	6200	8113	11124	6,430	8,000	15,970	1,933	10450
L & Spiti	19500	11738	11136	27,780	11,500	19,700	20,000	12300
Mandi	17600	20439	33692	21,980	16,260	17,179	34,484	19079
Shimla	76000	32593	34168	44,160	67,000	42,841	27,481	35519
Sirmaur	10400	11817	20537	15,450	15,270	17,200	17,830	17500
Solan	3400	851	908	1,560	1,600	1,600	3,845	1500
Una	3600	3042	7801	5,620	5,500	9,390	780	8120
Total	**160000**	**108207**	**143354**	**1,55,400**	**1,51,910**	**1,62,550**	**1,63,213**	**155268**

Source: Department of Land Record & Directorate of Agriculture, Himachal Pradesh

Table 62: District wise Area & Production of Vegetables

District	Potato				Other Vegetables			
	Area (Sq.km)		Production (M.T)		Area (Sq.Km)		Production (M.T.)	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
Bilaspur	0.3	0.3	360	350	20.5	27.5	50195	55000
Chamba	6	6	5990	5300	21.5	25.5	49798	51000
Hamirpur	0.44	0.41	430	410	16.35	20	35170	40000
Kangra	27.4	26.8	47120	42140	64.91	52.5	113106	105000
Kinnaur	2	2	2600	2600	27.15	22	34542	44000
Kullu	1.5	14.5	1933	10450	41.25	40	90165	80000
L&S	14	7.42	20000	12300	41.67	29	45815	58000
Mandi	24.19	15.91	34484	19079	57.62	70	105815	140000
Shimla	39.79	43.39	27481	35519	87.5	90	159610	180000
Sirmaur	17.1	14	17830	17500	55.14	57.5	100522	115000
Solan	2.51	1.3	3845	1500	73.78	71	183046	142000

District	Potato				Other Vegetables			
	Area (Sq.km)		Production (M.T)		Area (Sq.Km)		Production (M.T.)	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
Una	7.9	8.8	780	8120	13.16	25	23658	50000

Source: Directorate of Agriculture, Himachal Prades h

Table 63: Year wise Area under High Yielding Variety Crops (Thousand Hectares)

Year	Maize	Paddy	Wheat
1997-98	166.99	73.95	345.85
1998-99	191.61	80.55	378.26
1999-00	193.74	74.31	366.52
2000-01	219.68	73.83	329.77
2001-02	231.58	74.53	346.72
2002-03	192.1	64.73	313.23
2003-04	222.19	78.9	364.07
2004-05	242.76	75.21	353.29
2005-06	273.14	70.94	346.15
2006-07	280.61	72.65	349.6
2007-08	280.31	73.56	332.09
2008-09	280.51	74.61	325.22

Source: Directorate of Agriculture, Himachal Prades h

Table 64 given below shows occupational distribution of job seekers according to their qualifications. The table indicates that the total number of literate population seeking job has considerably.

Table 64: Occupational Distribution of Applicants & Job Seekers According to Qualifications on Live Registers of Employment Exchanges

Item	2005-06	2006-07	2007-08	2008-09
A. Applicants on live register:	8,16,878	7,56,980	7,82,348	..
1. Professional & Technical	60,500	60,765	11,76,323	..
2. Administrative, Executive & Managerial	1,645	1,400	1,763	..
3. Clerical & Allied workers	30,700	23,500	36,596	..
4. Transport & Communication workers	18,610	18,400	17,597	..
5. Craftsmen	18,393	17,385	29,164	..
6. Other skilled workers	18,110	17,400	7,233	..
7. Unskilled office workers & other unskilled workers	6,68,920	6,18,130	5,72,363	..
B. Job seekers	8,16,878	7,56,980	7,82,348	..
1. Post graduates	37,999	40,846	45,319	51,174
2.	91,376	94,856	1,02,060	1,05,917
3. Matriculates & above	5,37,514	4,92,351	5,06,755	5,50,937
4. Other literates	1,45,498	1,25,275	1,24,822	1,01,973
5. Illiterates	4,491	3,652	3,392	3,781

Source: Directorate of Employment, Himachal Prades h

3.12 Information on Human Resource Management issues (which may have relevance to environment management) in the sector such as: manpower, vocational training, awareness levels etc.

Administrative Structure of Rural Development Department: For the implementation of different rural development programmes, Rural Development Department has the following administrative structure at various levels.

State Level: The Department is functioning under the over all control of the Secretary (RD) at the Government level assisted by the Director-cum-Special Secretary (RD) , Additional Director-cum- Joint Secretary (RD), Deputy Director (RD), Deputy Director (Stat), Administrative Officer and Statistical Officer (RD).

District Level: At the district level, District Rural Development Agencies are responsible for the implementation and monitoring of all rural development programmes. The Deputy Commissioner-cum-Chief Executive Officer of the District Rural Development Agency (DRDA) is assisted by the Project Director,

Project Officer, Assistant Project Officer (Self Employment), Assistant Project Officer (Women), Assistant Project Officer (Watershed), Project Economist, Superintendent, Statistical Investigator, Senior Assistant, Clerks and Peon of the DRDA in the execution of various developmental activities. Besides this, at the district level there is a Governing body of DRDA under the Chairmanship of Zila Parishad. This body is responsible for monitoring of various Rural Development Programmes.

Block Level: At the Block level, the Block Development Officer has the following administrative setup.

Sr. No.	Designation	Sr. No.	Designation
1	Superintendent	8	Panchayat Secretary
2	Junior Engineers	9	Computer Operator
3	Lady Social Education Organizers (Mukhiya Sevika)	10	Gram Rozgar Sewak
4	Social Education & Block Planning Officer	11	Lady Village Development Coordinator
5	Senior Assistant	12	Driver
6	Senior Assistant (P)	13	Peons
7	Clerk/Steno Typist	14	Frash / Chowkidar

Engineering Services of the Department: In order to provide technical guidance for construction works under rural development programmes, 3 posts of Executive Engineers, 24 posts of Assistant Engineers and 167 posts of Junior Engineers, 3 posts of Head Draughtsman and 21 posts of Draughtsman have been created during 1996-97. At the State level, Engineering Cell consisting of Executive Engineer, Assistant Engineer and 2 Junior Engineers and other ministerial staff has been functioning. As per the norms of the Government, one Junior Engineer has been posted after every 15 Panchayats and one Assistant Engineer has been provided for every six Junior Engineers. Zonal Offices at Dharamsala, Mandi and Shimla are functioning with the staff strength of the Executive Engineer, Superintendent, Senior Assistant, Steno-Typist, Clerk, Driver and Peon.

3.13 Regulatory analysis to identify any regulations that have environment implications (negative or positive), and compliance with the same.

Livelihood sector and cross sector policy and regulatory framework at state level shows the intent of the state government to address inadequate service delivery in order to reduce the disease burden in the state. A list of policy and program is given below.

- National Agriculture Policy
- National Water Policy
- The National Environment Policy
- Essential Commodities Act
- Farmers Rights
- Environment Protection Act
- The Himachal Pradesh Panchayati Raj Act
- RKBY / RIDF / NHB / MIS / Schemes
- The Child Labour (Prohibition and Regulation) Act
- The Plantation Labour Act
- The Bonded Labour System (Abolition) Act
- The State Agricultural Produce Marketing (Development & Regulation) Act
- State Hoarding and Profiteering Prevention Order
- Public Distribution System (Control) Order
- National Policy on safety, health and environment at work place
- The Employees' State Insurance Act
- The Maternity Benefit Act
- The Air (Prevention and Control of Pollution) Act

- The Water (Prevention and Control of Pollution) Act
- Municipal Solid Wastes (Management and handling) Rules
- Department of Forests Notification No. Van-A (F) 6-2/92, dated: Shimla-2, 20.9.2007

Reference

- Department of Rural Development
- Department of Panchayati Raj
- Department of Agriculture
- Department of Horticulture
- Department of Animal Husbandry
- Department of Forest & Wildlife
- Department of Planning
- Department of Economics and Statistics
- Department of Land Records
- Central Pollution Control Board
- Census of India-2001
- State of Environment Report Himachal Pradesh, 2001

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