



WESTERN  
HIMALAYAS

Report of  
Two-Day International Conference  
on Environmental Concerns, Climate  
Change and Resource Management in the  
Western Himalayas  
held on 5<sup>th</sup>-6<sup>th</sup> June 2023  
(Hybrid Mode)



WESTERN  
HIMALAYAS



Organised by:  
Internal Quality Assurance Cell (IQAC)  
**Rabindranath Tagore Govt. Degree College Sarkaghat**  
**Distt. Mandi (H.P.)-175024**

(NAAC accredited Grade 'B' College)

Website: [rntgcs.com](http://rntgcs.com)

Email ID: [gcsarkaghat-hp@nic.in](mailto:gcsarkaghat-hp@nic.in)

Telephone: 01905 230004

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## Report of Two-Day International Conference on Environmental Concerns, Climate Change and Resource Management in the Western Himalayas

Official Title of the Conference:	International Conference on Environmental Concerns, Climate Change and Resource Management in the Western Himalayas
Date of the Conference:	5 <sup>th</sup> -6 <sup>th</sup> June 2023.
Organised by:	Internal Quality Assurance Cell (IQAC) Rabindranath Tagore Govt. Degree College Sarkaghat, Distt. Mandi (H.P.) – 175024.
Inaugurated by:	Dr. Ashith Kumar Mishra, Hon'ble Additional Director of Higher Education, Himachal Pradesh.
Closed by:	Prof. KDS Bedi, Hon'ble Vice-President, Chitkara University, Punjab.
Key Note Address:	Dr. O.C. Handa, Eminent Scholar, Writer, Historian and Wonderful Speaker.
Resource Persons for Invited Lectures:	Dr. Rakesh Bhardwaj, Scientist 'F' at DEAL DRDO Dehradun, (Uttarakhand), India. Dr. Hem Raj Bansal, Deptt. of English, Central University of Himachal Pradesh, India. Dr. Sangeeta Thakur, Group Leader, Freie University Berlin, Germany. Dr. Vijay Kumar Thakur, SRUC, United Kingdom. Prof. Dinesh Chahal, (Joined the Conference from South Africa) belongs to the Deptt. of Teacher Education, SOE Central University of Haryana
Number of Participants Registered:	220
Number of Technical Sessions:	Physical - 4 Virtual - 9
Number of Paper Presented:	180 (Oral) 04 (Poster)



Report of Two-Day International Conference on  
Environmental Concerns, Climate Change and Resource  
Management in the Western Himalayas

**Two-Day International Conference on  
“Environmental Concern, Climate Change and  
Resource Management in the Western Himalayas”  
(Hybrid Mode)**

**REPORT OF CONFERENCE**



**Convener:**

***Dr. Ramesh Chand***

Associate Professor (Geography)

**Patron:**

***Dr. R.R. Kondal***

Principal

**Organized by**

***Internal Quality Assurance Cell (IQAC)***

**Rabindranath Tagore Govt. Degree College Sarkaghat**

**Distt. Mandi (H.P.), India.**

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# Report of Two-Day International Conference on Environmental Concerns, Climate Change and Resource Management in the Western Himalayas

## INTRODUCTION:

Government College Sarkaghat was established by Himachal Pradesh Government as a multi faculty, co-educational institute in the year 1985. Now, it has been renamed as *Rabindranath Tagore Govt. Degree College Sarkaghat*. Since its very inception, it has progressively emerged as one of the leading institutions of higher learning in rural area of Himachal Pradesh. The college is recognized by UGC under 2f & 12B and affiliated to the Himachal Pradesh University, Shimla and now its jurisdiction has been shifted to the Sardar Patel University, Mandi. The College has been assessed by the National Assessment and Accreditation Council (NAAC), a Bengaluru based autonomous body under UGC in August 2019 and awarded grade 'B'. Located at a distance of 60 Kilometres from the district headquarter of Mandi (H.P.) and lies between *Chandrakhri hill range* in the NW and *Maseran & Bhatoh hill ranges* in the East at 31° 40' 43" Northern latitude and 76° 43' 36" Eastern longitude. The college is located on the Sarkaghat-Ghumarwin National Highway about 2.5 Kms. from Sarkaghat town.



## HIMALAYAN ECOSYSTEM:

The Himalayas, a majestic mountain range spanning across several countries including India, Nepal and Bhutan, is not only a geological marvel but also a region of immense environmental importance. The Western Himalayan region, renowned for many majestic mountain ranges and rich biodiversity, are facing unprecedented environmental challenges in the wake of environmental concerns, climate change and resource management issues.



Located in the northern part of the Indian subcontinent, this region encompasses many union territories and states viz-Jammu and Kashmir, Ladakh, Himachal Pradesh and Uttarakhand. The fragile ecosystems of the Western Himalayas are home to diverse flora and fauna, provide vital water resources and support the livelihoods of millions of people. However, the region is experiencing rapid glacial melt, altered precipitation patterns,

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deforestation, habitat loss and unsustainable resource extraction, all of which have serious implications for the environment, local communities and the larger global ecosystem. In this context, it is imperative to address environmental concerns, mitigate climate change impacts and implement sustainable resource management strategies to safeguard the Western Himalayas for future generations.

## ABOUT THE CONFERENCE:

This year's World Environment Day is centred on the theme "**Beating Plastic Pollution**." Our planet is currently facing a deluge of plastic, with over 400 million tons of plastic being manufactured annually. Sadly, half of this amount is designed for disposable, single-use purposes. Every year about 10 per cent of the plastic end up in the oceans. By 2050, the World's oceans could contain more plastic than fish measured by weight. The indiscriminate use of plastic bags is not only hurting our oceans but they are wasting energy and also polluting our environment. Even the Western Himalayan ecosystem has been impacted by the threat of plastic waste.

Keeping in view the various environmental issues the Internal Assurance Cell (IQAC) of the college has decided to organise a Two-Day International Conference on 'Environmental Concerns, Climate Change and Resource Management in the Western Himalayas' on the occasion of World Environment Day on 5<sup>th</sup>-6<sup>th</sup> June, 2023. This conference has provided an opportunity for experts, researchers, policy makers and public to come together and discuss environmental concerns, which are affecting our planet.

Environmental concerns, climate change and resource management are all interconnected and it is critical to understand their interplay to find sustainable solutions. In-depth deliberations on different issues on a common platform can play a vital role in raising awareness, educating the public and advocating for a sustainable future.

## AIMS OF THE CONFERENCE:

The aim of the conference was focused on environmental concerns, climate change and resource management and it would be to increase awareness and understanding of the critical issues our planet is facing and to explore potential solutions to these problems.

Through discussions, presentations and group activities, participants can deepen their knowledge of the causes and effects of climate change, the impact of human activities on the environment and the importance of responsible resource management.

Ultimately, the goal of the conference would be to inspire individuals and communities to take action towards a more sustainable and resilient future and to encourage collective efforts to protect our planet for future generations.

## OBJECTIVES OF THE CONFERENCE:

The objectives of the Conference are:

- Impact of climate change and environmental degradation on natural resources and human & livestock health.

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- Identifying challenges and finding solutions to mitigate the effects of climate change and environmental degradation.
- Developing strategies for sustainable management of natural resources
- Reducing greenhouse gas emissions and adapting to climate change impacts.
- Providing a platform for networking, exchanging ideas and collaborating on future initiatives.
- Encouraging advocacy for environmental protection and climate action

## SUB-THEMES OF THE CONFERENCE:

- Problem of plastic waste and exploring innovative solutions
- Impacts and Adaptation Strategies of Climate Change for Conservation of Biodiversity
- Climate change due to emission of greenhouse gases
- Disaster Risk Vulnerability during Monsoon Season in Western Himalayas
- Sustainable Resource Management in the Western Himalayas: Challenges and Opportunities
- Socio-economic prospects of resource use and its impact on environment
- Waste disposal and water treatment: Challenges and environmental conservation strategies
- Impact of chemical pollutants on environment
- Green Technologies and Innovation in the Western Himalayas: Promoting Sustainable Development
- Tribal Habitat in the Western Himalayas and Biodiversity Conservation
- Postcolonial Ecocritical perspectives on literature
- Ecocritical concerns in literature
- Role of National Green Tribunal for enforcing the Environmental Laws

## REPORT OF THE CONFERENCE

### DAY-I (5<sup>TH</sup> JUNE 2023)

#### INAUGURAL SESSION:

Rabindranath Tagore Govt. Degree College Sarkaghat, District Mandi HP successfully hosted a Two-Day International Conference on “Environmental Concerns, Climate Change and Resource Management in the Western Himalayas” on the occasion of the World Environment Day on 5<sup>th</sup> and 6<sup>th</sup> June 2023. The gracious presence of the dignitaries, an impressive line- up of scholars from across the world, the valuable support of the sponsors and media persons, an array of carefully selected, well-researched and well- presented papers on the subject, all came in a body to help the IQAC Team of Govt. College Sarkaghat admirably to make this conference successful.

The conference has served as a platform to explore innovative solutions, share knowledge and foster collaborations among stakeholders to address issues such as rapid

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glacial melt, deforestation, habitat loss and unsustainable resource extraction. By inaugurating this conference, we aimed to pave the way for a sustainable future in the Western Himalayas and safeguard the region's ecological integrity, socio-economic stability and cultural heritage.

The inaugural session started on the 5<sup>th</sup> June 2023 at 11:00 am in Conference Hall with the arrival of the Chief Guest Dr. Ashith Kumar Mishra, Hon'ble Additional Director, Higher Education, Govt. of Himachal Pradesh and other dignitaries. At the outset, the distinguished guests were welcomed by Dr. Subhash Verma, Organising Secretary. Thereafter it was followed by the lighting of the lamps to evoke the blessings of goddess Saraswati. Thereafter pinning of the rosettes began. After this the chief guest, Key Note speakers and resource persons were honoured by presenting caps, shawls and mementos.





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## WELCOME ADDRESS BY THE PRINCIPAL:

Dr. R.R. Kondal, Principal of the College welcomed the Chief Guest, Key Note Speaker, Resource Persons and all the participants, who were present physically or joined this International Conference through virtual mode. The principal has laid down the importance of this conference by saying that it will serve as a platform for fruitful discussions, knowledge sharing and collaborative action. Together, we will explore innovative strategies and best practices to mitigate the impacts of climate change, conserve biodiversity and promote sustainable resource management in the Western Himalayas. He said that by pooling our expertise and fostering interdisciplinary dialogue, we can develop effective solutions that will shape the future of this remarkable region. He also encouraged the participants, scholars and students to take small steps to save environment. He congratulated the entire energetic and dedicated team of the college, sponsors and all those who have worked tirelessly to make this conference a reality



## CONCEPT NOTE BY THE CONVENER:

Dr. Ramesh Chand, Convener of the conference presented a concept note and congratulated one and all who were participating in this conference either physically or by virtual mode all over the world and gathered to commemorate this year's World Environment Day a significant occasion that unites us in our commitment to address the pressing environmental challenges we face. This year the primary focus of this day is centered around the theme of "**Beating Plastic Pollution**" a critical call to action to combat the pervasive issue of plastic waste in our ecosystems.

He elaborated that this International Conference takes this theme even further, encompassing a broader scope of environmental concerns and revolve around the vital theme of "Environmental Concerns, Climate Change and



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Resource Management in the Western Himalayas." With deep reverence for the unique and delicate ecosystem of the Western Himalayas. This gathering intends to spark thoughtful discussions and offer practical methods to safeguard and nurture this magnificent, beautiful and lovely region.

The Convener termed that the Western Himalayan region is a critical ecological zone with rich biodiversity and cultural heritage. The region encompasses a vast geographic area characterized by unique biodiversity, mesmerising landscapes and abundant rivers and glaciers that provide water to millions of people. However, the region is currently facing multiple environmental challenges, predominantly caused by climate change and insufficient resource management practices, resulting in significant environmental concerns.

He stressed that the primary objective of this concept note was to focus on the critical issues, potential impacts and sustainable development strategies in the delicate ecosystem of the Western Himalayas. The multifaceted environmental concerns, climate change and resource management challenges in this region necessitate a holistic and integrated approach to tackle them effectively.

He assured that this conference aims to provide a platform for experts, researchers, policymakers and stakeholders to share their insights, research findings and best practices to devise an integrated framework for sustainable development in the Western Himalayas. The Convener enthusiastically applauded the college's comprehensive dynamics and dedicated team, sponsors and all individuals who tirelessly contributed to the immense success of this conference.

### ADDRESS BY THE CHIEF GUEST:

The Chief Guest Dr. Ashith Kumar Mishra, Hon'ble Additional Director, Higher Education Govt. of Himachal Pradesh addressed the august gathering physical present as well as joined the conference online from across the world. He congratulated the organisers of this International Conference for selection of a very crucial, contemplative and thoroughly deserving theme. He elaborated that the Himalayan region represents an incredibly delicate ecosystem and the Western Himalayas, in particular, bear witness to numerous ecological crises every year. He stressed the importance of becoming a practical person in life than a theoretical one by saying no to plastic. He exposed that man has started selling everything like water, land, trees etc. for his interests. Save these things and adopt the principal of Live and Let Live.



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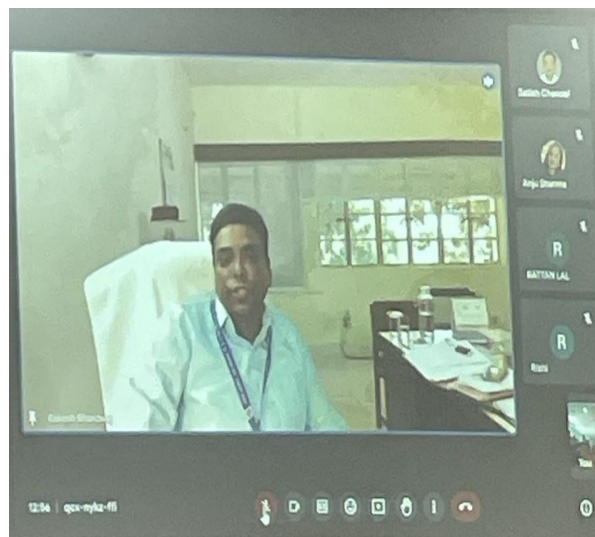
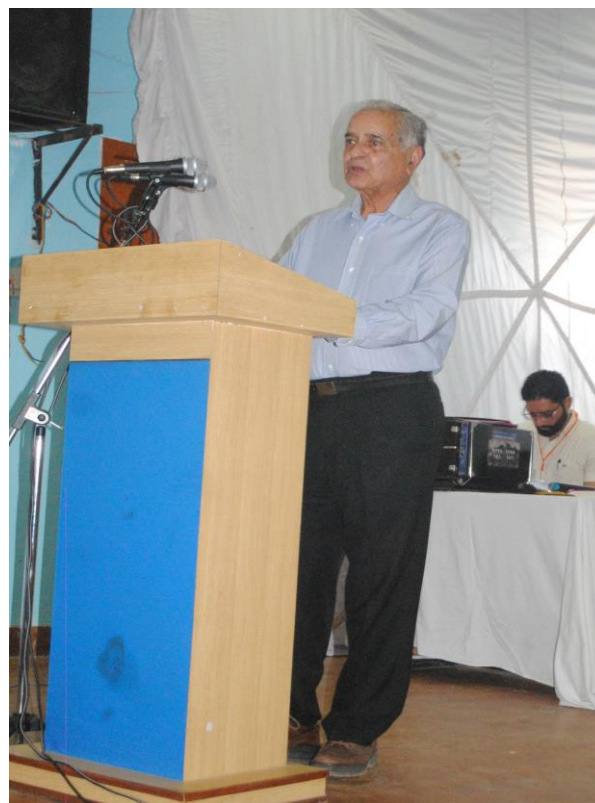
### KEY NOTE ADDRESS:

Dr. O.C. Handa, the Key Note Speaker, highlighted that the plastic material is destroying the nature and all the natural calamities took place because of irresponsible human behavior and activities. Many plastic factories are being built and people are migrating from rural areas to urban ones. Intellectuals and educationists can inspire the people to say no to plastic, but politicians make policies which turn the picture other way round.

In Himachal Pradesh, due to hydro projects, land sliding occurred frequently that caused an irreparable harm to nature and land. In short, we can say the progress/development destroyed the environment directly and indirectly. The Spiti Valley people opposed the hydro projects. Now they are safe and living their life fearlessly.

### PLENARY SESSION-I:

The first invited speaker Dr. Rakesh Kumar Bhardwaj, Scientist 'F' at DEAL DRDO Dehradun joined the conference online and suggested many ways to meet out the danger of the plastic waste and e-waste. He advocated segregating the plastic waste in red colour, green colour and other colour box and to handover to Nagar Nigam. People who supported the movement of reducing the plastic pollution may be rewarded by displaying cautionary posters or placards at the doors of their houses. People who go on the walks may spare some time to deal with this problem and collect the e-waste/plastic waste from the road sides. He also highlighted that 282 schools in Dehradun region were selected to take part in this movement. School children put the plastic waste in separate boxes to keep the school clean. It became a successful movement and an example for other institutions and NGOs to follow.



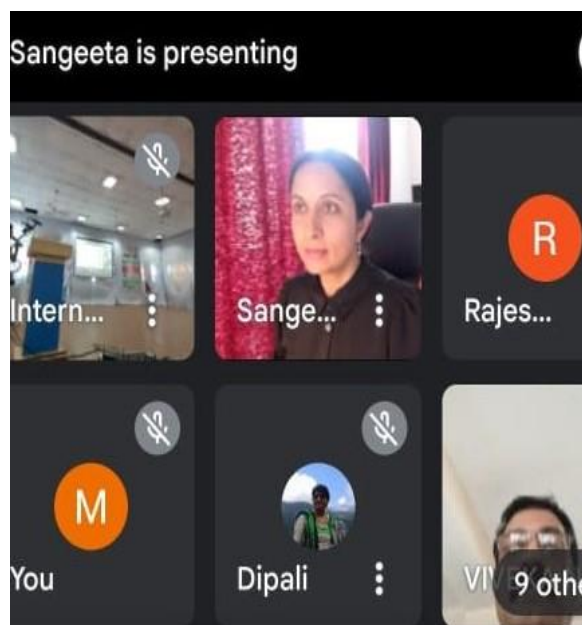
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The second invited speaker Dr. Hem Raj Bansal, Assistant Professor of English, Central University of Himachal Pradesh, Dharamshala, highlighted the role of literature in making people eco-conscious. He spoke about the importance of climate fiction that warns us regarding the dangers of unethical use of science and its impact on climate and environment. He also referred to Wordsworth, Kalidasa, Coleridge, Rousseau and other prominent writers who were nature lovers and did a remarkable job in raising the consciousness of readers about environment.



### PLENARY SESSION-II

During the Second Plenary Session, following lunch, Dr. Sangeeta Thakur, a distinguished Group Leader from Freie University Berlin, delivered a captivating online presentation focused on the significance of nano particles and strategies to minimize plastic usage. Dr. Thakur shed light on the alarming surge in plastic consumption in our daily lives, emphasizing its pervasive presence in our food, beverages and even the air we breathe. Plastic has infiltrated every aspect of our existence, whether in substantial amounts or as minute nano particles. Dr. Thakur's talk provided valuable insights into this pressing issue.



Thereafter, parallel technical sessions took place.

### TECHNICAL SESSION-I:

Technical Session-I was carried out in Multipurpose Hall on physical mode from 3:00 pm to 4:30 pm under the chairmanship of Prof. Tej Singh Verma, where the co-chairperson was Dr. Sunil Sharma and it was moderated by Sh. Pankaj Thakur.

- Dr. Gushan Kumar, talked about the role of cosmic rays in depletion of ozone layer. According to him there are evidences that cosmic rays affect the dissociation process of the halogen-based compounds and are due to interaction of highly energetic charged contents of the cosmic rays. After dissociation released halogens atoms, react with stratospheric ozone thereby depleting it. Further he elaborated that within cosmic rays there is different intensity of two types of charged particles which

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deflect in two different directions thereby making depletion more pronounced on Antarctica (South Pole).

- The next speaker Sh. Sandeep Kumar talked about the problem and remedial measures of the E-waste. E-waste is major problem because of non-biodegradable nature and it is generated in huge amount on the earth today and has become a global environmental issue. E-wastes are considered dangerous, as certain components of some electronic devices contain materials that are very harmful.
- Dr. Manju Kumari talked about the use of biopolymer-based hydrogels in waste water treatment. Two series of hydrogels, using gelatin as one of the main components with hydroxypropyl methacrylate and acrylamide as monomers were used for Cr (VI) ions adsorption with respect to time, temperature, pH and concentration with subsequent evaluation of the maximum retention capacity (MRC) and reusability. These hydrogels exhibited structure-property relationship in the removal of excess Cr (VI) ions from industrial waste water and hence showed significant potential for use in water purification technologies.
- Sh. Vishal Kumar made his presentation on Western Himalayas, a region of highly vulnerable to monsoon-induced disasters. The Western Himalayan region is known for its scenic beauty and rich biodiversity, but it is also prone to various natural disasters such as heavy rainfall, landslides and flooding, resulting in loss of lives, infrastructure damage and disruption of essential services during monsoon season. He concluded that implementing strategies at multiple levels to minimize the impact of future disaster and stronger collaboration between government, researchers and communities to reduce disaster, technology interventions must include the use of remote sensing, geospatial information and early warning systems to enhance disaster preparedness and response.
- Dr. Jai Kiran talked about understanding sustainable development of Himalayas through the analysis of NITI Ayog's reports. The Indian Himalayan Region every year records about 100 million tourists and the number is expected to increase to 240 million by 2025, putting huge pressure on resources and produce negative impacts like inadequate solid waste management, air pollution, degradation of water sources, loss of natural resources, biodiversity and ecosystem services. NITI Aayog's reports highlighted on a series of measures to sustainably development the Himalayan region. Five areas which were explored, Inventory and Revival of Springs in Himalayas for Water Security, Sustainable Tourism in Indian Himalayan Region, Transformative Approach to Shifting Cultivation, Strengthening Skill & Entrepreneurship Landscape in Himalayas and Data/Information for Informed Decision Making. NITI Aayog, has recommended introduction of a "green cess" in the form of payments from service consumers.
- Sh. Mohinder Singh made a presentation on gender's influence on consumer behavior towards green products. In this connection he highlighted the finding consumer behavior of people of district Mandi. Then Mrs. Rekha Kumari talked

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about impact of solid waste management on environment and economic growth.

Growing population and urbanization in developing countries generate enormous amount of solid waste. More urbanization leading to accumulation of more domestic waste, commercial waste, construction waste and biomedical waste. India generates approximately 62 tonnes of waste every year. Accumulation of such waste is hazardous to mankind and the environment. The three R's (Reduce, Reuse and Recycle) help to save money, health and reduce pollution. By recycling of waste new usable products can be produced which enhance the economy of any country.

- Dr. Sanya Kumari presented her talk on the novel 'कुइयाँजान' written by Nashira Sharma regarding the water crisis problem and its management. After that Smt. Anita Kumari spoke on impact of Deforestation on environment. Deforestation is the large-scale removal of trees from forests or other lands for the facilitation of human activities and is a serious environmental concern since it can result in the loss of biodiversity, damage to natural habitats, disturbances in the water cycle and soil erosion.
- Dr. Sunil Kumar's presentation was on the role of Environment in Economic Development in context of Himachal Pradesh. Tourism in Himachal Pradesh is large source of income to its residents. But the environmental degradation may affect the earnings mainly in two ways, firstly the tourist places may be adversely affected which may further disappoints the millions of tourists and secondly it will affect our cash fruit crops. Government has already taken essential steps to safeguard the environment such as use of Electrical vehicle, ban on plastic, tourist policy, instructions to visit the river banks and guidelines regarding preservations of wild species.
- Dr. Munish Sharma talked about Profitability and its Determinants in Post-Covid Period in MSME sector of Himachal Pradesh. The social, economic, political and religious systems of the globe have all been negatively affected by COVID-19 pandemic both developing and developed economies. He further talked about the impact of business attributes on efficiency of Micro, Small and Medium Enterprises and to identify managerial policy implications and make suggestions for enhancing efficiency of MSME sector of Himachal Pradesh.
- Sh. Reetu Raj Thakur and he spoke on the Role of Cement Industry in the Socio-Economic Development of Himachal Pradesh. Cement industry provide base for infrastructure development and most important input of construction industry, particularly in the government's infrastructure and housing constructions, which are necessary for the country's socio- economic growth and development. He focused on socio-economic development through the cement industry particularly in Bilaspur district of Himachal Pradesh. Cement industry plays significant role in the socio-economic and infrastructural development and benefitted the people in different ways. Cement industry fulfil the corporate social responsibility by eradicating

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poverty, employment generation, constructing educational buildings and promote sports activities for youth and social welfare.

Following the presentations, a panel discussion was conducted inviting the presenters and other experts to delve deeper into the environmental problems and issues raised during the session.

### TECHNICAL SESSION-II:

This brief report provides an overview of the technical sessions conducted during the "Two-Day International Conference on Environmental Concerns, Climate Change and Resource Management in the Western Himalayas." The conference aimed to address key environmental issues, climate change impacts and sustainable resource management in the region.

- **Understanding Climate Change:** Dr. Rajiv Rana presented on the importance of understanding climate change and its impact on vulnerable groups. He highlighted the health implications of extreme heat and the disproportionate effects on specific populations.
- **E-waste Management and Recycling Methods:** Dr. Sanjay Kumar discussed the efficacy and impact assessment of e-waste management and recycling methods in India. He emphasized the need for proper handling of hazardous materials and shared insights from his research on awareness and scientific recycling methods.
- **Green Banking Initiatives:** Mr. Shakti Chand explored the concept of Green Banking and initiatives taken by Indian banks. The presentation highlighted the role of Green Banking in promoting environmentally friendly investments and lending priorities to green industries.
- **Effects of Chemical Pollutants on the Environment and Human Health:** Dr. Naveen Kumar discussed the detrimental effects of chemical pollutants on the environment and human health. The presentation emphasized the importance of sustainable practices, regulations and public awareness to mitigate these impacts.
- **Biodiversity and Conservation:** Mr. Rakesh Kumar highlighted the importance of biodiversity and the need for conservation efforts to prevent further loss. The presentation emphasized the significance of preserving ecosystems, ecosystem services and intrinsic value.
- **Climate Change Due to Greenhouse Gases:** Dr. Shavnam Sharma discussed the consequences of climate change due to greenhouse gas emissions. The presentation highlighted the global health implications, spread of diseases and disruptions caused by climate change.
- **Environmental Sustainability and Business:** Dr. Lata Devi presented on the topic of environmental sustainability and its relation to business practices. The presentation emphasized the importance of incorporating sustainable measures in business operations.

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- Environmental Issues and Plant Biodiversity: Dr. Anita Kumari provided a comprehensive review of environmental issues and their impact on plant biodiversity. The presentation highlighted the significance of preserving plant diversity for ecological balance.
- Climate Change in the Western Himalayan Region: Dr. Sunil Kumar addressed the impact of greenhouse gas emissions on climate change in the Western Himalayan region. The presentation emphasized the need for mitigation strategies and international collaboration to combat climate change.
- Role of National Green Tribunal in Enforcing Environmental Laws: Mr. Tej Singh Verma discussed the role of the National Green Tribunal (NGT) in enforcing environmental laws in the Western Himalayan region. The presentation emphasized the importance of the NGT in providing effective and expedited justice for environmental protection.

This technical session of the conference provided valuable insights into various environmental concerns, climate change impacts and resource management in the Western Himalayas. The presentations highlighted the need for sustainable practices, conservation efforts and policy interventions to address these issues effectively.

### TECHNICAL SESSION-III:

Technical Session-III on 5th June 2023 was chaired and co-chaired by Dr. Hem Raj Bansal and Dr. Shivani Chaudhary respectively. It was moderated by Smt. Suman Lata and conducted online in BCA Lab. with the technical assistance of Prof. Santosh Kumar.

A total of thirteen research papers were presented in this session on various aspects of ecocritical literature and the negative aspects of plastic use. Some papers were also in form of case studies on radio-nuclides and uranium concentration in Fatehpur district.

- Dr. Veena Sharma, Dr. Kulbhushan Sharma, Dr. Namarata Pathania, Riya Viridi, Dr. Arpita Dey, Dr. Sangeeta Singh, Dr. Satyawan Polist, Anu Priya and Dr. Shivani Chaudhary presented their papers on literature, ecology and climate change and how literature enlightens the readers about environment.
- Vimal Mehta Chandan, Manoj Kumar Kahol, Chandan and Vimal Mehta presented their papers on other subjects like recycling of plastic waste towards green India etc. Dr. Shivani Chaudhary concluded the session with her observation on the papers.

With the presentations the session provided a comprehensive and insightful exploration of the pressing environmental challenges in the Western Himalayan Region. The range of topics covered during the session was impressive and reflecting the multidisciplinary nature of environmental concerns. The presentations also showcased the urgency and complexity of the environmental challenges in the region, while also offering hope through innovative solutions and research efforts. Overall, the session was a resounding success.

### TECHNICAL SESSION-IV

The Technical Session-IV was chaired by Dr. Vinod Kumar and co-chaired by Prof. Monika Thakur started at 3:00pm with welcome speech made by Prof. Reeta Devi. She introduced the chairperson to the participants.



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- Prof Nivedita Pathak presented a review article on sacred Groves of Himachal Pradesh, India and reached the conclusion that groves are degrading with rapid urbanization and should be protected.
- Prof. Ghanshyam Arya and Prof. Surjeet Kumar Chandel worked on photocatalytic degradation of Rhodamine B (RhB) under solar light irradiation using ferroelectric catalyst towards environment sustainability. Their work proposed a new a new photocatalyst that could effectively degrade RhB.
- Virender Kumar presented his talk on Special Industrial incentive package and development of industrialization. He has used descriptive statistics ,chi square and factor analysis to justify the objectives of his study.
- Sumit explained the antirheumatic medicinal plants used traditionally by Gaddi Tribe of District Chamba HP of North West Himalayas. The local identification of the plants was done with the help of local informers ,regional floras, available literature and various nationally and internationally recognized Herbariums.
- Dr. Anju and Dr. Leena Sharma explained sports as a precursor to sustainable environment. Their study stressed that by preserving and protecting nature ,we can ensure that athletes have the necessary resources to pursue their dreams by being inspired by the beauty of natural world.
- Dr. Shalu Kanwar presented a talk on Gloriosa Superba a threatened medicinal plant of Himachal Pradesh; A review . Her study suggested that this plant is on the verge of extinction due to the excessive use of the plant for diverse medicinal purposes.
- Dr. Sarita Bansal presented a paper on Empowering women as key agents for sustainable development in the Himalayan region. Her study examined The challenges faced by women in Himalayan region and explores strategies for empowering women to drive sustainable development.
- Dr. Mala Sharma presented a paper on the effect of chemical pollutants on environment. Her findings explained how chemical pollution can affect animals and human beings.
- Dr. Dinesh Kumar Sharma presented a paper on Environment and Radioactivity. A case study for the health risk Assessments. His study was carried out for the measurement of radon gas in the dwellings located in Nurpur area of Kangra, Himachal Pradesh.
- Pooja Singh and Asha Sharma presented a paper on potential impact of Silicon Application on Sodium Accumulation and Plant Biomass in Wheat Plants under high salinity. They concluded that the supplementation of Si helps the plants to overcome the salinity and provides salt tolerance up to a great level under high salinity.
- Anushka Vijay Pathak presented a paper on resource usage, its environmental impact and Economic growth. His study investigated how economic growth ,environmental sustainability and resource use interact highlighting the difficulties, opportunities and potential solutions in striking a healthy balance.

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- At the end of the session Dr. Vinod Kumar, the chairperson of the session presented a vote of thanks to all the presenters.

### TECHNICAL SESSION-V:

The Technical Session V was chaired by Dr. Subhash Verma and Co-chaired by Prof. Shakti Chand. The session was moderated by Prof. Pooja and here Four poster and Four paper presentations were presented through online mode.

- Tanvi Verma and Swati Sharma Research scholar from Shoolini University of Life Sciences and Business Management made a poster presentation showing the ability some plants to make our environment clean by absorbing the air pollutants.
- Rishiraj Kaur Research Scholar from Centre of Advanced Study in Geology, Kumaun University, Nainital made a poster presentation on the topic entitled “Evaluation of the seasonal Fluctuation and Contamination levels of Iron in drinking ground water resources from the Philibhit District (U.P), India. In her poster she explained in a very informative way that how the level of iron changes in drinking ground water resources as the season changes.
- Aniketa Kumari Student of Shoolini University Solan explained about the impact of manmade disaster on the environment. She categorized disasters in six categories namely Chemical Explosion, Biological Disaster, Wild fire, Mining, Deforestation, Ground Water Poisoning and explained the causes and effects of these disasters on our environment in a very informative manner & she ended with the suggestions that can be done in order to conserve the natural environment.
- Dr. Rattan Lal, Associate Professor Political Science Govt. College Bassa (Gohar) Distt. Mandi (H.P), presented his research paper on the Topic “Role of National Green Tribunal in Environment Conservation in India: An analysis” in his research paper Dr. Rattan explained the various rules and regulations framed by NGT in India and how NGT is actively working to save our environment.
- Shakuntla, Associate Professor in department of Chemistry, Govt. College Bassa (Gohar) Distt. Mandi (H.P). Presented her paper on the role of NGT in the protection of our precious environment. She started with a quotation of Mahatma Gandhi “Earth provides enough to satisfy every man’s need, but not every man’s greed”. She gave a brief historical introduction of NGT than explained in a very knowledgeable way the NGT’s Role in environmental protection.
- Pearl Bakshi, faculty from Govt. Arya College Nurpur, made a powerpoint presentation of her research paper entitled “Challenges of sustainable development with special reference to Indian economy. She explained in her study that there are so many challenges in India’s path of sustainable development. Further she talked about depletion of natural resources due to rising population pressure, unemployment and poverty.
- Dr. Balbir Chand presented his paper on the topic “Indian Music, Culture and Environment”, in which he emphasized on the protection of the environment and told that we should make every effort to protect it by understanding the importance of our

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environment in this materialistic world. He also explained how Our forefathers used to worship every element of the environment like earth, fire, water, sky, air like gods and instructions have been given in the scriptures for their protection and protection. In the end, he ended his speech by saying that our environment plays a very important role in keeping healthy life on the earth and Indian culture plays an important and positive role in environmental protection.

- Sandeep Kumar, Research scholar Department of Botany, Baba Mastnath University Rohtak (Haryana), India. Made a poster presentation on the topic entitled “Amelioration of cadmium and Arsenic by exogenous Glycine Betaine Supplementation in wheat (*Triticum aestivum* L.) Cultivars”. In his study he made an experiment on the wheat cultivars in pot condition and concluded that In the areas where the crops of wheat are affected by heavy metals like Cadmium, Copper, Lead, Chromium and Arsenic, by the application of Glycine Bataine their tolerance to heavy metals can be improved. This can be beneficial to the areas where crops are more prone to heavy metal contamination.

### DAY-II (6<sup>TH</sup> JUNE 2023)

#### PLENARY SESSION-III

The first invited speaker of the Plenary Session-III was Dr. Vijay Kumar Thakur, SRUC, United Kingdom and delivered his lecture of the topic, “Integrated Approaches to Address Environmental Concerns and Climate Changes” though online mode. He said that as the impact of human activities on the environment becomes more evident, it is essential to adopt comprehensive strategies that tackle these challenges holistically. He categorically pointed out that there is one key aspect of integrated approaches is recognizing the interconnectedness of environmental issues. He elaborated that environmental concerns like deforestation, pollution and biodiversity loss are deeply intertwined with climate change. He stressed that we can develop more effective and sustainable solutions by understanding and addressing such issues collectively.



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The second invited speaker of the Plenary Session-III was Prof. (Dr.) Dinesh Chahal, Deptt. of Teacher Education, SOE Central University of Haryana. He joined this conference directly from South Africa through online mode. He talked about various Environmental concerns, issues and challenges related to the state and well-being of the natural environment. He elaborated that these concerns arise from various human activities and their impact on ecosystems, biodiversity, natural resources and the overall health of the planet. These environmental concerns require collective action and sustainable practices to mitigate their impacts and ensure a healthy and resilient planet for future generations. Governments, organizations and individuals all play a role in implementing measures to address these concerns, such as promoting renewable energy, sustainable land and resource management, conservation efforts and adopting eco-friendly practices in daily life.



### TECHNICAL SESSION-VI:

The technical session VI of two days international conference on Environmental Concerns, Climate change and resource management in the western Himalayas was started in the Chairpersonship of Dr. Krishan Lal and Co-chairship of Dr. Manju Kumari. Moderator Dr. Shivani welcomed the chairperson, co-chair and all the participants. She introduced chairperson and co- chair to the participants.

- First presentation was given by Mini Sharma who discussed about pomegranate peel, its extraction, degradation and utilization of functional components. Second presenter Dr. Sanjay Kumar discussed about plastic waste production, consumption and emphasized on the need of plastic waste management.
- Dr. Subhash Verma gave his talk on interdependence of man and nature: An Ecocritical reading of Temsula Ao's Selected Poems and how Temsula Ao's poems reveal destruction of the harmonious inter-relation of human and nature by modernization, emphasizing the nature supervisory to humans.
- Dr. Raj Kumar highlighted sustainable land management practices like afforestation, reforestation and comprehensive strategies for effective climate change mitigation.

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- Dr. Vinod Kumar talked about climate change and various strategies about biodiversity conservation.
- Prof. Pooja discussed impact of xenoestrogen on aquatic life and human health.
- Prof. Provinder Kumar talked about positive and negative impacts of E-Commerce on environment.
- Prof. Prity Sharma discussed about parameters including population growth responsible for degradation of natural resources.
- Prof. Monika reviewed about role of women in biodiversity conservation taking into account of their proximity to the environment.
- It was followed by talks of Prof. Pushpender Singh, Dr. Vikrant Saklani, Prof. Ashok Kumar Pathania, Prof. Kamlesh Kumar Prasher and Dr. Naresh Kumar Chandel on various environmental concerns.

Co-chair Dr. Manju proposed the vote of thanks to chairperson and participants on the behalf of organizing committee of RNTGC Sarkaghat.

### TECHNICAL SESSION-VII:

The Technical Session-VII was chaired by Dr. Rajan Sharma and Co-chaired by Prof. Seema Sharma. The session was moderated by Dr. Naveen Sharma and he started the session with a warm welcome of Dr. Rajan Sharma (currently working in Khalsa College) the chairperson of the 2nd day of Two-Day International Conference on Environmental Concerns, climate change and Resource Management in the western Himalayas. Fifteen papers were presented through virtual mode where:

- Dr. P. L. Bhatia presented paper on 'Reducing the use of Plastic Produce is the Need of Hour: An Analysis'. The focus of this paper was on the preventive measures that could be taken to reduce the impact of plastic produce. P. L Bhatia suggested that the use of jute, public awareness will make a huge difference.
- Gurinder Singh and Deepali Bakshi presented a paper on 'Impact of Climate Change on Rice Crop: Adaptation Strategies For Farmers'. Highlighted that how the climate shifts disrupt the crucial stages of rice farming, poor grain quality and an increased incidence of pests. They suggested that rice intensification and alternate wetting could be used to reduce the impact of climate change on rice crop.
- Satish Kumar made a presentation on 'Green House Gases and Global climate- An overview' He attempted to highlight the nature of greenhouses gases that it is playing in global climate. He also explained the implication caused by an excessive green house gases released through human activity.
- Darshan Singh highlighted in his research 'Environmental concerns in the Folk Songs of Uttarakhand' the messages which Garhwali and Kumaoni language songs gave. He said that the most popular new additions to Uttarakhandi culture included social issues, like women empowerment, castism etc. The Uttarakhandi folk music also gaining popularity in culture and the folk songs highlighted the environmental concern.

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- Rekha Devi presented her paper on 'A review of Impacts of Climate Change and Environmental Degradation on Natural Resources and Human Beings'. She explained the Sustainable development is majorly threatened by environmental, social and economic factors. As the sustainable development is dependent on the above mentioned factors thus she suggested that the government policies and their impact on the economy could reduce these threats.
- Rakesh Kumar and Rajinder Kashyap presented a paper on 'Low Temperature Large Scale Synthesis of Novel  $\text{CO}_3\text{O}_4$ -ZnO Heterostructure Nanomaterial for Enhanced Photocatalytic and Chemical Sensing Properties'. Their study confirmed the presence of  $\text{CO}_3\text{O}_4$ -ZnO. Further they also investigated the Photocatalytic and sensing capabilities .
- Dr Sapana Kumari in her paper 'Climate Change Due to Emission of Green House Gases' discussed green-house effect, the gases responsible for green house effect, disastrous effects of green house effect, global warming and climate change and also stated the preventive measures for the reduction of green house gases like reduce, reuse and recycle in addition to afforestation and deforestation.
- Dr Shivraj Singh from D.S.M. Degree College, Muradabad UP, highlighted the social and economic impact on environment. He raised an important concern about the waste which will come from solar panel after approximately fifteen years when they became obsolete. So he suggested that we should plan in advance of its disposal.
- Deepika and Dr. Manohar Lal in their study 'Sustainable Development in India- A Critical Appraisal' reviewed the Sustainable development initiatives India where they concluded that by identifying the SDG's of gender equality, reduction in inequality, peace and justice and responsible consumption and production as the most promising niches for future research in the area of sustainable development.
- Chanchal and Vijay Kumar in their research 'FPOs: A Beacon of Hope for Farmers with Limited Resources' stated that it is still difficult to successfully develop and run FPOs. They highlighted that if business planning is executed properly then FPOs based extension technique could produce excellent results.
- Dr Diljeet Singh in the research 'The Menace of Plastic Pollution Around Tourist Places Of Himachal Pradesh' suggested few suggestive measures such as awareness of people about harmful toxins effects of plastic, education of students at institutional level, involvement of road making and landfills, sufficient installation of dustbins and waste containers to reduce the impact of pollution.
- Prem Jeet 'Conservation of Biodiversity and Sustainable Development: An Overview' highlighted that by preserving species through restoration of degraded habitats to their natural state is the need of the hour. For conserving biodiversity and sustainable development everyone needed to put their effort which require participation of people.
- Suneel Kumar in his research 'Role of Semiconductor based Photocatalysis for Environmental Remediation Applications' highlighted the recent advancement in the

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field of water purification technology where the importance of semi-conductor-based material plays an important role. This paper also highlighted the techniques like sol-gel method, hydrothermal synthesis, radiation assisted method which could be utilized for the development of semiconductor based nano materials.

- Dr. Mohinder Kumar in his research 'Impact of Green House Gases on Climate Change and Emission Reduction Measures' highlighted that to reduce the impact of green house gases the stringent action must be taken from government and he also gave emphasis on the promotion of renewable energy consumption.

This session was ended with a vote of thanks by Dr. Naveen Sharma.

### TECHNICAL SESSION-VIII:

The Technical Session-VIII was commenced virtually in BCA Lab at 11:00 am. This session was chaired and co-chaired by Dr. Rajiv Rana and Dr. Arun Sharma as well as moderated by Dr. Jai Kiran. In this technical Session, the presenters who were technically assisted by Prof. Santosh Kumar presented their diverse abstracts on the issue of environment. The main presenters were as follows.

- Dr Shelley Banyal presented a paper on The Impact of Highway Expansions on Floristic Diversity along National Highway NH 22 in Himachal Pradesh.
- Dr. Rajesh Kumar presented an abstract having the title Study of Atmospheric Aerosol Effects on Climate Change and Socio-Economic Status of Farmers in Balh Block of District Mandi of Himachal Pradesh.
- Dr. Vinay Kumar stated examining the Impact of Global Warming and Climate Change on Biodiversity.
- Dr. Shashi B Rana read a paper on Biodiversity Conservation through Sacred grove in Himachal Pradesh.
- Dr. Shalu Kanwar and Ashwani Kumar Mandhotra made an attempt on the topic Lantana Camara L, An invasive Noxious Weed Species, its Ecological and Economic Aspect with respect to India.
- Dr. Laxmi Versain and Shefali Chander discussed the Changes in climatic Patterns in Himachal Pradesh : A Need of Sustainable Approaches for Better Future.
- Dr. Raj Kumar Gupta made an attempt on the abstract titled An Analysis of Environmental Judgments: Observations on the National Green Tribunal of India.
- Nisha Kumari spoke on the topic Harmful Effects of Plastic Waste.
- Dr. Dipti Sharma presented an abstract on Socio-Economic Prospects of Resource Use and its Impact on Environment.

This session was very informative as it consisted of the views of different presenters as to how the environment can be saved from diverse dangers and negative effects of chemicals on it. The session ended with a vote of thanks by Dr. Jai Kiran.

### TECHNICAL SESSION-IX:

The Technical Session-IX was carried out on virtual mode from 11:45am to 1:15pm under the chairpersonship of Dr. Gulshan Kumar, co-chairperson Prof. Rekha Kumari, moderator Prof Lata Thakur and technical assistant Prof. Reena Thakur.

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- Ms. Sujata Dey talked about meta-economic assessment of plastisphere. The collection of plastic waste was done from different area. She emphasized on to provide scientific approaches for the investigation of plastisphere to emphasize comprehensive taxonomic identification and assessment of functional genes.
- Dr. Sunita Saklani talked about the drastic changes taking place in climate.
- Dr. Ramesh Chand talked about the effect of green house gases on climate change. The green house gases lead to global warming and climate change.
- Dr. Anjana described the existence of all physical substances with the vision of Vedas. The knowledge of Vedic science to provide the touch of environment in all aspects.
- Dr. Ashit Puri discussed the various methods and strategies to handle the plastic waste in the hospitality industries The hospitality industries should be well maintained.
- Rchi Sangal talked about socio-economic of agriculture waste.
- Dr Reena Sharma talked about the plastic waste in Himachal Pradesh. The use plastic waste is 80% which needs a proper plastic waste management. Broadly ,the plastic is of two types ,one is thermoplastic and thermosets. The basic mitigation step is refuse, reduce, remind, recycle and reuse can be helpful.
- Dr. Kanta Chauhan talked about the destruction brought about by natural calamities and their effect on the diversity of Himalaya. 15% glaciers are melting on high pace. In this context the disaster management plays vital role.
- Dr. Vijay Kumar stressed on the role of agriculture credit in agriculture sector .Agriculture is the basic need of human life. 68% population depend on agriculture directly or indirectly. The Reserve Bank of India Act, 1934 put a milestone which provides loans to agriculture sector.

### TECHNICAL SESSION-X:

The Technical Session-X was chaired by Dr, Sanjay Kumar and co-chaired by Dr. Jai Kiran as well as moderated and technical assisted by Dr. Banita and Preeti Sharma respectively. This session started in Room No. 1 of Administration Floor at 12:45pm. In this session 15 presentations were made on different fields concerning chemical pollution , disaster risk and water disposal & treatment .The main presenters were as follows:

- Dr. Naisergik Deepika Khana commented on the topic Developing Derivative UV-Visible Spectrophotometric methods for heavy metals absorption from the polluted water by apple residues.
- Dr. Purnima spoke on the topic “ Role of National Green Tribunal for Enforcing Environmental Law.”
- Dr. Nek Ram threw light on the topic “ Disaster Risk Vulnerability during Monsoon Season in Himachal Pradesh.”
- Dr. Nishu Sharma presented an abstract on “Sustainability of Tourism Development : A Case Study of Himachal Pradesh.



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- Dr. Aarti Sharma and Dr. Atul made an attempt to focus on the topic Green Audit of Higher Education Institutions for identifying Challenges and finding solutions to mitigate the effects of their activities on climate change.
- Dr. Mahesh Kumar presented an abstract on The Socio-Economic Implications of Water Resource Management in The Western Himalayas.
- Dr. Poonam Sharma presented an abstract on The Impact of Chemical Pollutants on the Environment.
- Dr. Rakesh Kumar presented an abstract on the topic Waste Disposal and Water Treatment using Algae.

### TECHNICAL SESSION-XI:

The Technical Session-XI was started at 11:30 am with the welcome speech made by Dr. Subhash Verma who introduced the chairperson Prof. Sanya Kumari and, co-chairperson Dr. Shavnam for the session. The participants shared their views on the environmental issues.

- Dr. Anjana Kumari spoke on the waste water treatment through Root Zone Technology.
- Dr. Hem Suman Jamwal presented a paper on the topic “Impact of Toxic Waste on Environment. He told that the chemical waste being very toxic has a negative impact both on human life and the environment.
- Dr. Suresh Chaudhary presented a paper on the topic on the climate change.
- Prof. Sunny Sharma presented a paper on vulnerability to natural hazards in district Chamba of Himachal Pradesh.
- Dr. Ranbir Chaudhary and Manju Bala from HPU Shimla jointly presented a paper on “ Climate Change in Himalayan Region and Its Impact on Seasonal Crops”
- Dr. Kultaran from Govt. College Bhoranj discussed her topic on Significance of Mathematics in Environment.
- Prof. Sardari Lal threw light on his topic on Exploring the Potential of Natural Resources for sustainable development of backwardness in District Chamba of Himachal Pradesh.
- Prof. Bhavna Kumari and Neeraj Kaushal jointly discussed the topic on Textile Waste.
- The session ended with a vote of thanks by Dr. Sanya Kumari.

### Technical Session XII

The technical session XII commenced under the chairpersonship of Prof. Raj Kumar and co-chairperson Prof. Anita Sharma Moderator Prof Rakesh Kumar.

- Prof. Krishan Lal made his presentation on the topic Habitant Destruction in Himachal Pradesh: An Overview.
- Reeta Devi Assistant Professor of Hindi presented her topic Public Awareness in Environmental Issues.
- Dr. Arun Sharma made his representation on the topic “ Sustaining the Natural Resources for Future Generations: A Case of Himachal Pradesh in Western Himalayan Region.

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- Pankaj Thakur threw light on his topic “ Green Growth : A Way to Sustainable Development whereas Suneel Kumar Assistant Professor of English discussed the Ecological Conflicts in the Novels of Amitabh Ghose.
- Dr. Ramesh Chand highlighted the main causes and repercussions of the Uttarakhand tragedy which resulted in the complete devastation of the Kedarnath Valley in June 2013. The primary goal of this study was to learn useful lessons from such disastrous catastrophe in order to prevent similar events in the Himalayan Region in the future.

### TECHNICAL SESSION-XIII:

Technical Session-XIII started at 12:45 Pm on 06-06-2023 in Conference Room and was chaired by Dr. Provinder Kumar and Co-chaired by Dr. Anita Kumari. The session was conducted online with the active support on Moderator, Prof. Vishal Kumar and Technical Assistant, Sh. Dinesh Patyal. The session featured presentations covering diverse topics related to environmental issues, climate change impacts and sustainable development.

- History of Indian Philosophical Thought Regarding Environment Conservation and Human Development: Pankaj Sharma from the Department of History, Govt College Jhandutta and Amit Kumar from the Department of Commerce, Govt College Jhandutta, presented on the historical perspective of Indian philosophical thought on environment conservation and human development. The presentation highlighted the cultural values and teachings that promote environmental stewardship.
- Measurement of Financial Cost to Indian Climate due to Covid-19 Pandemic: Renu Nagar, an Assistant Professor from the Department of ABST at the University of Rajasthan, discussed the financial cost of the Indian climate due to the Covid-19 pandemic. The presentation focused on evaluating the economic implications and consequences of the pandemic on climate-related aspects.
- Trace Element Chemistry of Major Lakes in and Around Nainital City: Nirmal Sah and Rajeev Upadhyay from the Department of Geology and Center of Advanced Study, D.S.B Campus, Kumaun University Nainital, presented on the trace element chemistry of major lakes in and around Nainital City. The session provided insights into the composition and potential impacts of trace elements on the aquatic ecosystem.
- Seasonal Biomass Fluctuation in the Alpine Pastures of Mandi District: Akshay Kumar from the Himalayan Forest Research Institute and Kamlesh Kumar Prashar from R.N.T. Government Degree College, Sarkaghat, discussed the seasonal biomass fluctuation in the alpine pastures of Mandi District. The presentation focused on understanding the dynamics of biomass in high-altitude grazing lands.
- The Perils of Chemical Pollutants on Environment: Seema Ohri, an Associate Professor in English from Govt Arya Degree College, Nurpur, highlighted the dangers posed by chemical pollutants on the environment. The presentation addressed the adverse effects of chemical contaminants and emphasized the importance of adopting sustainable practices to mitigate pollution.

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- Paperless Work Culture as a Boon for Environment and Economy: Dr. Bhumander Singh Jaswal, an Assistant Professor in Commerce from Govt. P. G. College Bilaspur, presented on the analysis of paperless work culture as a boon for the environment and the economy. The session discussed the advantages and challenges of transitioning to paperless systems.
- Effect of Climate Change on Forests: Nisha Devi from Dr. Sarvepalli Radhakrishnan Govt. Degree College Dharampur, Mandi, focused on the effects of climate change on forests. The presentation highlighted the impacts of changing climate patterns on forest ecosystems and the need for conservation measures.
- Nitric Oxide Mitigates Drought Stress in Barley: Sakshi Saini and Asha Sharma from the Department of Botany, Maharshi Dayanand University, Rohtak, discussed the role of nitric oxide in mitigating drought stress in barley plants. The presentation explored the modulation of reactive oxygen species and antioxidant machinery as a response to stress.
- Analysis of India's Top Corporate Social Responsibility Contributing Companies: Kanchana Devi, a PhD Research Scholar from Career Point University Kota, presented an analysis of India's top corporate social responsibility (CSR) contributing companies and their contributions towards environmental sustainability. The session focused on highlighting the CSR initiatives and their impact on environmental conservation.
- Chemical Pollutants: Issues, Challenges and Possible Solutions: Rohini Rana, Leena Sharma and Anju, faculty members from different disciplines, presented on the arising issues, challenges and possible solutions related to chemical pollutants. The session provided insights into the environmental impact of chemical contaminants and proposed strategies for addressing the challenges.
- Impact of 24-Epibrassinolide on Rice Seedlings under Salt Stress: Vikram Kumar and Asha Sharma from the Department of Botany, Maharshi Dayanand University, discussed the impact of 24-epibrassinolide on germination and early seedling growth of rice under chloride-dominated salt stress conditions. The presentation highlighted the potential of plant growth regulators in mitigating salt stress.
- Barriers and Strategies to Boost Soil Carbon Sequestration: Shradha Ahluwalia, Riya Rani and Anshu Soni from Dr. Y. S. Parmar University, College of Horticulture & Forestry, Nauni, Solan, focused on the barriers and strategies to boost soil carbon sequestration. The session explored approaches to enhance soil carbon storage and improve agricultural sustainability.
- Green Chemistry and Sustainable Development: Vijay Kumar from Govt. College Bilaspur presented on green chemistry and its role in promoting sustainable development. The session discussed the principles of green chemistry and their application in reducing environmental impacts associated with chemical processes.
- Traditional Practices of Gaddi Tribe of Chamba: Ashish Kumar, an Assistant Professor of History from Govt. Degree College Chowari, Distt. Chamba, shared insights into the traditional practices of the Gaddi tribe of Chamba and their

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contribution to sustainable development. The session highlighted indigenous knowledge and sustainable practices.

- Impacts of Open Burning of Sugarcane Trash on Soil Quality: Prashant Ravish and Smita Chaudhry from the Institute of Environmental Studies, Kurukshetra University, presented on the impacts of open burning of sugarcane trash on soil quality in the northern Haryana region. The session focused on understanding the effects of agricultural practices on soil health.
- Elucidating role of Glycine betaine to Mitigate the Lead toxicity in Barley Genotype by modulating antioxidant machinery: Jyoti Sharma and Asha Sharma, Department of Botany, Maharshi Dayanand University, Rohtak, Haryana presented on the foliar application of Glycine betaine to successfully ameliorate the lead toxicity.

Technical Session-XIII of the conference featured an array of presentations covering diverse topics related to environmental concerns, climate change and resource management. The sessions provided valuable insights into historical perspectives, financial costs, trace element chemistry, biomass fluctuation, chemical pollutants, sustainable practices, climate change impacts and more. The collective knowledge shared during this session contributes to a deeper understanding of the challenges and potential solutions for environmental conservation and sustainable development in the Western Himalayas.

### VALEDICTORY SESSION:

On 6<sup>th</sup> June 2023 after the lunch break, the valedictory session started at 3.15 pm. The Chief Guest of the occasion was Prof. KDS Bedi, Hon'ble Vice-President, Chitkara University Punjab. Dr. Arun Sharma welcomed the Chief Guest and all the dignitaries present on the occasion and joined the conference through virtual mode from all over the world. Chief Guest and other dignitaries were pinned up rosettes. Dr. R.R. Kondal, Principal and Dr. Ramesh Chand, Convener honoured the Chief Guest by presenting cap, shawl and memento.

Dr. Arun Sharma introduced the chief guest and apprised the august audience that Prof. KDS Bedi is currently the Vice-President at Chitkara University, Punjab and also the founding Director-Principal of Chitkara College of Sales & Marketing. He is currently pursuing super-specialization in best practices for Training & Development-A research and delivery excellence module from ISTD which is recognized by Government of India, Ministry of Education. He as an expert on soft skill and



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behavioral & sales trainer and has a glorious history of contributing in the field of training and development across diverse disciplines.



### WELCOME ADDRESS BY THE CONVENER:

Dr. Ramesh Chand, Convener of the Conference extend a warm welcome to the esteemed chief guest of the valedictory session Prof. KDS Bedi, Hon'ble Vice President Chitkara University, Punjab. He feels extremely proud and honored to have such a distinguished personality on this occasion.

He said that our chief guest holds a prominent position in his field, exemplifying quality, leadership and an unwavering dedication to the advancement of knowledge and innovation. His contributions have left an indelible imprint on his domain and have motivated numerous individuals to pursue new heights.

He congratulated everyone to have the opportunity to hear from such a distinguished personality, who share his insights, experiences and wisdom with all of us.



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Convener assured that his address proved to be a source of inspiration, offering valuable perspectives and guidance that will undoubtedly shape the way we approach our work and aspirations. On behalf of the entire conference organising committee, the convener expressed his heartfelt appreciation to the esteemed chief guest for accepting the invitation and gracing the occasion.

### PRESENTATION OF THE CONFERENCE REPORT:

Dr. Subhash Verma, Organising Secretary, presented the detailed report of the conference. The conference was applauded for III Plenary and XIII Technical Sessions. This conference made the academic fraternity richer with the additional literature in the form of scholarly works on the subject. This event offered opportunities to the participating audience to interact with academicians, experts, scholars and activists from all over the world who deliberated upon and covered topics around the issues of environmental identities and its perception in mass media.



This two-day conference consists of incisive and insightful discussion on the very facets of the environmental concerns, climate change in the western Himalayas.

The views expressed and explored on this platform by the resource persons and paper presenters brooded over the issues made the audience rethink the environmental concerns, climate change and resource management in the western Himalayas and how it does cling on in our daily life.

The conference attributes its success to the able guidance and motivation, inspiration of Dr. R.R. Kondal, Principal; Dr. Ramesh Chand, Convener and blended arduous efforts put in by the entire IQAC team of Rabindranath Tagore Govt. Degree College Sarkaghat, Distt. Mandi (H.P.).

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### ADDRESS BY THE CHIEF GUEST:

Prof. KDS Bedi, the Hon'ble Vice-President of Chitkara University, Punjab, graced the Valedictory Session as the esteemed Chief Guest. He commended the organizing committee for arranging the International Conference on the crucial theme of "Environmental Concerns, Climate Change and Resource Management in the Western Himalayas." Prof. Bedi emphasized the fact that we only have one Earth to inhabit. However, it is regrettable to observe widespread neglect in environmental preservation. The unfortunate consequence is that the environment in major cities has become highly polluted. Consequently, individuals are compelled to sell their residences and migrate to hilly and mountainous areas in pursuit of fresh and clean air, water and a healthier environment.

Prof. Bedi shared that he has been visiting different areas of Himachal Pradesh for many years and has personally observed the widespread effects of climate change even in this mountainous region. Moreover, the Western Himalayan Region, known for its scenic beauty, is no longer untouched and has suffered from pollution due to the influx of tourists from around the world. Tourists are attracted to the mesmerizing hilly terrains and splendid valleys of the Himalayan region. While they spend a few unforgettable days, they unintentionally leave behind non-biodegradable waste, polluting the environment. The excessive use of single-use plastic is particularly detrimental to the pristine environment of the hilly region. Additionally, the crystal-clear water in the rivers is becoming contaminated with plastic waste.

Prof. Bedi urged scholars, researchers, academicians and industry professionals to raise their voices and take action against the use of single-use plastic. By doing so, they can make a small but significant contribution towards saving the environment.

### PRESENTATION CEREMONY:

During the Two-Day mega event, certificates of honour were bestowed upon all the presenters who delivered their papers in person. Prof. KDS Bedi, the esteemed Chief Guest, had the pleasure of presenting the certificates, assisted by Dr. R.R. Kondal, Principal; Dr. Ramesh Chand, Convener; Prof. Tej Singh Verma, Co-Convener and Dr. Subhash Verma, Organising Secretary.



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### VOTE OF THANKS:

Dr. Vinod Kumar, the Organizing Secretary, expressed his gratitude by presenting the vote of thanks to the Hon'ble Chief Guest, all the dignitaries and both the physical and virtual participants of the conference. He extended his appreciation to the entire college fraternity for their relentless efforts in ensuring the immense success of the International Conference.

Dr. Vinod Kumar also expressed his gratitude to the media personnel for providing extensive coverage of the conference through their channels and print media, which helped in reaching a wider audience. He acknowledged and applauded the contributions of all those individuals who dedicated their best efforts to the seamless organization of the conference.

Furthermore, Dr. Vinod Kumar expressed his gratitude to all the sponsors for their valuable support and well wishes throughout the event.

