

**10th International Conference
On
Recent Advances in Agriculture, Engineering, Applied
& Life Sciences for Environmental Sustainability
(RAAEALSES-2024)**

20-22 September, 2024

Venue: Auditorium, Uttarakhand University, Dehradun, Uttarakhand, India

Organized by



School of Applied and Life Sciences & School of Agriculture,
Uttarakhand University, Dehradun, Uttarakhand, India
(www.uudoon.in)



Agro Environmental Development Society (AEDS)
Majhra Ghat, Rampur, U.P., India
(Registered under the Society Registration Act XXI, 1860)
(www.aedsi.org)

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Our Previous/Current Collaboration



ગુજરાત કેન્દ્રીય વિશ્વવિદ્યાલય
CENTRAL UNIVERSITY OF GUJARAT



Weather of Dehradun

Weather of Dehradun during the conference (September) will be very pleasant and enjoyable due to average day and night temperature range from 26-27°C and 17-18°C, respectively.

About Uttaranchal University (UU)

Uttaranchal University (UU) has established in 2013 under sections 2(f) and 12 (B) of the UGC Act, 1956. UU has lush green campus with the all-luxurious amenities for students, researchers, teaching and non-teaching staff. The University got various awards for the outstanding contribution in the field of teaching and research. The University is promoted by Sushila Devi Centre for Professional Studies & Research, a society registered under the Societies Registration Act (1860). The University has been accredited with the prestigious “A+ Grade” by the National Assessment and Accreditation Council (NAAC). Uttaranchal University has become the first university in the State of Uttarakhand to receive NAAC A+ Grade in the first cycle of Accreditation, thus creating a history. This firmly positions the University among the top 5% HEIs of the nation. The university is undeterred in its mission to provide the best experience to all its students whether regional, national or international, through quality teaching, investing in research and innovation, and inculcating the essence of the above Sanskrit Shloka in its students. UU offers UG, PG and Ph.D. course in Engineering, Management, Law Pharmaceutical Sciences, Applied & Life Sciences, Agriculture, Liberal Arts, Nursing, Computer Applications, Hotel & Hospitality Management and Paramedical Science.

About the Agro Environmental Development Society (AEDS)

The Agro Environmental Development Society (AEDS) is an agricultural development organization, registered under the society registration act 21, 1960 and the NITI Aayog Gov. of India, dedicated to promoting sustainable agricultural practices and fostering environmental conservation. The AEDS has since become a leading force in rural development, working tirelessly to uplift the lives of farmers and rural communities while safeguarding the delicate balance of the environment. One of the primary objectives of AEDS is to empower farmers by providing them with the necessary knowledge and resources to adopt sustainable agricultural practices. Through workshops,

training sessions, and field demonstrations, AEDS educates farmers about the latest advancements in agricultural techniques, such as organic farming, integrated pest management, and water-efficient irrigation methods. By encouraging the use of eco-friendly alternatives to conventional farming practices, the organization aims to improve crop yields, reduce production costs, and enhance the overall livelihoods of farmers. The AEDS is also committed to explore the scientific development across the world and has taken initiative to provide a platform to the scientists, researcher, policy makers and scholars to solve and discuss various issues relating to agricultural and environmental development. AEDS had organized first international conference at Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad, Uttar Pradesh, India in association with Pondicherry Institute of Agricultural Sciences (PIAS), Pondicherry and Centre for Environment & Agricultural Development (CEAD), Pondicherry on November 27-29, 2018 and became a great success with an impressive turnout of around 800 participants from all around the country along with the foreign delegates. The 2nd International Conference was held at Dr. Y.S. Parmar University of Horticulture and Forestry, Solan, Himachal Pradesh on September 27-29, 2019. On this occasion, nearly 900 participants (Scientists, Academicians, Industries Person and Students) were participated globally. The AEDS also conducted various International Conference via virtual mode in collaboration with National and International universities during the global pandemic of COVID-19. In the previous years, the society organized various 21 days National Training Course in collaboration with Central Sericultural Research & Training Institute (CSRTI), Mysore, National Bank for Agriculture and Rural Development (NABARD), Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh), Central Tasar Research and Training Institute, Central Silk Board, Govt. of India, Ranchi, Jharkhand, India, College of Horticulture and Forestry, Central Agricultural University Pasighat-Arunachal Pradesh and Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu. The most commendable International Conference has been organized recently by the AEDS in joint collaboration with Department & Directorate of Extension Education Uttar Banga Krishi Vishwavidyalaya, Pundibari, West Bengal, ICAR- National Agricultural Higher Education Project (NAHEP) at Kalimpong Science Centre, Deolo, Darjeeling, W.B. The AEDS recently organized one more successful international conference at Kumaun University, Nainital, Uttarakhand during March 01-03, 2024. Till now Society has organized total 9 International Conference and 6 National Training Cum Certificate Course in collaboration Central/State Agricultural University and other government institutions. Furthermore, the Society continuously working for the welfare of rural and land less community of the country and also making people aware for sustainable and profitable agriculture.

About the 10th International Conference (RAATEBES-2024)

Recent advances in agriculture, engineering, and applied and life sciences have significantly contributed to environmental sustainability. In agriculture, precision farming using drones, soil sensors, and genetically modified drought-resistant crops optimizes resource use and enhances crop resilience. Engineering innovations include green building technologies, electric vehicles, smart grids, and advanced water management systems, all aimed at reducing energy consumption and carbon footprints. Applied and life sciences have made strides in bio remediation, using microbes and plants to detoxify environments, and in developing renewable energy sources like biofuels and more efficient solar and wind technologies. Additionally, climate change mitigation efforts such as carbon capture and storage, along with climate-resilient agricultural practices, are pivotal in addressing global environmental challenges. This conference will also bring out the significance of the Climate Resilient Agriculture, Horticulture, Animal Husbandry, Fisheries, Dairy Science and Natural Resource

Management and Sustainable Hill farming for Livelihood Security for sustainable development and food security as forests support sustainable agriculture by stabilizing soils and climate, regulating water flow, providing shade and shelter and providing a habitat for pollinators and natural predators of agricultural pests and when integrated judiciously into agricultural landscapes, trees can increase agricultural productivity. The broad scope of sustainable development suggests that virtually any social, economic or environmental process or challenge amenable to scientific understanding may potentially be relevant. Emergence, meanwhile, could signify the novelty or intensification of some of those issues, fresh understanding of their causes or consequences, the development of new management options, or the identification of issues that have gone previously unrecognized. Therefore, the present international conference **“Recent Advances in Agriculture, Engineering, Applied & Life Sciences for Environmental Sustainability (RAAEALSES-2024)”** provides a forum to discuss such emerging issues and advances in the areas of agriculture, engineering, and applied and life sciences to promote the sustainable development of our society. The international conference will be a best amalgamation of eminent scientists, researchers, scholars, and students who will share the latest developments in the relevant fields to promote the sustainable development.

Themes and Subthemes of the Conference :

1. Recent Advances in Agriculture, Horticulture Animal Husbandry, Fisheries and Allied Sciences

- Agriculture Resource Management: Frontier aspects in agricultural waste management for environmental sustainability
- Livelihood security in agriculture and allied sectors
- Sustainable development through sericulture
- Opportunities of entrepreneurship in horticulture and allied fields
- Advances in animal husbandry and allied fields
- Livelihood security with dairy farming
- Emerging employment in fisheries sector for sustainable development
- Current approaches in animal husbandry for increasing livelihood security
- Climate smart agriculture systems: Transforming food systems under a changing climate'
- Sustainable rural livelihood systems and doubling farmers income through the innovative strategies
- Horticulture as growth engine of farming sector and recent advances in horticulture and allied sciences
- Crop production technology and precision agriculture
- Soil health management and conservation of natural resources
- Integrated management of nutrient with special emphasis to micronutrient
- Eco-friendly management of conventional and newly emerging plant disease and insect pests
- Applied aspects of soil and agricultural microbiology
- Recent advances in dairy, food Science and technology
- Business and marketing in the agricultural sector for increasing livelihood
- Agriculture engineering, soil and water conservation, and food processing
- Recent advances in fisheries and allied sciences
- Emerging and applied aspect of plant and animal sciences in developmental biology
- Application of biotechnology, bioinformatics, enzymology, gene mapping, genetic engineering, molecular and cellular biology, for the development of science and technology

- Importance of medicinal and aromatic plants in the pharmaceutical sector
- Bioresources and technologies used for biofuel production
- Microbial ecology and diversity in different habitats
- Cultivation of useful microbes for agro-environmental sustainability

2. Natural Resource Management and Sustainable Hill farming for Livelihood Security

- Sustainable hill farming for livelihood security
- Management of land, water and human resources for sustainable agriculture, horticulture and forestry
- Climate change adaptation and mitigation strategies for hilly areas
- Diversification and integrated farming system for sustainability and their socio-economic implications
- Bio industrial waste and contaminated soils management and community participation Indigenous traditional knowledge
- Forest protection and management
- Finding synergies between forestry, agriculture, water and energy
- The role of urban forests in fuelling and feeding cities and providing environmental and social services
- Integrating forests and other land uses
- Forest landscape management
- Aquatic bio-diversity conservation and its management
- Livelihood opportunities and security in fish farming and allied sector
- Climate change adaptation and mitigation strategies for hilly areas
- Diversification and integrated farming system for sustainability and their socio-economic implications
- Bio industrial waste and contaminated soils management and community participation
- Indigenous traditional knowledge

3. Climate Resilient Agriculture

- Ecosystem based approaches for climate change adaptation, ecosystem services, integrated farming system models and Land degradation neutrality
- Emerging approaches for biotic and abiotic stress management through big data analytics, precision farming, remote sensing, drone technology, AI, ML, Nanotechnology, modeling
- Sustainable soil management, conservation agriculture, organic farming, INM, soil-microorganisms-plant interactions
- Resilience through land and water management interventions, water management and governance

4. Emerging Issues in Environmental Management

- Frontier aspects in biotic and abiotic stress management
- Aquatic pollution due to industrial waste, problems and mitigation strategies
- Environmental development and biodiversity conservation
- Earth science, land use change, and management
- Advances in environmental microbiology and environmental engineering
- Climate change and its effect on environmental ecology and mitigation strategies
- Environmental chemistry, toxicology, health hazards and solution
- Environmental pollution and management
- Bioremediation of contaminated sites through innovative approaches
- Nanotechnology in water and wastewater treatment Biomedical engineering

5. Recent Advances in Engineering Sciences

- Aerospace Engineering.
- Civil Engineering.
- Electrical Engineering.
- Manufacturing Engineering.
- Measurement and Instrumentation
- Biomedical engineering
- Environmental engineering
- Robotics
- Water resources engineering
- Geotechnical engineering
- Mechanical engineering
- Transportation engineering
- Architectural engineering
- Chemical engineering

6. Recent Advances in Applied and Life Sciences

- Emerging and applied aspect of plant and animal sciences in developmental biology
- Application of biotechnology, bioinformatics, enzymology, gene mapping, genetic engineering, molecular and cellular biology, for the development of science and technology
- Applied aspects of microbiology in food, medical, industrial, agricultural and environmental development
- Importance of medicinal and aromatic plants in the pharmaceutical sector
- Bioresources and technologies used for biofuel production
- Applied aspects of microbiology in food, medical, industrial, agricultural and environmental development
- Microbial ecology and diversity in different habitats
- Cultivation of useful microbes for agro-environmental sustainability
- Applied aspects medical and pharmaceutical science in public healthcare
- Application of multi disciplinary knowledge in field of biomedical sciences
- Synthesis and biological screening of synthetic compounds and natural products for discovery of new drug
- Application of intellectual property rights (IPR) in science and technology
- Frontier aspects in computational biology for metagenomics analysis
- Advances in materials science, engineering, and technology
- Applied aspects in pharmacy, chemistry, physics, statistics and nano-science and nano-technology
- Innovative approaches in computer science, mechanical, and electrical engineering
- Role of the computer in the development of bioinformatics and biotechnology

Awards and Honors

Interested candidates are requested to submit their details and updated CV or duly filed award Nomination (Nomination form may be downloaded from society website at www.aedsi.org) to claim the respective awards (listed below) through e-mail to aedsi2020@gmail.com on or before 04 September, 2024. Society contribution for life members INR-4000/- & lifetime membership fee for Non-Members INR-5000/- can be paid by NEFT/Net Banking/ Mobile banking/Online/banking app, Phone pay, Google pay etc. in favor of “Agro Environmental Development Society” payable at Saifni (State Bank of India, Account No. 37836254237, IFSC Code: SBIN0018205). Key contact for award confirmation: aedsi2020@gmail.com Mob: +91-6394082801.

Prestigious Awards

Life Time Achievement Award	Eminent Scientist award	Distinguished Scientist Award
Outstanding Achievement Award	Excellence in Extension Scientist Award	Excellence in Teaching Award
Outstanding/Best M.Sc./MVSc/ MHSsc/M.Tech./ Ph.D. Thesis Award	Best Research Scholar Award	Best Academician Award
Young Scientist Award	Young KVK Scientist Award	Best KVK Scientist Award
Scientist of the Year Award	Young Agriculture Engineer Award	Young Biotechnologist Award
Young Woman Scientist Award	Scientist Associate Award	Excellence of Research Award
Best Fisheries Scientist Award	Best Teacher Award	Young Woman Fisheries Scientist Award
Young Plant Pathologist Award	Young Microbiologist Award	Young Agriculturist Award
Young Horticulturist Award	Young Scientist Award in Forestry	Young Scientist Award in Biological Science
Young Professional Award	Young Scientist Award in Agrometeorology	Young Entomologist Award
Young Scientist Award in Plant Pathology	Young Scientist Award in Agriculture Science	Young Scientist Award in Animal Husbandry
Young Scientist Award in Fisheries Sciences	Young Scientist Award in Plant Science	Young Scientist Award in Animal Science
Young Scientist Award in Agriculture Extension	Young Scientist Award in Agriculture Research	Best Farmer Award
Young Scientist Award in Food Science	Young Scientist Award Floriculture	Young Scientist Award in Soil Science and Agricultural Chemistry
Young Scientist Award in Vegetable Science	Young Scientist Award in Fruit Science	Young Scientist Award in Home Science
Young Scientist Award in Biotechnology	Young Scientist Award in Floriculture	Young Scientist Award in Agronomy
Young Scientist Award in Extension Education	Young Scientist Award in Animal Husbandry	Young Scientist Award in Veterinary Research
Best Scientist Award	Best Scientist Award in Plant Pathology	Young Environmental Scientist Award
Young Scientist Award in Chemistry	Best Scientist Award in Veterinary Research	Young Scientist Award in Life Science
Best Scientist Award in Agricultural Statistics	Best Scientist Award in Agronomy	Best Scientist Award in Agricultural Science
Best Scientist Award in Horticulture	Best Scientist Award in Pomology	Best Scientist Award in Forestry
Best Scientist Award in Soil Science	Best Scientist Award in Plant Breeding and Genetics	Best Scientist Award in Seed Science
Best Scientist Award in Crop Physiology	Best Scientist Award in Plant Protection	Best Scientist Award in Entomology
Best Scientist Award in Agriculture Economics	Best Scientist Award in Food Science and Technology	Best Scientist Award in Land and Water Management
Best Teacher Award in Engineering	Excellence Teaching Award in Engineering	Young Scientist Award in Engineering

AEDS-2020 Special Award: Prof. K.C. Mehta Memorial Award (In the field of Plant Pathology)

Award Nomination Form

Application for the Award.....				<div style="border: 1px solid black; border-radius: 15px; width: 100px; height: 100px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <div style="width: 80%; height: 80%; background-color: #f0f0f0; border: 1px solid #ccc;"></div> </div> <p style="margin: 5px 0;">Photo</p>
Title of the Applicant (Mr./Ms./Mrs./Er./Dr./Prof.)				
Full Name (Capitalize each word).....				
Designation.....		Discipline.....		
Name of Department				
Complete Institutional Address.....				
Correspondence Address with Pin Code.....				
Contact. No.....Whatsapp No.....E-mail.....Nationality.....				
Date of Birth.....Sex (M/F).....				
Academic Profile (Education Qualification) Graduation Onwards				
Degree	College/University/Institute	Year of Passing	Subject	% /Division/ CGPA
Title of thesis (Only for thesis award).....				
Experience in Teaching/Resesearch (yrs.).....Outstanding Achievement.....				
No. of Research Papers.....Book Chapters.....Books.....Book Reviews.....Magazine Articles.....				
Total Impact Factor/NAAS Rating.....Research Project Undertaken: PI.....Co -PI.....				
No. of Patents/Technology Transfer/Variety Released /Any Other (If any).....				
No. of Poster/Oral Presentations.....No. of Invited Lecture.....No. of Training Programme Attended.....				
No. Seminars/Conferences/Workshops Organized.....				
Any Previous Award Received.....No. of M.Sc/Ph.D St udents Supervised.....				
Administrative Responsibilities (HOD/Dean/Principle/In-Charge/Registrar/Member of Any Board/Other).....				
Any Fellow Member of Scientific Society.....				
Any Other Relevant Information.....				
<p>Declaration: The information given in this form is true and correct to the best of my knowledge and belief. In case any information proves to be false or incorrect. I shall be responsible for the consequences.</p> <p>Date.....Place.....Signature of Applicant.....</p>				
<p>Note: Candidates are requested to send a MS Word file of duly filled and signed Nomination form at aedsi2020@gmail.com (MS Word file of award Nomination form may be downloaded from the Society website: www.aedsi.org)</p>				

Call for Abstracts/Full-Length Papers

Participants are invited to submit abstracts on their original and unpublished research work (maximum 300 words & 06 keywords) that should be written in Times New Roman font, double line spacing with 12 font size using Microsoft word. Corresponding authors must be highlighted by asterisk (*) with complete mailing address. Authors are also requested to submit their own research work in the form of research and review papers on the diverse field of agricultural, environmental and biological sciences, not exceeding 4500 words for publishing in the International Journal. Papers/abstract to be submitted along with registration form and fee details at aeds2020@gmail.com

Publications & Fee Details

Name of Journal/ Publisher	NAAS Rating	Full length Paper, Book, Book Chapter & Article Publishing Charges (INR)
International Journal of Agricultural Sciences (ISSN: 0973 130X) (Indexed in Scientific Indexing Service, Google Scholar, Advanced Science Index, NAAS Rating: 4.03) *Paper should be sent in a proper format (Download sample paper via: http://researchjournal.co.in/IJAS.htm)	4.03	3500
International Journal of Plant Sciences (ISSN: 0973-1547) (Indexed in Scientific Indexing Service, Google Scholar, Advanced Science Index, NAAS Rating: 3.43) *Paper should be sent in a proper format (Download sample paper via: http://researchjournal.co.in/IJAS.htm)	3.43	3000
National Press and Publications (NPP) NPP is a leading academic registered book publisher, in Lucknow, offering comprehensive publishing services and publishes Edited Book, Authored Book, Text Book etc. with ISBN	-----	As per the quotation
Conference Proceedings	-----	500
Book Chapter	-----	500
Agriculture-24 (An International Magazine)	-----	500

Note: TA & DA facilities will not be borne by the University or AEDS Society and no Abstract/Full length paper will be published without registration in the conference souvenir, journal and edited book.

Conference Session

The conference session covering all the themes and subthemes will be supported by the Lead Lecture, Oral Presentation and Poster Presentation by Eminent and Leading Scientists, Teaching Faculties, Research Scholars and Students from India and abroad on the relevant topics of the International Conference through physical/virtual mode.

Poster Presentation

All the participants are requested to prepare their posters that should not exceed the dimension 1.4×1.2 m (length \times width) and furnished with the title, Authors Name, Affiliation, Introduction, Material and Methods, Results and Discussion and Conclusion. Clear pictures, diagrams, graphs and short tables are highly encouraged to use in posters to win the Best Poster prize in each thematic area.

Conference Registration Fee

Categories	Indian Participants/SAARC Countries (INR)		Others Participants (USD)	
	Before the Due Date	On Spot Registration	Before the Due Date	On Spot Registration
Students (Diploma, UG & PG)	2500	3000	100	110
Ph.D. Scholar, JRF & SRF	3000	3500	150	160
Delegates/Scientist/ Faculties/ Teachers Professionals, RA PDF& Others	4500	5000	170	180
Accompanying Person (Spouses/Guests)	3000	3500	100	110

Note: All the Lifetime members of AEDS will be given a discount of 500/-in the registration fee.

Note: Conference Registration/Accommodation/Publication/Society Contribution Fee is Non-Refundable/Non-Transferable and registration fee covers only hospitality and conference kit; it does not include accommodation charges. Conference fee will be paid by NEFT/Net Banking/ Mobile banking/Online/banking app, Phone pay, Google pay etc. For further queries and assistance, please contact to Organizing Secretary, Dr. Chhatarpal Singh, E-mail: aeds2020@gmail.com Mob: +91-6394082801.

Accommodation

The accommodation for all the participants will be arranged near the conference venue on prior request and pre-payment basis or participants may arrange their own accomodation themselves. No spot accommodation facility will be provided by the accommodation/conference committee at the time of conference. Kindly confirm your accommodation on or before **06 September, 2024**.

Accommodation Categories	Pay/Day (Individuals Non-Sharing) (INR)	Pay/Day (Double Sharing) (INR)
Normal Guest House	1700	1200
Deluxe Guest House	2500	2000

***Note:** Accommodation will be done only after receipt of advance payment through NEFT/Net Banking/ Mobile banking/Online/banking app, Phone pay, Google pay etc.

Mode of Payment & Account Details

Name of Account	Agro Environmental Development Society
Name of the Bank	State Bank of India
Bank Address	SBI, Saifni Shahabad, Bilari Road, Saifni, Rampur-244922, UP
Type of Account	Current
Account Number	37836254237
IFSC Code	SBIN0018205
MICR Code	244002161
Swift Code	SBININBB782

Important Dates

Last Date of Registration & Fee Submission	05 September, 2024
Last Date of Award Application	04 September, 2024
Last Date of Abstract Submission	04 September, 2024
Last Date of Full-Length Paper Submission	06 September, 2024
Last Date of Accommodation Confirmation	06 September, 2024

Conference Committee

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Ms. Ankita Joshi, Vice President, Uttaranchal University, Dehradun, Uttarakhand

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Sample of Abstract

The effect of rice husk biochar on soil nutrient status, microbial biomass and paddy productivity of nutrient poor agriculture soils

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Abstract

The study related to the effects of rice husk biochar (RHB) application on soil microbial aspects and paddy productivity in field condition is scarce. Therefore, present study provides fresh insight into the effects of RHB on rice production in field conditions, with some updated information on soil microbial aspects. To study the impact of RHB and CSR-BIO (commercialized bio-formulation), on soil physico-chemical properties, soil microbial biomass (SMB) quantity and paddy productivity, four treatments were set up: control, RHB, CSR-BIO and RHB+CSR-BIO. The RHB with CSR-BIO both the amendments were applied at a rate of 10 t ha⁻¹. Across treatments, the water holding capacity, total -C, -N, -P concentrations and soil moisture content were statistically higher in RHB and CSR-BIO treated soils over the control. The highest SMB-C, -N and -P (408.66 ± 0.57, 83.33 ± 2.08 and 25.66 ± 1.52 µg g⁻¹ dry soil, respectively) was recorded in RHB+CSR-BIO treated soil. Across the sampling dates, SMB-C, -N, -P and inorganic-N (ammonium- and nitrate-N) concentrations were minimum on 35 day after transplantation (DAT) (tillering stage-active growth period), and maximum on 105 DAT (maturity stage). The paddy plant growth variables (panicle length, tiller number, rice grain and paddy straw yields) were found higher in treated plots compared to untreated (control) plots, and varied significantly ($P \leq 0.001$) due to treatments. Among the various selected paddy agronomic variables, the application of RHB and CSR-BIO treatment was more pronounced to the yield of rice grains. Results indicate that an increase in the quantity of SMB due to RHB+CSR-BIO addition, improves the soil nutrient status and hence, paddy productivity in nutrient poor agriculture soils. It is suggested that RHB generation from rice husk biochar could be a sustainable crop residues waste management option to enhance the nutrient status, microbial biomass and paddy productivity of disturbed agriculture soils.

Keywords : Ammonium-N, Soil microbial biomass, Nutrient poor soil, Paddy, Rice husk biochar

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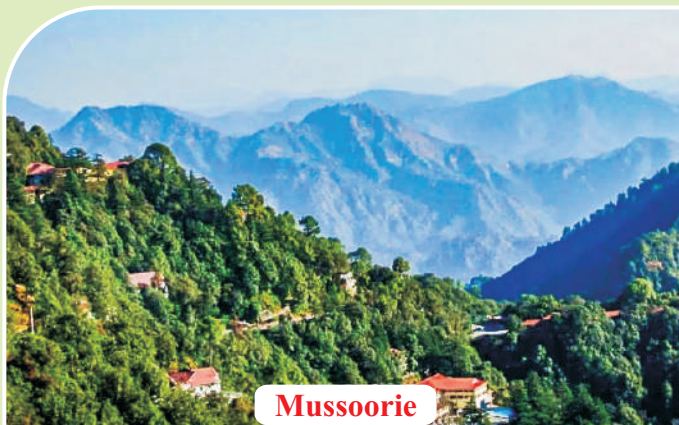




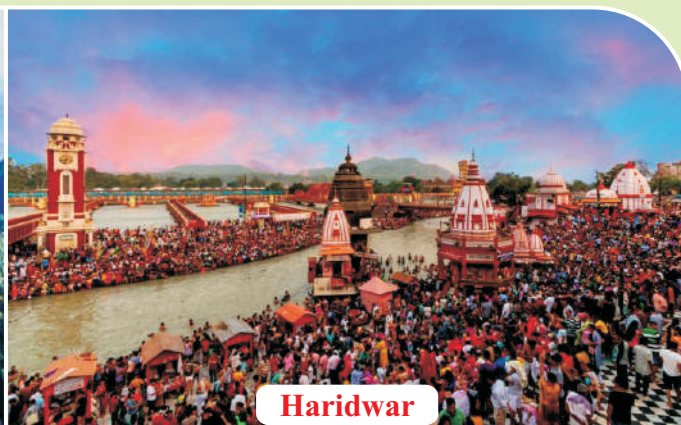
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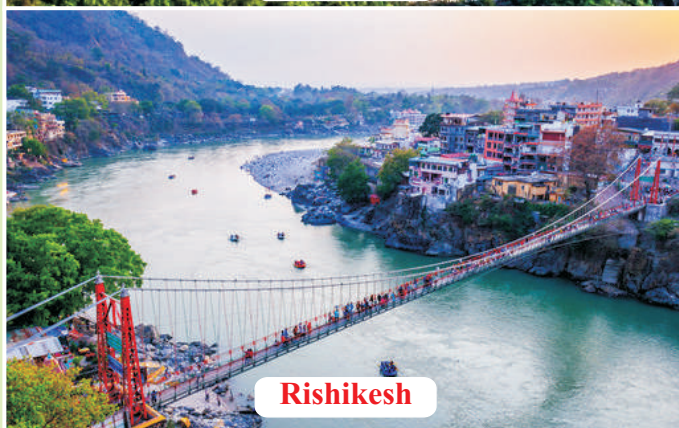
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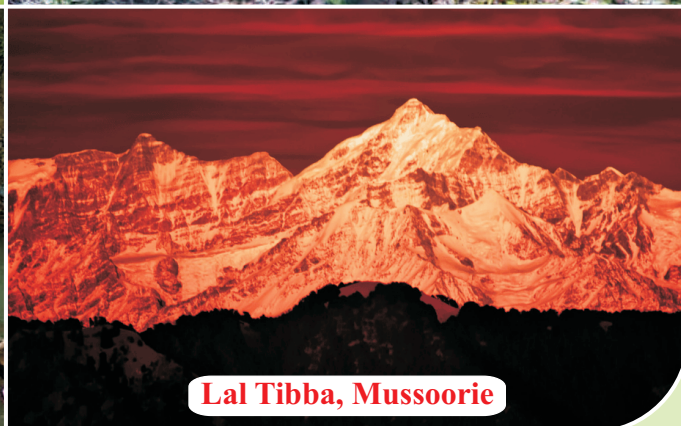
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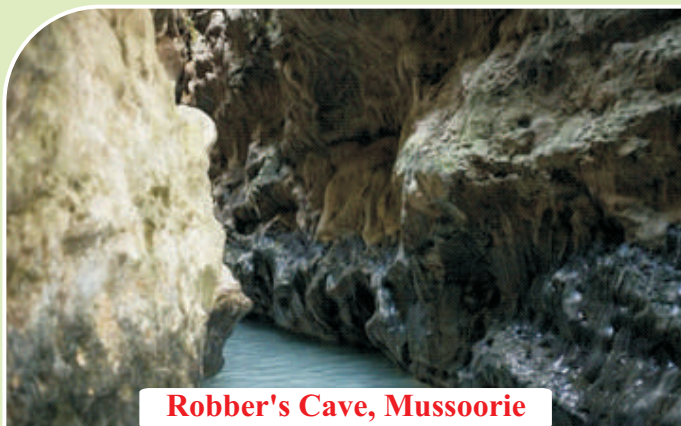
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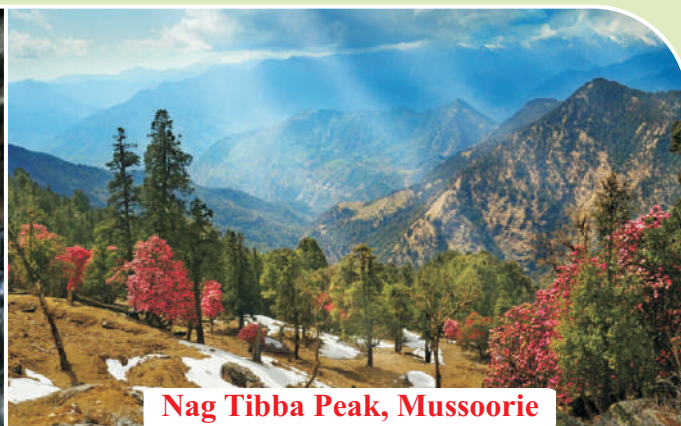
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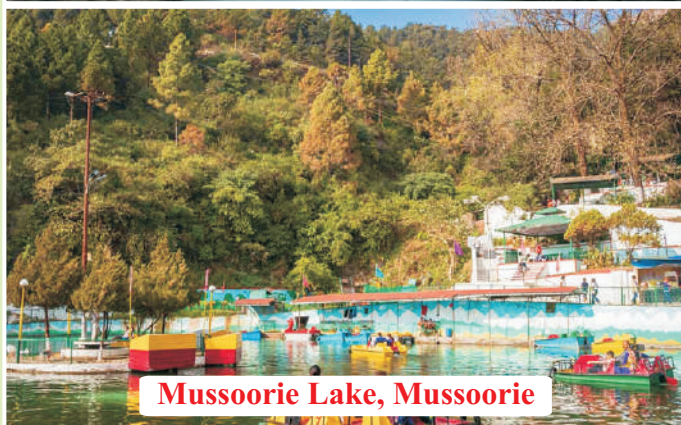
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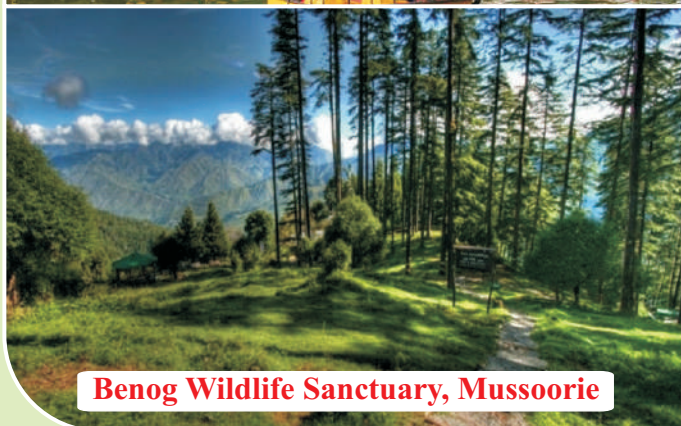
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