

NATIONAL CONFERENCE

(12th April, 2016)

Geography department

KAMALA NEHRU COLLEGE

HIMALAYAN PERSPECTIVES : LAND, PEOPLE AND RESOURCES

THEME OF THE CONFERENCE:

The Himalayas, also known as the 'Water Tower of Asia', is the land of highest mountain ranges and glaciers in the world. Melt water from this huge reserve feeds major Southeast Asian river basins, such as the Indus, Ganges, Brahmaputra, Yangtze and Mekong. The natural resources of the Himalayan region have greater relevance to the people living in the downstream regions. This region is home to an estimated 1.4 billion people or approximately one quarter of the world's population. These river basins support the well-being of some of the poorest and densely populated regions on earth through the provision of water for drinking, irrigation and hydro-power generation. The Himalayan region is also known for its spectacular landscapes and visual resources, which are drawing scores of tourists every year.

However, changing monsoon climates, more extreme weather events and continued glacial melt have long term implications for the region's water, energy and food security. Such changes will lead to an increased incidence of natural disasters such as glacial lake outbursts floods and landslides, and the combined effects of prolonged dry seasons and population growth is likely to lead to critical water shortages in large Asian cities. The trend of mass tourism has caused immense damage to the environment and resources of this region which needs to be addressed with consolidated effort. The region also faces a multitude of other environmental, political and social challenges that are posed by a changing climate. The disparity of gender is yet another challenge to deal with in the social system of the mountains.

The Conference proposed to raise the issues with Himalayan perspectives on land, people and resources, analyse the implications and suggest the recourses. Such an academic event

envisioned to bring together the planners, academicians, scholars and the stakeholders, and carry the concerns forward.

SUB THEMES OF THE CONFERENCE:

The participants were invited to contribute perspectives in the areas given below-

- A) Sustainable resources
- B) Disaster management
- C) Climate change
- D) Livelihood alternatives
- E) Gender inequalities
- F) Geomorphic processes
- G) Changing land use and implications
- H) Urban trends in mountains
- I) Environmental hazards
- J) Ecotourism
- K) Geo informatics and applications
- L) Geopolitical concern

PROFILES OF EMINENT SPEAKERS :

Prof. K.S. Valdiya is presently Honorary Professor of Geodynamics at JawaharLal Nehru Centre for Advance Scientific Research, Bangaluru. He has held high positions like Additional Director in Wadia Institute of Himalayan Geology, Dean Science and Vice-Chancellor in Kumaun University among others. His field of specialization is tectonics with special reference to active faults and environmental geology. Prof. Valdiya has written several books and monographs, including Geology of Kumaun Lesser Himalaya (1980), Aspect of Tectonics: Focus on Southcentral Asia (1984), Sarawati, the River That Disappeared (2002),

Geology Environment and Society (2005), The Making of India: Geodynamic Evolution (2010), and Environmental Geology: Ecology, Resources & Hazard Management (2013). Prof. Valdiya has been honoured by Government of India with Padma Shri in 2007 and with Padma Bhushan in 2016.



Prof. R.S.Tolia has served the Government of India and Government of Uttarakhand in various capacities, and have also pursued his academic interests. He served as the former Chief Secretary, Government of Uttarakhand, and headed Uttarakhand Information Commission as its Chief Information Commissioner (October 2005 – October 2010). Prof. Tolia is presently holding the NTPC Chair Professorship at Doon University. He is also contributing to Planning Commission of India as Member of ‘Working Group on Mountain Ecosystems and Challenges faced by Hilly Areas’ and a Study Committee for ‘Development in Hill States Arising from Management of Forest Lands with Special Focus on Creation of Infrastructure, Livelihood and Human Development’. Besides his numerous articles, monographs and papers his major books



include British Kumaon-Garhwal (in two volumes), a trilogy of three books containing essays on various development initiatives undertaken in the new state of Uttarakhand, ‘A Handbook for the Public Information Officers’ and ‘Some Aspects of Administrative History of Uttarakhand’.

Prof. Shekhar Pathak taught in Kumaon University for more than three decades. He has worked on different aspects of Himalayan history, social- environmental movements, folk culture and exploration. He has been a fellow at different organisations like Indian Institute of Advanced studies, Shimla and Center for Contemporary Studies, at Nehru Memorial Museum and Library, New Delhi. He is a founder of People’s Association for Himalaya Area Research (PAHAR). He is the editor of the Himalayan journal of same name. He is Vice President (Asia/Himalaya) of WMPA (World Mountain People Association). Prof. Pathak has written and edited books on Begar System, Freedom Struggle, Forest Movements, Life and Times of Pundit Nain Singh



Rawat, Kailas Manasrovar, Languages of Uttarakhand, and Folk Poetry of Kumaon. Prof. Pathak was awarded with Padam Shri in 2007.

Prof. A. J. Singh is currently the Director of Institute of Integrated Himalayan Studies (IIHS), a Centre of Excellence at Himachal Pradesh University, Shimla. Prof. Singh earned his Bachelor degree in Engineering from National Institute of Technology (NIT) Bhopal, post-graduate degree in Science from University of East London (UK) under British Government ODASS Scholarship, and Ph.D. from Himachal Pradesh University, Shimla. Basically he is Professor of Computer Science however his interdisciplinary areas of studies are



ICT for Development, E-governance and Digital India. Prof. Singh has taught in Himalayan Kingdom Country of Bhutan under Colombo Plan for three years (2000-2003). He has published many research papers in national and international journals, has guided Ph.D. students and is on the editorial boards of many journals.

Mridula Paul is the Programme Director of the Integrated Mountain Initiative. IMI works on issues of sustainable mountain development through the creation of a forum which brings together diverse stakeholders, with the objective of informing and influencing policy formulation in respect of mountain regions. Mridula is an environmental lawyer, and holds a degree in Development Studies from the University of Oxford.



Prof. R. B. Singh is professor and coordinator- UGC-SAP-DRS III, in the Department of Geography, University of Delhi. His fields of specialisation include Environmental studies, Climate Change, Urban Regional Development, Disaster Management, Remote Sensing and GIS. Professor Singh has several publications to his credit and has guided many M.Phil. and Ph.D. research works. Prof. Singh is a member of IUGG-IGU Joint National Committee of Indian National Science Academy and holds the office of vice-president of International Geographical Union (IGU). He is the editor of Springer books series on 'Advances in Geographical and Environmental Sciences'. He is IAP-Global Network on Science Academies representative on Disaster risk reduction. He was awarded JSPS Research fellowship at Hiroshima in 2013 and several travel fellowships and support from organisations such as UNEP, UNCRD, IAHS, UGC, IGU etc.



Professor S.C. Rai is professor and Head of Department of Geography, University of Delhi. He has been in the department since 2005, prior to which he worked as scientist in GBPIHED (An Autonomous Institute of Ministry of Environment and Forests, Government of India). His areas of interest are Watershed Management, Mountain Hydrology, Ecotourism and Conservation. Professor Rai has innumerable articles to his credit and his recent books include 'Agricultural Diversification and Food Security in the Mountain Ecosystem', 'Ecotourism and Biodiversity Conservation' and 'Land Use and Climate Change'. He has held many responsible positions in Delhi University system including that of the Chairperson of Governing Body of Kamala Nehru College.



KEYNOTE ADDRESS

Sustainable Development in Mountain Areas

Dr.R. S. Tolia

For its immediate precipitation and causal explanation readers would be advised to refer back to this writer's latest piece in *Garhwal Post* i.e. Small State Syndrome, and for its regional ramification a lead article that appeared in *Himalby* Kanak Mani Dixit (Vol 26, No 1 : Are

We Sure About India ?), way back in 2013. More on this connect later, let us re-visit briefly the first ever comprehensive audit of (i) what is going wrong and (ii) where ? It was in a book, *The State of the World Mountains – a Global Report*, produced by a group of people (collectively known as Mountain Agenda), each of whom had provided one or more of a number of crucial elements. The aim of this joint effort was to appeal to governments to put mountains on the world's environment agenda, both at the First Earth Summit at Rio, in 1992. As we are aware Rio+20 has also happened in 2012 and now we have its *Final Document : The World We Want*, that substitutes as well as complements *Chapter 13 of Agenda 21*, as far as the mountain areas of the world are concerned.

It is in this Global Report that major themes were set out that helped interested stakeholders to navigate through the great diversity that characterizes mountain areas, from the equator to the poles. Essentially in this seminal report answers were explored to three Key Questions, and these three were:

1. What is the role of the mountains in the global environment and development ?
2. What are the present threats to the Highlands of the world ? and
3. What needs to be done for the world's mountains and their inhabitants ?

Imagining a Global Village

To sensitize the world at large, as also to negate the feeling that the problems that are going to be discussed are 'all too big for us to cope with', this Report used a familiar metaphor of the "global village". This had the merit of not only reducing the apparent size of the task but, also, of suggesting that 'most of the remedies will have to be applied by villagers themselves'. This metaphorical village comprised 1,000 units of land, say hectares. This land consists of arable and non-arable, forest, pasture, wasteland of homestead. *Of this, one fifth, or 200 hectares, lies over 1,000 meters above sea level and is mostly rugged and steep.*

- Only about one in tenth of the people live in the mountainous wards of the village, but, five times as many, i.e. half of the village population, depend in some way on this upper land. They call it their weather corner, for it is there that most of its clouds seem to gather and where much of the rain and snow seems to fall. From there major village streams flow down and there is a small hydroelectric plant. Most of the community's timber and fuel-wood is brought down from the upper wards. On festival days, many families go there to visit religious sites.
- In many ways, the customs and the experiences of these 100 villagers living uphill are different from what the other 900 inhabitants are used to. The highlanders even differ from each other in many respects, depending on their altitude of their homestead and whether they face North or South. Their agricultural and festival calendars, too, are not identical with those in the lower parts of the village. But the inhabitants of the upper wards do admirably well in constantly adapting their agriculture, horticulture, forestry and animal husbandry to the specific conditions of their environment. They also have great experience in managing pastures and forests for the good of the community as a whole.
- To complete the picture, it has to be mentioned that the variety of wild animals and plants found on the village uplands is much bigger today than in the lower areas. This

used to be different century ago, i.e. before the lowlands were “human altered” so thoroughly. Nowadays when illness spreads in the village, people will ask the uplanders for various medicines they produce from their plants. During the summer season, the cattle of the lower village move up to the upland grazing areas, where better fodder is available and where the climate is healthier than below.

It was forcefully averred that ‘the upper wards of our metaphorical village are indeed pillars of the economy and culture of the community. And what (could) be shown at the village level (was) equally true at a global scale.’

Backbones of Civilizations

More than two decades later, the world at large, now seems more than convinced that the mountains are the backbones of civilizations’. This could be summarized through the following simple home-truths, becoming more self-evident as crises loom large and potentialities appear more real now. Closer home, in Uttarakhand, past fifteen years of development has tasted and tested, several of these threats and possibilities, respectively (*The State of the World’s Mountains: A Global Report : Ed Peter B. Stone; p 4-5*).

1. Mountains are water towers for human consumption, for expansion of land use and for rising energy needs;
2. Mountains are weather markers for large parts of the world;
3. Biological diversity in the mountains is one of mankind’s most valuable natural resources; and
4. Mountains are privileged places for spiritual and physical recreation.

Each of these self-evident home-truths deserve a closer and deeper reflection and examination by the policy-makers of the mountain states and regions and its a duty of every set of stake-holders to mobilize social and political resource for sustainable development of mountain areas and translate the same into tangible results.

Present Threats : Combinations of Natural and Human Forces

The Global Village metaphor which had been used earlier equally serves our purpose when we wish to understand the complex nature of various problems affecting the world’s mountains today, and we could complete the picture in the following way.

- On average, the families living up the hill are poorer than those on the level lands down below. Their production conditions and access to central services are more limited. Often, especially during bad weather, their children show up at the school which is near the centre. The people from the upper wards pay higher prices for good transported from the road or railway below. At the same time, they find it more difficult their own produce. They do not have very frequent contact with their fellow villagers, and they are not well informed about what is going on among the majority of the villages’ inhabitants.
- Notwithstanding their many achievements and cultural diversity, the upland people are usually not represented in the village council. Major decisions affecting the over

alleconomy and other aspects of village life are taken without their participation. And some lowlanders patronize them and look down their noses at them as liabilities.

- One reason for this is that many inhabitants of the lower wards are not well informed about the role and life situation of the families higher up. They take it for granted that fields and forests and footpaths in the mountains are maintained. In the eyes of the majority, the upper village and its surroundings are to serve as a quarry, to provide timber, to generate electricity and to be used as recreation ground. No thought is given to the potential consequences of this limited view.
- It is only when floods or avalanches and landslides threaten the homesteads below, or when the families from the upper wards move down in search of better economic opportunities, that the majority in the village centre start to think and ask questions. All too often, however, the current answers are extremely simple. They normally put the blame for any problems in the mountains on the people who live there. Have not the up-landers mis-managed their own environment and created all the problems the rest of the community now have to suffer ?

Through the metaphor of a Global Village an attempt was made some twenty years ago to understand the complex nature of the various problems affecting the world's mountain today.

The Indian Context : 1992 - 2012

Even as the above mentioned complex nature of the difficulties of the mountain regions vis a vis the lowlands of the peninsular India (made more comprehensible through the illustration of a metaphorical village) the Indian response to it has not been either very visible or effective. Even today there is no administrative mechanism which squarely owns any responsibility to look after exclusively to the various concerns that have been globally identified. The eighties did see creation of 'regional entities' like ICIMOD, and closer home, GBPIHED, two institutions which did have 'mountains' as their central agenda. While the 'environment' alongwith 'forests', after a Constitutional amendment that brought these subjects into the 'residual' and 'concurrent' lists, respectively, in 1970s, did underscore some attention paid to each of these. However, it remains a fact, that 'mountains' still remains begging an acknowledgement as a subject important enough to be acknowledged, as a subject, to be enlisted under any of the Constitutional Lists !

Even though 'mountains' as a subject still await a formal recognition under the Indian Constitution, the number of 'mountain states' continued to increase, exponentially after the behemoth states like Assam-giving rise to as many as five more successor-states in the Northeast, and UP in 2000, increasing the tally of 'mountain states' to a sizeable 11 States, out of 28 states in year 2000. It was erstwhile Planning Commission that officially recognized not only the so called Hilly States (as per their documents), but provided for the less understood complex nature of their financial requirements via the famous Gadgil-Mukherjee formula, earmarking 30 of the allocable resources, exclusively to be distributed among the Special Category States. Indeed, these Special Category States, were only the other names of the mountain states of India. Planning Commission, an Indian innovation, which accommodated the unique diversity that is India, arguably was the first mechanism in any modern -day planning instruments, that provided space of the newly emerging what may be called a unique sub-national phenomenon, namely the small mountain states of the Indian

Union. If we leave aside Jammu & Kashmir, to some extent Nagaland and Tripura, and Sikkim, each of which has its unique trajectory and history of joining the Indian Union, all the remaining eight mountain states, are all Small and Successor States, created out of Assam and Uttar Pradesh.

Small Scale Syndrome

We have been witness to continued political instability of majority of the states that constitute our Northeastern India, which has been critically analyzed for its political instability (Durable Disorder : SanjibBaruah) and the recent political developments in Arunachal Pradesh and now, closer home, Uttarakhand, only go on to add more illustrations to a political Theorem, which is unique only to this part of South Asia. It is this aspect of political economy, what this writer has called Small Scale Syndrome, that attention needs to be paid immediately. This is where one needs to reflect on an article that appeared in Himal(*The Reformatting of India : Kanak Mani Dixit, January 2013*).

Dixit, in his seminal article, avers that it was ‘the experience of Partition (that) made the country New Delhi centric to the detriment of the regions (and) 65 years later it is time to consider a redesign of the sperstructure’(Himal, ibid, p 14). It is a fact that the Cabinet Mission Plan of 1946 and even the Constituent Assembly in its early meetings had favoured a central government whose powers were just confined to foreign affairs, defence and communications, in the aftermath of Partition the Constituent Assembly adopted a more unitary vision. Nehru had conceded that ‘while free India may be a federation...in any event there must be a great deal of unitary control.’ Very early scholar K.V.Rao had observed the Centre as usurping the rights of the states, while constitutional scholar Ivor Jennings saw India as a ‘federation with strong centralising tendencies.’

State of Mountain States

The very Idea of India, says Dixit, is defined by diversity. It is not just that India is the second largest country in the world by population, and home of a fifth of the world’s population of 7 billion, unlike the People Republic of China, where there is a relative homogeneity among the Han population vis a vis the small minority ‘nationalities’, the very idea of India is defined by its diversity. This plurality is distributed across tens of thousands of identities and sub-identities. It is being increasingly realized that the centralised nation-state of India is not able to do justice to the size and diversity of its population, and straight-jacketing this staggering multitude into the unitary state format has created contradictions. It has been pointed out that the States Reorganization Commission, tasked with dividing the country into states after the Constitution was promulgated, went as far as to state baldly that ‘it is the Union of India that is the basis of our nationality’. According to Dixit, it sounded like an attempt to force an exclusivist unitary identity upon a varied people of mutli-layered identities. In essence, it mandated as if it was the state establishment that would define what it meant to be an ‘Indian.’(Himal, ibid, p. 15).

Debate thus continues about weather India was delivered as a federal country or a unitary state, and given the ambivalence in the constitutional text, adjectives like ‘mythical federalism’, ‘quasi federalism’ and ‘cooperative federalism’ get used, to justify various initiatives in political formatting. Nehru’s 16 years at helm saw India achieve political stability but the Union showed signs of fraying at the edges and since his departure in 1964,

there has been a drift towards 'regionalism'. It is this drift, that Dixit sees as unplanned and unguided by academics or opinion makers, who should have taken a lead. The rise in the relative power of the states is seen by many made possible by Congress party's weakening hold on power, since late 1960s. Undoubtedly the state like Uttar Pradesh, West Bengal, Maharashtra, Tamil Nadu and lately Bihar and Odisha have helped regionalism gain traction. This piece is no place to fully reflect on various dimensions of this hugely significant debate on restoring the balance of power, in favour of the constituent states of the Union of India. In March 2012, Chief Minister Prakash Singh Badal, even had gone to the extent of demanding a new Constituent Assembly to shift the balance of power in favour of the states. Even though this may be considered a bit too far fetched there certainly exists a case to seriously examine the very Idea of Devolution. If the experience of Partition had made the country Delhi –centric to the detriment of many states, as also the entire South Asia region, it certainly is time to consider a re-design to the superstructure.

Closer home, with the Nehruvian planning having been given a go-bye, adieu to the Five Year Plans, de-recognition of the Special Category Status recognizing the special historical status of so many mountain states e.g. Jammu & Kashmir, Nagaland, Manipur, Sikkim and Arunachal Pradesh, and a promise of ushering in an era of 'Cooperative Federalism', which in real terms appears to drive a tangible sense of further centralization, has brought in a huge amount of scepticism.

The mountain states of India, from their current situation, wonder via their civil society members, whether those who were expected to trigger, lead and back - stop very energetic and informed debate on the Sustainable Development Goals (SDGs), have time for such discussions at all ? Having foreseen such contingencies a small movement was commenced, by some civil society members, to put in place a Forum, in every mountain state, where regardless of the contemporary political turbulences informed debates would continue uninterrupted, in a collaborative, cooperative and non-partisan way. The Integrated Mountain Initiative (IMI) is such a pan-Indian mountain forum that has been formally constituted, in 2014, after four years of intense consultative process and regional consultations, and now its state counterparts are being positioned, to back-stop a pan-Indian innovation, exclusively for the 12 Indian mountain states. The Uttarakhand chapter of the Sustainable Development Forum, is but a manifestation of addressing a major gap that has been perceived at the national level. With major changes that are taking place in our neighbouring Nepal, a major stake-holder in South Asia regionalism, such development forums in each of the Indian mountain states, is a topical measure that needs support and participation from all informed quarters, including the mountain states themselves –even as the latter battle with their contemporary political restructuring.

(R. S. Tolia steers the pan Indian Mountain Initiatives collaboratively with other colleagues in other mountain states, while steering the Centre for Public Policy in Doon University, which has backstopped policy-related work in mountain development. His other essays can be accessed at rstolia.in, his website.)

Technical Session-I

Chair :MrsPoonamBehari (Miranda House)Co Chair : Dr Ranjana Gera (KNC)

Rapporteur: Dr.Renu Malhotra (KNC)

Paper – 1- Understanding Recent Climatic Variability and Glacier Responses in NW Garhwal Himalaya - Pawan Kumar and Prof.Milap Chand Sharma

First paper of the first technical session was presented by Mr Pawan Kumar based on his research on Himalayan Glaciers. Himalayan environment is the best environment to check environmental vulnerability. Glaciers help in understanding the climate. Glaciers are most sensitive to temperature change. Results of study based on Glacier chronologies in Himalayas studied at 5 stations through MODIS data and automated weather stations for last 13 years were discussed by Mr Pawan Kumar. His study show glaciers are not retreating. Glacier Gangotri in fact reflect positive trend according to his research. Behaviour of Himalayan glaciers are complex showing with some retreating and some advancing trend.

Paper – 2- Sustainable Development of Resources in the Mountain: An Experience from Naugura watershed in Garhwal Himalayas –Dr.S. K. Bandooni, Dr.Kaushal Kumar Sharma, Dr.Arun Kumar Tripathiand Dr.L.Mirana Devi

Dr Kaushal Sharma's presentation was based on his project work in villages of Uttarakhand. The focus of his work was ecological restoration of 39 villages and 12000 people living in the villages. He has focussed on practical sustainable approaches of ecology, economy and sustainability. The project covers almost all aspects of communities of villages from women, children to available local resources of forests, water, and agricultural practices infrastructure to wasteland development.

Paper – 3-Women's Agency in the Himalayas: A Question of Resources , Entitlement or Conflicts- Dr.SeemaMehraParihar and Dr. P.K. Parihar

Dr SeemaParihar's paper focused on gender mainstreaming in rural communities. She had analysed women's entitlement to resources through decision making index and mobility index. The study shows that gender policies have to be implemented properly. Male literacy has negative impact on decision making index. Most important is to change the mindset of the community to change the status of women for betterment of women and to improve women's wellbeing and well being of communities. She concluded that sustainable development need women's participation in decision making.

Paper – 4- Participatory Approach for Sustainable Tourism in Ladakh- Case studies and Models of Stakeholder Involvement - TashiMotupKau

Mr Tashi's presentation highlighted the negative impact of increasing tourism in Leh – Ladakh region of India. With increase in flow of tourists in these regions there are associated environmental problems. He focused on some of these problems like vehicular pollution, consumerism. He proposed ecotourism as an alternative , setting up eco villages with help of NGO's . He illustrated the advantages of the concept with the help Eco village of Takmachik.

Paper – 5-Home stay Tourism Potential in Garhwal Himalaya ; A case study of Lachi Gad watershed - Dr.AnupamaM.Hasija, Dr. S.K. Bandooni, Dr.Ushvinder Kaur

Dr Hasija's presentation discussed a very novel concept and benefits of home stay tourism. Commercial tourism is causing irreversible damage to environment because of traffic congestion. She gives the suggestions of Identifying home stay tourist destinations. In her presentation she illustrates the advantages of home stay tourism in terms of balanced development of area, sustainable development of resources, application of local knowledge, employment of local youths. To develop these home stay destinations it is important to develop local transport and connectivity.

Technical Session II

*Chair: Dr P.K Parihar (Dyal Singh College) Co-chair: Dr Poonam Sharma (SBSC)
Rapporteur: Ashok Kumar (KNC)*

Paper 1-Health Tourism : Dynamics of Rural Livelihood in Kangra, Himachal Pradesh –

Ms.Nitu,Research scholar

In her presentation the scholar Ms. Nitu emphasised that the Health tourism is emerging as an important component of tourism industry to strengthen the local economies in India, through attracting tourists to cater their health as well as wellness. Though 1.25 billion Populations are served by merely 4.5 million doctors shows wide gap. The idea of protection of traditional healing system springs from the present where its future is at stake in the changing socio-economy environments. Dharamsala and some other tourist's spots are becoming popular for the foreign tourists seeking wellness as well as adventure andKangra as an ancillary service to provide the utmost holistic satisfaction to the tourists.

Paper 2-Access to Sanitation in Western Himalayas- Dr.Bharati Dave

Dr Bharati Dave's paper focused on sanitation as the best determinants of quality of life, in the Western Himalayas. Here sanitation programsare not properly implemented owing to undulating terrain and inaccessibility. They get preferential treatment in terms of central assistance and tax. The special category status has been given on features that include hilly and difficult terrain, low population density, sizeable share of tribal population, strategic location, economic and infrastructural backwardness. The study revealed a marked regional variation in the access to sanitation at the district level. Districts nearer to plains are generally better off as also are major urban centres and administrative headquarters. The social and cultural factors also impact the type of toilets available here.

Paper 3-Himalayas, Climate Change and Sustainable Development- Mr.Vikas Saharan, Research Scholar

The research scholar explained that the Himalayas climate is continuously varying due to global warming, glacial melting at faster rate, it has impacts on rivers Ganga, Indus and Bramhaputra Rivers, and becoming seasonal in the near future. Such climate change will directly impact farming, livelihoods and hydropower generation. The increased melting and

retreat result in creation by glacial which human they would fail protect their future livelihood.

Paper 4-Climate Change and Vulnerability of Himalayas –Dr.Nitasha Malhotraand Dr.Shyamoli Sen

Himalayas are world's most sensitive mountains in current discussion at international level due to rise in average temperature, global warming, melting glaciers, changing rainfall patterns etc. the accentuated anthropogenic activities in Ladakh and Nepal regions causing hyper-active natural processes. In the Tibetan Plateau, the average temperature in Lhasa rose by 1.35 degrees Celsius in 30 years. Himalayan region, on increasing and decreasing trends in precipitation have been detected. The much population near glaciers causing consequent deforestation and land-use changes has adversely affecting these glaciers. Therefore, the environmental impacts of climate change pose a serious threat to the very socio economic existence of the Himalayan communities by altering the agricultural and livelihood patterns, the hazard scenario, human health etc.

Paper 5-Disasters in the Himachal Himalaya: Impact and Management –Dr.Roshani Devi

Dr.Roshani Devi illustrated that Himalaya is a multi-disaster state experiencing earthquakes, landslides, cloudburst, flash floods, avalanches, forest fires. Himachal Himalaya known for its unstable and disaster prone states of the country. This hill state owing to its geology, the topography, the climate and active geographic changes, has become vulnerable to vagaries and various anthropogenic activities, which have had a multiplier effect and created an imbalance in the overall ecology of the area.

BRIEF REPORT OF THE CONFERENCE:

The Conference began with Invocation by the College choir and lighting of the ceremonial lamp by the Chief Guest, Guest of Honor, invited speakers, principal and the convener. All the eminent personalities sharing the dais were felicitated by the Convener of the conference, Dr.KalpnaBhakuni.Soon after that the annual magazine of Geography department 'Geo explorer-2016' and the Conference souvenir were released by the Guest of Honor, Professor K.S.Valdiya. Professor R.S.Tolia delivered the keynote address. Thereafter other eminent speakers like Professor K.S. Valdiya, Professor Shekhar Pathak, Professor A.J.Singh, Professor S.C.Rai, Professor R.B.Singh and Ms.Mridula Paul delivered the invited talks on the chosen themes of the conference.

During the course of the day there were two technical sessions of 90 min each, in which Papers were presented by the faculty, researchers, scholars and professionals from Delhi, Uttarakhand, Himachal Pradesh and Assam.

On the side-line of the conference, a photography exhibition was put up in the foyer of the auditorium on the theme 'the Himalayas'. The entries were collected through an on-line photography contest on the selected theme.

There was a Book stall organised on the theme of 'The Himalayas' where a wide range of books on various aspects of mountain region were put up for sale.

The conference was very well attended by the faculty, researchers, students and many distinguished people from different Himalayan states.