

Institute of Integrated Himalayan Studies  
(UGC Centre of Excellence)

# IIHS BULLETIN

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## INSTITUTE NEWS

### From Director's Desk.....

*Woods are lovely dark and deep,  
But, I have promises to keep,  
Miles to go before, I, sleep  
Miles to go before, I, sleep.*

**Robert Frost**

These beautiful lines of a poem give us inspiration to move ahead and look forward to achieve excellence and this is what which every research institute aims at. With these very thoughts in mind, I place before you the progress of the Institute.

Beauty and grandeur of Himalaya has always attracted the human race. The astonishing height of mountains, the gushing rivers, spectacular landscape, rich cultural and natural diversity has fascinated not only poets but people of scientific temperament. Under the guidance of its president, Prof. L.R. Verma, the institute made a remarkable advancement in research and academic activities during the last four months. The institute organized a number of lectures. Institute organized an International Workshop on **Conserving Hill and Mountain Ecology** in collaboration with Indo American Environmental Leadership Program (IAELP) of United States Educational Foundation. The institute is doing excellent job by initiating new research projects and compilation of status reports on its thematic areas. The institute established Himalayan Study Circle to encourage an exchange of views between experts from various fields and citizens on various issues.

This quarterly bulletin attempts to consolidate the achievements and activities of institute. I **extend my New Year wishes to all readers administrative and research staff.**

**Prof. Yoginder S. Verma**  
Director

*IIHS EXTENDS NEW  
YEAR GREETINGS TO  
ALL READERS*

### Editor's Note

Bless that Mother Nature be kind to us  
The Heavens give us Peace  
The Earth be gentle  
Gentle be the waters that flow,  
Gentle be the plants and herbs that grow.  
May the past be kind,  
The future benign

*Atharva Veda 19.9.1*

*Greed, excess deprivation of many at the cost of the few and the continuous human struggle to seek avenues of self-expression – are some of the factors behind the turmoil of our times. The Institute of Integrated Himalayan Studies draws inspiration from this verse from the Atharva Veda and has begun a journey – A journey to develop a spark of awareness among the Himachali community including the children, the youth and the old. A journey to ensure the sustainable and effective preservation and utilization of resources, to promote non-polluting cottage and small-scale industries such as rural artisans and other industries starting with agro-based resources such as horticulture, floriculture, mushroom culture and to encourage environmental-friendly tourism for not only seeing the various places and origin of river systems and snow-clad mountains but also for drawing inspiration from them. Eco-philosophical in its approach the institute is attempting to be relevant to present human and environmental concerns in Himachal Pradesh. Himachal is a mountainous state with more than 65% of its area under forests and almost 15% under pastures. About 10% land is devoted to crop production and about 65% of the agricultural plots are less than 0.4 hectares. Non-farm activities constitute important part of livelihoods in this mountainous state. Socially the communities are composed of different caste backgrounds involving a complex social hierarchy of castes. Under the very able guidance of its President, Prof. L.R. Verma, it's Director Prof. Yoginder Verma, the IIHS faculty and research and administrative staff has embarked upon a journey to ensure effective research, documentation and capacity building in the state of Himachal Pradesh.*

**Dr. Richa**  
Editor

## PROJECTS COMPLETED

### **1. Status of collection, Trade and potential of growth in Sustainable use of some Wild Fruits found in Himachal Pradesh (Principal Investigator: Ranveer Singh; Project Fellows: Dr. Saroj Verma & Dr. Chaman Lal)**

The Objectives of the Study were to examine the utilization pattern of the wild fruits collected by the rural households; to examine the contributions of income generated through collection of wild fruits on rural households; and to study problems in marketing of wild fruits in rural areas and suggest policy measures to overcome these problems. The study is in its completion stages and has come out with the following conclusions:

1. Wild fruits found in high hill zone are a good source of income for the households. In the low and mid hill zone wild fruits like *harer*, *aonla*, *dadu*, fig black berry, etc. can be a good source of additional income if they are adopted for cultivation for commercial purposes.
2. The prevailing prices of wild fruits in the low and mid hill zones are very low while in the high hill zone wild fruits fetch a good price.
3. The major source of wild fruits is CPR forests. Cultivation of these fruits is negligible.
4. Regional demand of studied fruits is high as compared to the local and global demand
5. The production, trade and marketing potential of wild fruits can be enhanced by disseminating proper knowledge among the farming community with respect to their traditional uses, medicinal importance, cultivation profiles (if any), proper marketing strategies, marketing facilities, establishing small processing units etc. There is need of documentation of comprehensive ethnic knowledge pertaining to religious, socio-economic and medicinal ability of the wild fruits and their cultivation practices with historic background.

### **2. Modeling for Sustainable Development: A Watershed Approach (Principal Investigator: Ranveer Singh; Project Fellows: Kuldeep Singh, Sanjeev Kumar & Rattan Singh Chauhan)**

The study deals with the Chikhar Nala Watershed located in District Shimla. The objective of the study is to develop an Integrated Appropriate Model for Sustainable Development of watershed. Judicious and optimal use of natural resources by various users is of utmost importance for the good health of environment and well being of the rural people of the state. The significance of the present study emerges from this very fact and the study has brought out the loop holes in

present use of natural resources and identified steps to put it back on rails.

### **3. Industrialisation in Himachal Pradesh: prevailing Problems and Prospects for Development**

Industrial thinking in Himachal Pradesh started changing in 1970s when it was realized by the government and people that the state must step out of the cottage industry stage, Realizing that initially the interior areas could not be industrially developed, it was decided to set up industrial areas with infrastructural facilities in places located in the comparatively plains areas bordering the state. But presently it requires in order reducing the regional disparities, the industries based on local raw material and catering to the local demand which have natural advantage should be set up in the interior areas. Himachal Pradesh has made significant achievements in the field of industrialization in the past few years. With the ushering in the liberalized economy and consequent delicensing and notification of special package of incentives for the state, the flow of investment in the state has increased manifolds resulting in very good response for setting up new industrial ventures in the state.

In this back round it is imperative that a comprehensive study for evaluating and investigating the role of industrialization in Himachal Pradesh is required the objectives of the study were to study the Present Level of Industrialization and Resource Base of Himachal Pradesh; to Study the Structural changes and regional Variations; to Study the Problems of Existing Industries; and to Identify the New Potential Industries and Industrial Areas through Regional Planning In order to achieve the objectives of the present study, the information has been collected both from the primary and secondary sources. The desk work was done through the collection of the secondary information from the related books, journals and reports. Primary propel has been collected was collected in a number of areas. A survey method was used to study the factual information regarding the position of industrialization in the country. For this purpose a detail questionnaire was filled by the respondents. Also interview and observation method was used for filling up the questionnaire. The opinion of academic expertise professional and beaurecrates was also taken into account.

The study suggested strategy for primary/ Agro-based industries, Manufacturing based, High-tech industries (IT based industries), Alternative Industrial

Areas, Potential Sites for Special Economic Zones (SEZ), Alternative Tourism Strategy and Tribal and Remote area based industries.

**4. Industrialization and Artisans: Problems Strategies and Prospects of Artisans in Himachal Pradesh (Principal Investigator: Dr. S.K. Sharma; Project Fellows: Vinod Rana & Randhir Ranta)**

The objectives of this study were identifying the traditional artisans and artisan based industries; examining state industrial development policy in Himachal Pradesh with special reference to scope of promoting artisan based industry, artisans' products and marketing; studying organizational structure of artisan based industry in the rural and urban areas, scale of production, state of art of technology used and the marketing structure; examining the scope of research and development that involves artisans with their traditional skills in the contemporary industrial context; identifying the problems of the artisan based industrial sector with reference to marketability, sustainability and employability; and examining the strategies and prospects in terms of social transformation of artisans, their social and occupational mobility and their marketability and sustainability in the future. The **findings** of this study will have significant socio-economic and policy implications and will help in the formulation of strategies not only in the context of employment generation but also for promoting art and culture of the state.

**5. Investment Behaviour of Horticulturists in Himachal Pradesh – A Study of Shimla District. Submitted by Prof. Bal Krishan, Dr. S.S. Narta and Dr. Om Prakash Verma**

The study was an insight into the process of transformation that horticulture in Shimla district has been experiencing vis-à-vis its impact on the savings and investment behaviour. The specific objectives of the study are to study the income, consumption and savings patterns of horticulturists in Shimla district; to examine the awareness level of investors with respect to various available schemes and to study the various parameters which investors consider while making investment decisions. To carry out the study, the area has been divided into two zones. The developed zone consists of areas where the people have been engaged in horticultural activities for the last many years whereas in the less developed zone, people have shifted to horticultural activities recently. Rampur, Theog and Chopal have hence been classified as the less developed blocks, whereas

Kumarsain, Jubbal-Kotkhai and Rohru have been classified as developed blocks. Although 80 respondents from each block rendering a total sample size of 480 respondents was proposed finally requisite information was obtained from only 375 respondents. An attempt has been made in the study to identify the significant socio-economic variables that influence the investment behaviour of an individual. It emerged from the study that horticulture had been adopted as a primary/secondary occupation irrespective of demographic characteristics such as age, caste, and type of family and socio-economic characteristics such as education and economic conditions. Horticultural yield per bigha was found to be five times higher than agricultural yield and yield per bigha in horticulture was found to be the highest in Jubbal-Kotkhai block followed by Kumarsain and Rohru. Horticulture was found to be leading to high income and subsequently high saving. As far as awareness regarding investment decisions is concerned it came out that majority of the investors are only aware of a few investment avenues like bank, post office and Life Insurance Schemes. Safety of investment is of paramount importance to all the investors irrespective of their level of education. The study has come out with suggestions and recommendations which will have significant implications for policy.

**6. Sustainable Development of Smallholder Dairy Farming in Himachal Pradesh Himalayas: Economic, Technological and Environmental Dimensions by Dr. Ranveer Singh and Dr. C.S. Vaidya, Agro-Economic Research Centre, H.P. University.**

The focus of the study was to provide a better understanding of the prevailing dairy production, processing and marketing systems in mountain areas. The objectives were i) to study the growth trend and dynamics of population of milch animals in Himachal Pradesh; ii) to analyze the small dairy production systems in the state; iii) to study the processing and marketing systems of milk and milk products in the state; iv) to analyze the consumption, consumer behaviour and preference towards dairy products and v) to examine the role of women and contribution of natural resources based inputs in dairy enterprise. Shimla city was selected for conducting consumer preference survey and was divided into three zones, Shimla East, Shimla Central and Shimla West. One locality was selected from each zones and fifty households were selected randomly for detailed study from each locality rendering a sample size of one hundred and fifty sampled urban households. The data collected from primary sources was

supplemented by data from published/unpublished sources of Milkfed, department of Animal Husbandry, and Directorate of Land Records. A number of policy issues have emerged from the study for improving the dairy enterprises on smallholder dairy activities in Himachal Pradesh.

**7. Apple, Risk and Sustainability: Explorations in Supply-Response in Himachal Pradesh by Prof. K.K. Kaushik and Dr. Sanju Karol, Department of Economics, ICDEOL, HP. University, Shimla-5.**

This study in its first part, examines growth, variability, and the sources of variability of apple production in Himachal Pradesh. Utilizing variance decomposition procedures, it shows that the changes over time in the average and variance of production are due largely to changes in the corresponding measures for acreage rather than yield. The decrease in the variance of real revenue per hectare over time is also decomposed to reveal that the increase in price/yield covariance is the largest contributor to the change in revenue variance. Accurate measurements of the sources of increased variability can help target policies to reduce or offset the effects of instability. In the second part the study analyzes the acreage response of apple growers in Himachal Pradesh by using following transformed equation:

$$\log A_t = b_0 + b_1 \log GRH_{t-1} + b_2 \log RD_t + b_3 \log DE_t + b_4 \log RFL_t + b_5 \log A_{t-1} + V_t$$

The model has been estimated by applying ordinary least squares estimation (OLSE). The results bring forward that price variable as an economic incentive; can sustain the farmers at the present level of acreage. But as far as their responsiveness is concerned, price alone is not capable of mobilizing strong and quick response. Road density, used as proxy for road infrastructure, has emerged as the most important response to the changing conditions; the adjustment to the desired acreage level of apple crop in Himachal Pradesh is faster if the variable with high long run elasticity of acreage. It has shown the capability of bridging the gap between the desired and the actual acreage in a very short span of time.

In addition to irrigation, other important inputs are improved saplings, fertilizers, and credit. Policies geared towards their wider distribution would bring better results. Subsidies need to be gradually brought down. Savings in subsidies can be ploughed back into moisture conservation schemes and irrigation to minimize the adverse impact on crop output. High growth in apple in the state has to be sustained through continuation of policy of minimum support prices and development of infrastructure such as

roads, communications and markets so that farmers get their inputs in time and in adequate quantities at lowest possible prices. A major revamping of the horticultural research system is required to enable it to develop better location specific technologies, to upgrade the extension system. The state of Himachal Pradesh by accelerating the growth of its horticultural sector can provide momentum to the overall growth of the economy and lead to greater employment, regional and sectoral equity, faster poverty reduction, more efficient resource use and better protection of the environment than before.

**8. Sustainable Tourism Development in Himachal Pradesh by S.P. Bansal Department of Tourism, HP. University, Shimla-5.**

The objectives of the study were to study the present tourism trends scenario in the state; to find out the problems arising and associated with tourism planning and development; to study the profile of tourists visiting Himachal Pradesh; to develop synergistic relationship among various stakeholders and to find how the community can be involved in tourism development process on a sustainable basis; to study how sustainable tourism is helpful in alleviation of poverty; to highlight the key issues for sustainable tourism development through opinion survey and to conclude and suggest an action plan for the development of sustainable tourism. The main findings of the study are that tourists mainly visit Himachal for relaxation/holiday purposes only about 16.7% of the tourists come for education. Analysis reveals that sustainable tourism development is not possible in the state if it remains the responsibility of government alone. Stakeholders in tourism are of the view that if implemented properly tourism can be one of the best option for development but the need is to check the negative impacts of tourism. The study identifies a number of problems in developing tourism on a sustainable basis and has come out with a number of recommendations.

**9. The Concept of Shiva in Himalayan Region with Special Reference to Himachal Pradesh. (Prof. Inderani Charkerborty, Department of Music, HPU, Shimla.)**

In Indian culture, Rudra or Shiva has been given special place. He is considered to be Reigning Deity of Himalaya on mount Kailash. Right from the civilizations of Mohan-jo-Daro and Harappa and the Vedas, Upanishadas, Brahmans, Puranas and in daily life of people of India, Rudra or Shiva has been worshipped as Pashupati, Rudra, Shiva, Shankar, Mahadeva, and so on. In all over the country, a

number of myths, lore, and songs are dedicated to Lord Shiva. He has been considered as Protector as well as the Destroyer of the universe. The objective of the study was viewed under Philosophical (Metaphysical) study of Shiva concept, psychological (symbolic) study of Shiva concept, socio-cultural study of Shiva concept, study of the rituals related to Shiva in Himachal Pradesh, study of the regional (folk) songs and folklores related to Shiva (Rudra), textual evidences and traditions, temple architecture and documentation. The methods entailed in this study were identification of primary and secondary data, review of historical evidences, Textual evidences, oral evidences, audio-visual aids, analysis of the data and presentation of the facts and evidences in the form of Research Report. The conception of God of the people reflects their search for liberation and salvation as well as to detach themselves from the agonies and anxieties. The images and conceptions of God help us to transcend our limitations, to make something specific of ourselves in spiritual terms, to purify our lives. In this study it was conceptualized that Shiva is the God of perpetual dance of creation. Shiva devours, transforms, recreates. He is the eternal symbol of fluidity of the universe. Shiva is the God of becoming. He is the central symbol of re- birth, reawakening, healing and re-emergence. The study reveals that there is hardly any period found that has not spoken on the concept of Shiva because of tremendous impact of Shiva-Tatva on the people of India in particular and the world in general are deep rooted.

**10. Survey and Cytogenetic Study of Medicinal Plants of Himachal Himalayas to Assess their Curative Value against Genetic Diseases (Prof. Savitri Verma ,Department of Biosciences, HPU, Shimla)**

The genetic diseases like diabetes, hypertension or malignancies etc. are related with genes and chromosomal aberrations. In the present investigation the anticlastogenicity of seven medicinal plants extracts was studied against genotoxicity of potassium dichromate (K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>) and Ethyl methanesulfonate (EMS) in mice so as to assess their protective value against genetic diseases. The seven plants under taken for the study were Tea (*Camellia sinensis*), Turmeric (*Curcuma longa*), Tulsi (*Ocimum sanctum*), Ginger (*Zingiber officinale*), Beri (*Ziziphusujba*), Amla (*Phyllanthus emblica*) and Garlic (*Allium sativum*). To evaluate the effectiveness of each plant, the mice were orally fed with the extracts of the doses equivalent to or more and less than recommended for daily human consumption, for 15 days. On the 16th

days the two groups of mice were injected i.p. 20 mg/kg body wt. of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> and 250 mg/kg body wt. of EMS, separately. Bone marrow chromosomes were studied after 48 hrs, following colchicines \_ air drying – Giemsa staining procedure. The results showed that all the extracts except that of ginger were able to reduce the clastogenic effects of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> and EMS. So it could be said that all these plants except ginger if taken raw and that too in daily diet may protect us and our future generations from any possible genotoxicity and hence possible genetic defects and disorders, which otherwise would lead to genetic diseases.

**11. Laboratory Scale Preparation of Pine Needles Based Adhesives. ( Dr. Ghanshyam Chauhan, Department of Chemistry ,HPU,**

Cellulose is a cost-effective, eco-friendly and abundantly available material from number of renewable sources. Applications of cellulose and its derivatives in industrial, agricultural, membrane and separation technologies, and medical fields are due to its versatile properties like ease of derivatization to a large number of derivatives. Use of modified cellulose in frontline technologies is an area of current interest. The present proposal was also such a project to prepare novel adhesives for multiple applications from dried and fallen pine needles. Pine needles constitute a huge natural forest waste feedstock of cellulose, that is, abundantly available in the Himachal Himalayas. In this study investigator has utilized pine needles to extract cellulose for use as supports for enzyme immobilization and sorption of metal ions. This renewable resource has been modified as adhesives for specialty applications by combination with the other component to keep the final formulation low cost, eco-friendly yet effective for use in biomedical and industrial applications. The principle objective of this study was to prepare low cost and eco-friendly adhesives from pine needles after functionalization via carboxymethylation reaction. Preparation of adhesives based on carboxymethylation of wood or its parts or generally the cellulose naturally adds to costs and adds one more avoidable process. It comes out that non-carboxymethylated pine needles, afforded better glue ability to the products and it is better suited process to meet environmental issues. Out of different adhesives, those based on acrylic acid show low water resistance but its flow time and solid contents are almost desirable. The curing time is low and is also desirable for quick adhesion. In case of the other formulation with di-isocyanate, the properties of the adhesive are better and remains liquid even at as

high temperature as 300°C and solidifies at low temperature. Its viscosity also falls with temperature increase. The adhesives prepared were found to be very effective for yielding desirable glueability. Glueability was tested for plastics (bakelite), card boards, corrugated papers, floor tiles, human skin, *i.e.*, wound dressing and wood. It was found that adhesives show more adhesion on floor tiles, wood, corrugated papers and card boards followed by human skin and least on plastics by all the adhesives. One formulation shows up good applicability for wound dressings, as it retains good adhesion as does not dry up even after a month time. This formulation also absorbs good amount of water as is desirable for quick drying of wound when used in wound dressing. Other formulations have been good for use as tile and corrugated paper binder. Some formulations were prepared by using more than one waste material meaning thereby that two or three wastes can be economically formulated to get useful and low cost adhesives.

On the basis of the scientific basis of the data obtained, low cost of the preparation owing to the nature of the processes used in the preparation at ambient conditions and low energy requirements of the processes, and nature of the waste material used; the products developed in this study have been found to have moderate to good applicability. The adhesives prepared from the acrylic acid are environmentally safe and eco-friendly. All the *three formulations* can be prepared around rupees 300/- per Kg including overhead costs. Thus, these adhesives have commercial potential. Despite the problems of wet ability or low resistance to water, these adhesives have potential applications in paper binding for packaging industries as *corrugate papers* industries which has huge potential in Himachal Pradesh due to the ever growing demand for fruits and vegetables packing. It utilizes two waste *fly ash* and *pine needles*. For biomedical applications a formulation suitable for wound dressing has been prepared, that is, low cost, biodegradable and harmless, which due to the low water resistance is not suggested for wood and tile adhesion despite good adhesion. One formulation, despite its better scientific attributes, is not commercially viable as one of the components is high cost prohibitive (approximately, Rs. 5,000/-per Kg). It follows that eco-friendly and low cost specialty adhesives have been successfully prepared those have good commercial potential.

## Status Reports Completed

**Preserving Ecology Through Folklore – A Study of the Folk Traditions of Himachal Pradesh. Dr. Usha Bande,**

**Geography of Himachal Pradesh., Dr. Manoj Jreat**

**Status of Horticulture in Himachal Pradesh. Dr. C.S. Vaidya, Dr. Ranveer Singh**

## WORKSHOPS/SEMINARS/LECTURES ORGANISED BY IIHS.

### WORKSHOPS

International Workshop on conserving Hill and Mountain Ecology organized by the Indo American Environmental Leadership Program (IAELP) of United States Educational Foundation in India in association with Institute of Integrated Himalayan Studies.

Participants from Bhutan, Bangladesh, India, Nepal, Pakistan, Sri Lanka, and the USA participated in the workshop. Professor L.R. Verma, Professor Yoginder Verma, Dr. Richa and the research staff of the Institute participated in the Conference. It was deliberated that mountains are an important source of water, energy, adventure and biological diversity. However mountain ecosystems are rapidly changing- susceptible as they are to accelerated soil erosion, landslides and rapid loss of habitat and genetic diversity and these were areas of rising concerns. The conference had sessions on the following key themes:

- Sustainable Mountain Development.
- Management of Natural resources in mountains.
- Wildlife in the hills.
- Mountain Ecosystems: Challenges and threats.
- Mountain agriculture and conservation.
- Biodiversity conservation in hills and mountains.
- Tourism in hills.
- Mining in the mountains.

In addition to paper presentations on the main themes group work and group presentations were conducted and films were screened.

### EXPERT LECTURES

**Prof. Sankhyan** from University of Life Sciences, Norway addressed the faculty and staff of IIHS on 16<sup>th</sup> December 2005. Talking about his own career and how he managed to finally start teaching courses on Ecology and Natural Resource Management in Norway and designing bio-economic models for combined projects from the European Union and Asia, Dr. Sankhyan said that it was disappointing how the lax attitude of officials and academicians prevented funds from being readily available in India for purposes of research and development especially with respect to environmental concerns. He further said that research associates and fellows should refrain from plagiarism and keep research original and focused. According to Dr. Sankhyan it was important to seek international accreditation of research by publishing in International journals because unless one seeks international acclaim and comparisons one starts

assuming that one's work is good. Dr Sankhyan also added that sustainable development was a word coined in the 1990s and most of the world was now talking in terms of optimal utilization and development and resource and livelihood generation and regeneration.

### EXTENSION ACTIVITIES

#### HIMALAYAN STUDY CIRCLE

##### Constitution of a Himalayan Study Circle:

The Himalayan Study Circle is an outreach effort of the IIHS for an open interaction between the people of Himachal and the Himachal Pradesh University. It has been established to encourage an exchange of views between experts from various fields and citizens. The main activities being initiated by the Himalayan Study Circle comprise:

- ❖ Lectures, discussions and debates on strategic and significant contemporary issues in Himachal Pradesh.
- ❖ Building linkages with citizens, organizations and policy makers.
- ❖ Reaching out to the entire state through documentation.

Patronized by the Vice Chancellor of Himachal Pradesh University, the Himalayan Study Circle has constituted a team comprising of representatives of different colleges and departments of Himachal Pradesh University apart from the faculty and staff of the Institute of Integrated Himalayan Studies. The team advisors are Professor Vepa Rao from department of Journalism, Himachal Pradesh University and Professor Yoginder Verma, Director of the Institute of Integrated Himalayan Studies. The convener of the Himalayan Study Circle is Shri N.S. Bist and the team comprises of Dr. Anjali Dewan (Saint Bedes College), Shri Dinesh Kanwar (Government College, Sanjauli), Dr. G.P. Kapoor (RKMV, Shimla), Dr. Mamta Mokta (Public Administration, HPU), Dr. Meenakshi F. Paul (Evening College, Shimla), Dr. Neelima Kanwar (ICDEOL, HPU, Shimla), Dr. Sanjeev Bragta (Political Science, HPU), Ms. Sonia Khan (Masters in Tourism Administration, HPU), Prof. Suresh Kapur (Dept. of Law, HPU), Dr. TDS Alok, Dr. Tulsi Raman Sharma (Government College, Arki) and Dr. Chaman Rao, Shri Pankaj Gupta, Shri Pawan Attri, Dr. Randhir Ranta, Dr. Richa, Dr. Vinod Rana and Dr. V.K. Santvan from the Institute of Integrated Himalayan Studies.

The Himalayan Study Circle organized its maiden lecture on the occasion of Teachers' day in HP University campus. The eminent Educationist Prof. Amrik Singh was invited from New Delhi to deliver a lecture on **Expectations and Challenges of Teaching-Learning in 21<sup>st</sup> Century**. The institute has hence organized two other lectures. One by Dr. H.S. Anand (IAS), Director General, Haryana Institute of Public Administration on "**Putting People at the Centre of Development**" and the other by Shri Vivek Sawant, Managing Director, Maharashtra on Information, Communication and Technology in Higher Education.

### **Expectations and Challenges of Teaching-Learning in 21<sup>st</sup> Century.**

Addressing a gathering of 100 teachers which included eminent Professors from H.P. University and also senior professors like Usha Bande, L.R. Sharma, I.P. Massey and Dr. Bepa Rao, Prof. Amrik Singh hailed teaching to be the biggest profession which had to be taken more seriously than was currently being done in the country. He said that although there were a few journals brought out in the country on issues and problems in Primary and Secondary Education there was a big gap in Higher Education. He said that comparing the situation in India with that in the United States it emerges that in the USA it is the University Professors who are actively involved in decision making in issues of governance and planning where as in India the teachers did not have any say even in the drafting of the Curriculum which was set for them to teach. Prof. Amrik Singh that the situation was very grim and it became worse because both the teachers and the students accepted it without protest. He said that more than anything else he associates the problem with growing indifference and apathy in our professorship. He said that the University teachers should foresee that there is no funding available and intelligence lies in looking at the dangers ahead. If the teachers don't worry then the bureaucrats and the politicians will worry and that will not be very good for the Universities.

In his presidential address, Prof. L.R. Verma thanked Prof. Amrik Singh and said that the situation was indeed grim as he had himself observed in Himachal Pradesh University. The teachers had to exercise moral authority on the students and revive their credibility with the students to restore a positive culture in the University campuses and to prevent the bureaucrats and the state administration to take

major decisions on issues concerning the University thereby affecting its autonomy.

### **Putting People at the Centre of Development**

The **Himalayan Study Circle** organized its second lecture by Dr. H.S. Anand (IAS), Director General, Haryana Institute of Public Administration on 23<sup>rd</sup> September 2005. The theme of the lecture was "Putting People at the Centre of Development" and Dr. Anand elaborated on how a partnership model of Governance had become essential for bringing about development. Referring to various political scientists like Aristotle, Plato, Karl Popper and Heigel, Dr. Anand said that the idea was the basis of change and sowed its own seed. The idea generates opposition- a synthesis evolves and then a planning model emerges. Governance he said is not something which state does to society but how society and individuals compose it and regulate all aspects of their collective life. When structures within organizations restrict honesty it is an empty world which results. Vigilance committees and civil societies need to be strengthened in bringing about democracy. The right people at the helm and the right linkages are important for good governance. According to Dr. Anand, bureaucracy does not become redundant in this partnership model. Infact a more responsible bureaucracy becomes all the more essential.

### **Information and Communication Technology in Higher Education.**

The Himalayan Study Circle organized its third lecture by Mr. Vivek Sawant (Managing Director, Maharashtra Knowledge Corporation, Ltd. Pune ) on 8<sup>th</sup> Nov. 2005. The theme of the lecture was **Information and communication technology in higher education**. Professor L.R. Verma, Vice Chancellor of H.P. University presided over the lecture which was convened by Dr. Yoginder Verma, Director, IIHS. Addressing a gathering of H.P. University teachers and Administration and faculty and research staff of the Institute of Integrated Himalayan Studies, Mr. Sawant said that earlier it was agriculture and then industry which changed society but now society can change only by information. Knowledge societies he said will emerge in areas not devastated by population. According to him Himachal was an ideal place for creation of a knowledge society because of its good telecom infrastructure. He said that IT did not replace human beings or learning but its knowledge

led to more jobs and more learning and hence content, communication and knowledge were the keywords. Other members from Mr. Sawant's organization supplemented his talk by making a power point presentation on the Digital University site of University of Pune.

## ONGOING PROJECTS

### Research Projects

- 1. Indigenous technical knowledge(ITK) for sustainable Management of Natural Resources in Himachal Pradesh** Prof. L.R.Verma & Dr.C.L.Rao, HPU, Shimla
- 2. Voluntary Action in Himachal Pradesh- Promises to Keep.** Sh.N.S.Bist, & Vinod Rana Dy. Director, PRC, HPU, Shimla
- 3. Documentation of Utilization Pattern of Non-Timber Forest Products in Himachal Pradesh.** Dr.Ranveer Singh & Dr.Saroj Verma, AERC,HPU, Shimla
- 4. The Places and Forts of Himachal Pradesh – Socio-cultural and Artistic Dimensions.** Dr. Him Chatterjee, Department of Performing and Visual Arts, HPU & Dr. Usha Bande ,Shimla
- 5. Characterization of Wastewater and Solid wastes in hill region- with special reference to Shimla town.** Dr. Duni Chand, Department of Biotechnology, HPU ,Shimla
- 6. Evaluating Ecotourism in Rewalsar, Pong Dam and Renuka of Himachal Pradesh for Sustainable Tourism Development.** Dr. S.P. Bansal, Institute of Vocational Studies, HPU ,Shimla
- 7. Screening of some newly Synthesized Transition Metal Carbodithioate Complexes against Some Pathogenic Microbial Strains prevalent in Himachal Pradesh.** Dr. (Mrs.) Shashi Bala Kalia, Department of Chemistry, HPU ,Shimla
- 8. Physical Growth and Development in Tribal Population of Himachal Pradesh aged 6-17 years.** Dr. Y.P. Sharma, Chairman, Department of Physical Education, HPU, Shimla
- 9. Conservation and Management of Pollinators for Sustainable Horticulture in Himachal Himalaya.** Dr. V.K. Mattu, Department of Biosciences, HPU, Shimla
- 10. Role of Cottage Industries in the Development of Himachal Pradesh.** Dr. Kulbhushan Chandel, Department of Commerce, HPU ,Shimla
- 11. Impact of cooperative Credit on Agriculture Sector in Himachal Pradesh.** Dr. Sikander Kumar & Sh. Rakesh Department of Economics, HPU, Shimla
- 12. Water Management in Himachal Pradesh.** Prof.Kulwant Singh Rana, ICDEOL, HPU, Shimla
- 13. Renewable Energy: Investment, Impact, Efficiency and Policy Issues – A Case Study of Himachal Pradesh.** Dr. Shyam Parshad Sharma, Department of Economics, HPU, Shimla
- 14. A Study of Bio-Physical and Socio-economic Resources of Lahaul and Spiti Districts.** Dr.S.N.Ghosh & Randhir Ranta, Deptt. of Psychology, HPU, Shimla
- 15. Prevalence Estimation of Cardiovascular Diseases in Himachal Pradesh.** Prof. P.C.Negi. IGMC, Shimla
- 16. Role of Cooperatives in the Development of Himachal Pradesh.** Dr. S.S. Narta, Department of Commerce, HPU, Shimla
- 17. Spatial Dimensions of Socio-Economic Development: A Case Study of Himachal Himalaya.** Dr. A.K. Tiwari, C/O Department of Education, HPU, Shimla.
- 18. Bio-economic Modeling of Land Use Changes and Forest Degradation in Himachal Pradesh** Dr. Ranveer Singh and Sh. Rakesh Kumar **Agro Economic Research Centre H. P. University Shimla**
- 19. Biodiversity of Summer Hill and Its Surrounding Area** Dr. V.K. Santvan, IIHS, HPU, Shimla.
- 20. Birds of Shimla and Adjoining Areas, Himachal Pradesh** Dr. V.K. Santvan IIHS, HPU, Shimla.

21. **Issue of Employment Opportunities – Human Resource Fit in Himachal Pradesh – Psycho-social Study** Prof. Yoginder Verma, Dr. Richa Minocha and Dr. Randhir Ranta IIHS, HPU, Shimla.
  22. **Effectiveness of Public Distribution System in Himachal Pradesh** Prof. Yoginder Verma, and Sh. Vinod Kumar IIHS, HPU, Shimla.
  23. **Decision Support System of Livestock Rearing for Livelihood in Mixed Farming System: A Study in Himachal Pradesh** Dr. Ranveer Singh **Agro Economic Research Centre H. P. University Shimla**
9. Status report on the medicinal plants of Himachal Pradesh. **Dr. N.S. Chauhan, Prof. and Head Department of Forest Products, UHF Nauni, Solan**
  10. Forest wealth of Himachal Pradesh **Dr. Hemant Kumar Gupta IFS Regional Director, Forest Survey of India, NZ,CGO Complex, Himlok Parisar, “Shivalik Khand”, Batsley Longwood, Shimla**
  11. Status of traditional drinking water sources in outer Himalayas a case study of Hamirpur & Bilaspur districts **Dr. M.R. Sharma, M-26, Housing Board Colony, Hamirpur**

### Status Reports /Documentation Work

1. **The nature and society in Himachal Pradesh A study in Ecology and sustainability** R.S. Pirta , Department of Psychology H.P. University Shimla
  2. Gymnosperms of India with particular reference to Himachal Pradesh. (Documentation) **Prof. M. K. Seth, Department of Bio- Sciences H.P. University Shimla**
  3. Status of agriculture in Himachal Pradesh **Dr. Ranveer Singh Dr. C.S. Vaidya Agro Economic Research Centre H. P. University Shimla**
  4. Prospecting of Pine Needles as Resource of Specialty Materials and Fine Chemicals **Dr. Ghanshyam S. Chauhan Department of Chemistry H.P. University, Shimla**
  5. Documentation of Indigenous technical knowledge (ITK) for sustainable management of natural resources in Himachal Himalaya. **Prof. L.R. Verma & C.L. Rao Institute of Integrated Himalayan Studies H.P. University, Summer Hill, Shimla**
  6. A Status Report on Himachal Pradesh **Prof. (Mrs.) Sudesh Negi, Director, Adult Education, H.P. University, Summer Hill, Shimla**
  7. Patterns and Trends of Electoral Politics in Himachal Pradesh: An Analysis of Assembly and Parliamentary Elections (1977-2004) **Professor, J.C. Sharma, Department of Geography, HPU, Shimla**
  8. **Policy Analysis& Planning Unit:Making Policy that works- Participatory Policy Formulation**
12. Assessment of the dietary pattern and nutritional profile of the people of Himachal Pradesh. **Dr. Anjali Dewan, Head, Deptt. Of Home Science, St. Bede's College, Shimla:**
  13. Heritage buildings of Shimla and around; **Dr. Ashok Jerath, E II Radio Colony SummerHill, Shimla**
  14. Temple and Gonpas of Lahaul Spiti: A Survey **Sudershan Vashith, 34/1 Nabha Estate Shimla**
  15. Preparation of the Status Report on Plant Pollinators Report of Himachal Pradesh **K.L. Kakar, Regional Horticultural Research station, Mashobra, Shimla**
  16. Status Report on Mineral Wealth of the State **Arun Kumar Sharma & Dr. H. R. Dandi**
  17. Status Report on River Systems of Himachal Pradesh **Dr. H.R. Dandi & Arun Kumar Sharma**
  18. Principles and practices of watershed management in Himachal Pradesh-lessons and challenges **Dr. Sushi Kapta**
  19. Technical Education in Himachal Pradesh **Dr. Piar Chand Department of Humanities. NIT Hamirpur**
  20. Fermented Foods and Beverages of Himachal Pradesh **Dr. T.C. Bhalla, Savitri, Navdeep Thakur, Department Biotechnology, HPU, Shimla**
  21. **jes'k tljksfV;k pkanuh dkWVst] <haaxjk ,LVsV] ckywxat] f'keyk&5% pEck IglzkCnh lekjksg laLd`fr ds fofHkUu i{kksa dk izys[ku**
  22. Status Report on Agrochemicals in Himachal Pradesh **Neelam Sharma, HPKV, Palampur**

23. Data Bank of Industrial Products and In-house R&D in industries of Himachal Pradesh **Dr. S.K. Sinha, NRTC, Parwanoo**
24. Status of Solar Passive Housing Technology in Himachal Pradesh **Dr. S.S. Chandel, Principal Scientific Officer, State Council for Science Technology & Environment, H.P**
25. Role of Youth in Rural Development. **Prabhat Kumar, Youth Coordinator Nehru Yuva Kendra, Shimla.**
26. Insect Pollinators of Horticultural Crops in Himachal Pradesh. Dr. V.K.Mattu, Bio-Sc.,HPU
27. Survey of Traditional Weaving Patterns of Himachal Pradesh. Dr.Pankaj Lalit, Regional Director, National Cooperative Development Corporation, Shimla
28. Transport Policy in H.P.: The Reforms Agenda. Dr.Ravinder N. Batta, Cottage No.19, Old Brokhurst, Shimla
29. Orchids of Himachal Pradesh. Prof. S.P.Vij C/O Prof.S.C.Tiwari, Shoolini, Solan..
30. Folk Lore of Himachal Pradesh. Sh.M.R.Thakur, Kullu.
31. Tea of Himachal Pradesh. Dr.R.G.Sud, CSKV, Palampur.
32. The Himalayan Pasture and Fodder Resources of HP-Present Status, Utilization Pattern and Their improvement. Dr.Bimal Misri, RRC,CSK HPKV, Palampur.
33. Status of Industrialization in H.P. Mrs. Tanuja Joshi, Dy. Director,Dept.of Industries, HP,Shimla
34. Role of Minerals in Development of HP. Dr.S.C.Kaura, Chandigarh.
35. Status report on Fungi of Himachal Pradesh, Dr. Anand Sagar, Dept. of Bio-sciences, HPU.
36. Traditional Crops of Mountains – At the Verge of Extinction, Dr. J.C. Rana, NBPGR, Shimla.
37. Temple Wood Carvings of Himachal Pradesh, Dr. Manoj Jerath, Lecturer, GC, Theog, Dist. Shimla.
38. Municipal Solid Waste Management Studies in 10 District Headquarters of Himachal Pradesh, Sh. Ravi Sharma, Project Associate (SWM), State Council for Science, Technology & Environment, Kasumpti, Shimla .
39. Status of Animal Husbandry and Dairying in Himachal Pradesh, Dr. Ranveer Singh and Dr. C.S. Vaidya, AERC, HPU.
40. Some Technological Options Documentation for Marginal Farms in Himachal Pradesh, Dr. C.S. Vaidya and Dr. Ranveer Singh, AERC, HPU.
41. Directory of Wetlands of Himachal Pradesh, Dr. V.K. Santvan and Dr. P.K. Attri, IIHS, HPU.

## Miscellaneous Activities

- Institute released the first issue of its Quarterly Bulletin in the month of August, 2005. The Bulletin was released by Ho'nable Chief Minister Raja Virbheder Singh.
- **Restructuring of IIHS:** In order to ensure specialization and smooth operation the institute has recently grouped its activities under three divisions. These activities revolve around two thrust areas of Institute. The three divisions are:
  1. **Repository Division**
  2. **Sustainable Development Division**
  3. **Human Resource Division**
- **Appointment of Research Staff in the Institute:** Research staff has been appointed in the institute during this period. The institute intends to start new projects in the areas of Capacity Building of youth, Village and Watershed Studies with the support of the research staff. Also the research staff in the institute is being engaged in various repository and documentation related works.
- **Awarding scholarships:** Awarding scholarships to meritorious research scholars due to submit their MPhil and PhD in a period of three months is another activity that has been undertaken by the Institute of Integrated Himalayan Studies.
- **Publication:** Research paper entitled "Watershed Management" by Dr Sanjeev Kumar; Research Associate in the Institute was published monthly journal *Kurukshetra* in the month of December, 2005.

- Research fellow Pawan K. Attri completed his Ph. D. on, "Mellissopalynology, Beeflora and Traditional Bee Keeping Technologies in Chamba Area of Himachal Himalaya" in the month of November, 2005 from Department of Bio-Sciences, HPU, Shimla
- Research Fellow Randir Rantta completed his Ph. D on "Management of Stress BURN OUT Anger and Coping Behaviour of Police Personnel in Himachal Pradesh" in the month September of 2005 from Department of Psychology, HPU, Shimla.
- A paper by Pawan K Attri and Prof. Savitri Verma entitled, "**Indigenous Beekeeping for Sustainable Development in Himachal Himalaya**" was selected for International Beekeeping Congress in **Banglore**.
- **Workshop on Enhancing Youth Employability in Himachal Pradesh, University – Industry Partnership** organized by Centre for Adult, Continuing Education & Extension (CACEE) Programme, H.P. University on 8<sup>th</sup> and 9<sup>th</sup> December, 2005. The Institute of Integrated Himalayan Studies (IIHS) actively participated in a workshop on *Enhancing Youth Employability in Himachal Pradesh, University- Industry Partnership*. Dr Yoginder Verma, Director IIHS presided over one of the sessions and Dr. Richa rapporteured for three sessions in the Workshop. Research staff from the institute also participated in the workshop. The workshop deliberated that enterprise was lacking in Himachal and people hesitated from going to work in the private sector where there would have been better exposure for them. It emerged from the proceedings of the workshop that there were various issues concerning labour which merited research and specialized centres in the University such as the IIHS and the CACEE could serve as a significant interface between the supply (youth, ITIs) and demand side (industry, other private entrepreneurs and government) and come forth with research which will have significant implications for policy.
- **Workshop on "Translation of Selected Himachali Short Stories" was organized by Dr. Meenakshi F. Paul in Bachat Bhavan, Shimla on 28, November, 2005.** Prof. Yoginder Verma, Director IIHS, Prof. Amar Singh Guleria, Associate Director and Dr. Richa attended the Workshop.

**Papers presented/ Lectures delivered by IIHS staff:**

**( to be added)**

**Preserving the cultural heritage of Himalayas....**

**Exclusive coverage of *Bhonda Mahayagya* by Research team of IIHS.**

Himachal Pradesh, resting in the lap of Himalayas is known as "The Abode of Gods and Goddess ". People of this state have firm faith in God, which is expressed in various religious festivities. Religious festivals especially, *Bhonda Mahayagya*, is one of the historical event which is celebrated even today and is a part of rich cultural heritage of this state. *Bhonda Mahayagya* a *Narmedh Yagya* is an age old religious practice followed by the people of the state since time immemorial. This *Mahayagya* was organized after every 12 years after *Kumbh* festival. This *Mahayagya* is believed to have originated from *Ashvamedh*, *Gomedh* and other Vedic *Yagys* or is a mixed form of these *Yagyas*, but no written document is available which can give its historical background. No written document is available which can explain about its origin. But in some temples small manuscripts are available which are written in *Tankari* language and are difficult to read and at the same time are not reachable to common man. It is only by means of folklore that some information can be gathered about this *Mahayagya*. Till date no research has been done on this unexplored cultural aspect and so the research team from the Institute of Integrated Himalayan Studies pioneered in this field. The team started its research work and reached *Bachunch* village situated in the District Shimla. The *Mahayagya* was organized by local devta Bandro from 23 -26 December 2005. The *Mahayagya* is organized for peace, social integration and prosperity of the region. Another aim of organizing this *Mahayagya* is to preserve our ancient folk culture. The team reached the *yagya* site and carried out research work. The audio-visual and written information regarding this rare event was gathered by the team headed by Sh. Bhawani Singh, Project Associate of IIHS.

## PROFILE OF IHS STAFF

### **President**

Professor Laiq Ram Verma (President, IHS) is the Vice-Chancellor of Himachal Pradesh University, Shimla. He did his MSc. From Punjab Agricultural University, Ludhiana and a PhD in Environmental Biology from University of Guelph, Ontario, Canada. He has served earlier as the Vice-Chancellor of University of Horticulture and Forestry, Solan, Himachal Pradesh. His fields of specialization include horticulture, forestry, natural resource management, mountain development and biodiversity. He has more than three hundred publications besides seventeen books to his credit. He has lead various government committees, task force and programmes. He has served in various positions in international organizations and academic institutions. He has also been a principal investigator of various national and international projects.

### **Director**

Professor Yoginder Verma (Director, IHS) holds an MBA and a Ph.D and is a Professor in the Institute of Management Studies, Himachal Pradesh University. Dr. Verma has previously contributed in the establishment of the Institute of Management in Tribhuvan University, Kathmandu and has also provided consultancy to Nepal Airways and Central School at Kathmandu. He has been the Director of the Academic Staff College in H.P. University since 1989. Dr. Verma has written four books and 82 articles/papers published both in national and international journals. His areas of interest are Strategic Management, HRD, Organizational Development, Management of Change, Educational Management, Training & Development, Teaching Effectively and Team Building. Dr. Verma has produced eight Ph.D. students and about two dozen M.Phil students. He has also completed two major projects awarded by UGC and ICSSR. Presently he is undertaking a prestigious Ford Foundation Project on Campus Diversity Initiative. His name appears in International Directory of Distinguished Leadership and he was also nominated Man of the Year - 1997 & 1999 by American Biographical Institute, North Carolina.

**Dr. Virender K. Santvan; M.Sc, Ph.D (Lecturer, Environmental Science)** has 10 years post Ph.D experience and his main field of specialization is Mountain Environment and Bio-diversity. He has been associated with the Institute of Integrated Himalayan Studies since its inception in April, 2002. He was associated with the Centre of Environmental Studies, Himachal Pradesh University during 1994-2001. He has work experience in various fields including ecosystem and biodiversity projects supported by the State Council for Science Technology and Environment, Govt. of Himachal Pradesh and Gujarat Ambuja Cement (Ltd.). He has been teaching Ecology in the Department of Biosciences in Himachal University and has also worked with the G.B. Pant Institute on Himalaya Environment and Development.

**Dr. Richa (Lecturer, Social Sciences)** has completed her MPhil and PhD in Development Studies from Jawaharlal Nehru

University. Her preferred areas of specialization and interest include community participation, sustainable development, eco-tourism, education, micro-enterprise and health. She has been actively engaged in the development sector over the last five years and has a gender affirmative perspective. She has worked with various NGOs and academic agencies in project coordination/implementation, awareness generation programmes, research and teaching. She was a research associate for a project on "Nature based tourism in South Asian countries" sponsored by the South Asian Network of Economic Institutes (SANEI). She has done consultancy for CRY, NACO, UNIFEM and Project Development Corporation of Rajasthan (PDCOR) on projects related to juvenile justice, Drop-in-Centres for HIV/AIDS, Violence against Women and Educational infrastructure development under the public-private partnership model for Jalore district in Rajasthan.

**Dr. Rattan Singh Chauhan; Ph.D, History** is working as a **Research Associate**. His area of specialization is socio-cultural and historical aspects of hill states. He has also acquired work experience in the department of Art, Languages and Culture, Himachal Pradesh and is currently doing research on role of various academic agencies and NGO's in Watershed Management and Agro marketing.

**Dr. Saroj Verma (Research Associate)** has completed her Ph.D. in Forestry from Y.S. Parmar University of Horticulture and Forestry, Solan. Her areas of specialization are forest products, medicinal and aromatic plants and wild fruits. She has 3½ years research experiences in Genotype Selection of Germ Plasm.

**Dr. Chaman Lal; M.Sc. M.Phil, Ph.D.** is working as a **research associate**. He has completed his Ph.D. in Indigenous Technical Knowledge in pest management and his other areas of interest include Radiation Biology, Natural Resource Management and Conservation. He has been actively engaged with various NGOs and academic agencies and in teaching. He has experience of conducting Participatory Rural Appraisals and Rapid Rural Appraisals effectively.

**Dr. Sanjeev Kumar; Ph.D Political Science** is working as a **research associate**. His areas of Specialization are Electoral Politics & Voting Behaviour in Himachal Pradesh, Watershed Management, Panchayati Raj System, Democracy and Discontent in the Himalayan Region, Water Resource Management and Indian Foreign Policy. He is also actively associated with an NGO called Indian Democratic Individuals Research Association.

**Dr. Randhir Ranta Ph.D, Psychology** is working as a research associate in the institute. His area of specialization is Clinical Psychology and he also holds a Diploma in Marketing Management. He is strongly associated with NGOs who are working in fields including rural artisans, Yoga and Relaxation therapy. Dr Randhir Ranta has also obtained training as global environment trainer under the Globe Environment Programme. Associating partners in the Globe Program are UCAR, Colorado State University, NASA and NSF.

**Pawan K. Attri; PhD (Research Associate).** His areas of interest are Environmental Biology, Radiation Biology, Apiculture and Environmental management and conservation. He has acquired five years research experience and has been associated with IIHS since its conception. He is also engaged with various NGOs (MRDA, WWF) as a resource person for research in Environment related projects and has also taught in academic institutes in Himachal.

**Pankaj Gupta; M.Sc., M.Phil in Animal Physiology** is a **Project Associate** in the Institute and is simultaneously pursuing his doctorate from Himachal Pradesh University. His areas of interest and specialization include Dietary Patterns and Ethnic Foods, Health issues, Indigenous Health Care systems of traditional communities, Nutritional Surveys, Education in Human Values, Indian Culture and painting and designing. He has taught in a college during the academic year 2001-02. He has four years research experience and has been associated with the Institute of Integrated Himalayan Studies since its conception.

**Vinod Kumar M.Phil, Economics** is pursuing his Ph.D and is working as a project associate. He has acquired five year research experience in research Institutes and NGOs. His areas of specialization and interest include health and family empowerment, gender issues and social and human development. Vinod has also obtained training as global environment trainer under the Globe Environment Programme. Associating partners in the Globe Program are UCAR, Colorado State University, NASA and NSF.

**Rakesh Singh Thakur, M.A.** is pursuing his Ph.D in economics and is working as a **project associate**. His areas of interest and specialization include development planning, micro and macro industrial development and agro-economics.

**Kuldeep Singh (M.A.)** is pursuing his Ph.D in Geography and is working as a **project associate**. His areas of specialization are remote sensing, human geography, physical geography and watershed and sustainable development. He is associated with various NGO's and organizations such as National Institute for Rural Development and Fullbright for assisting in field survey.

**Chaman Premi, M.Phil** is pursuing his PhD in Geography and is working as a **project associate** in the Institute. His areas of specialization are human geography, cultural geography and the caste system in India. He is also a journalist and is associated with different news papers

**Shivani Singh, MBA** is working as a **project fellow**. Her specialization is in Finance and Information Technology and her other area of Interest is Industrial Management.

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**Institute of Integrated Himalayan Studies  
(UGC Centre of Excellence)  
Himachal Pradesh University,  
Summer Hill, Shimla-171005  
Phone No. - 0177-2633017, 2633018  
Tele-Fax-0177-2633018**