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SUNRAISE: Sustainable Natural Resource Use in Arctic and High Mountainous Areas

Report on:

Stakeholder Workshop - 18th May 2018

School of Environmental Sciences (SES),

Jawaharlal Nehru University (JNU), New Delhi India



Partner number: P12

**Jawaharlal Nehru University, New Delhi
India**

Meeting Report

The first stake-holder workshop on sustainable natural resource use in Arctic and high mountainous Areas (SUNRAISE) was held in School of environmental sciences, Jawaharlal Nehru University, New Delhi on 18th May 2018 for the execution of the multi-institutional project, "SUNRAISE - Sustainable Natural Resource Use in the Arctic and High Mountainous Areas." SUNRAISE aims to promote sustainable resource management of Arctic and high mountainous ecosystems in partner countries India, Bhutan, Russia and European Union. The workshop envisages understanding the gaps between research and development, and analyzing the mechanism through which higher education can be augmented to address the needs involving wider stakeholder circles in the Himalayas. It aims to revise and upgrade selected BSc, MSc & Ph.D. programs to create sustainable feedback mechanisms to end-users, ensuring adaptive and pragmatic teaching contents, knowledge co-production opportunities and stakeholder support to post-project course development and teaching.

The workshop included the talk by the leading experts and presentation by the present-generation practitioners followed by panel discussion to provide a better understanding of the current needs and guidelines for the future programs in the mountainous region. The workshop was presided by *Prof. S C Garkoti (Rector II)* and organized by *Prof. P K Joshi (SES)*. The distinguished speakers in this workshop were *Prof. S.P Singh, Prof. Jurgen Breuste, Prof. Prakash C. Tiwari, Prof. Deepali Tiwari, Dr.Rajeev Semwal, Dr. Chubamenla Jamir*. Professionals with a vast amount of experience in the field of education and researchers, and practitioner along with young research scholars from different disciplines participated in the event. Prof. P.K.Joshi from School of environmental sciences who is also the principal investigator of the project from India welcomed all the distinguished guests and participants and briefly rolled-out the objectives of the project and Expectations from the workshop.

The first speaker of the day *Prof. S.P.Singh* (ex-vice chancellor HNB Garhwal University) in his keynote address stressed the need for the capacity building in mountainous region through understanding various attributes of Himalayan forest ecosystem, socio-ecological, cultural and economical set up in the hilly region. High species endemism in conjunction with the high ecosystem service value provided to both the hilly and plain region, place Himalaya in a unique spot among other mountains of the world. Prof. Singh in his lecture also shared importance of collaborative studies instead of replicating models from other regions of the world. He stated that although having genera similar to temperate region, various attributes of plants is having more affinity to either tropical forest or unique. Tree species behavior in terms of phenology, nutrient and water-use efficiency and regeneration in Himalayan region is distinct from as suggested in temperate regions of world. Hence prediction based on various models from temperate is most likely to mislead in climate change scenario. He argued the diversity in socio-cultural aspects of tribal population of Himalaya along east-west arc is manifested in terms of differences in resource use patterns. He lamented the lack of networking, collaborative research and long term data in Himalaya and suggested the imperatives of capacity building by designing mountain specific courses at higher level for various stakeholders. He stressed the need to expand citizen/community science/social science, create healthy knowledge based societies, with an understanding of the meaning of development for mountains, finally to help mountains to get climate change justice. He strongly deliberated the need to reinviograte field research as a culture in Hilly region.

The second invited speaker was *Prof. Jurgen Breuste* (professor in University of Salzburg, Urban and Landscape Ecology, Dept. of Geography and Geology) focused on the need of capacity building from urban perspective in the mountainous region. He described in a lucid manner about various forms of challenges in the hilly region. His suggestions to visualize Mountains as an economic landscape in context of rural-urban stressed migration were highly appreciated. He supplemented his argument citing examples from urbanization pattern in hilly region from other parts of the world especially the Alps Mountain taking into cognizance the geological challenges

in Himalaya. He stressed the need to diversify the functional specialization of Hilly regions for sustainable future. Reconciling infrastructure development for economic purpose without damaging the environment can be a great source of revenue generation curbing the migration challenges in Mountains.

Prof. Prakash C. Tiwari, professor in Department of Geography Kumaun university and also a CO-PI in this project from India stated the importance of traditional subsistence agriculture as a main source of Rural livelihood in Himalaya. He outlined the importance of capacity building in mountains for policy integration under UNISDR strategic framework 2016-21. The idea of role of governance from local to institutional level for climate change mitigation and adaptation for disaster risk reduction along with mainstreaming in Development planning was well taken by audience.

Dr. Rajeev Semwal shared his experience as a practitioner in the area of field ecology and agro-ecology in Himalayan region. He stressed on Incentivize field research for filling knowledge gaps in the Himalaya. He pointed toward the problem of Data Deficiency despite having nearly 60 Institutions located in the Himalayan region. He acknowledged the recent government initiatives such as NMSHE and NMHS for filling the knowledge gaps and programme likes traditional knowledge system in Himalayan region. He stressed on the importance of Traditional knowledge both from academic as well as practical purpose for sustainable resource management which needs up scaling and bio-prospecting in future.

Prof. Deepali Tewari spoke on Interfacing Formal and Informal Capacity building in Agriculture in Himalayan Region. She discussed about importance of Agriculture, formal, informal education pertaining to agriculture. System of formal agricultural educational nationwide and existing in Uttarakhand. Interface in Semiformal/ Informal Agricultural Education System ARYA, entrepreneurial development of Youth in Rural Areas to prevent migration. And Challenges /Respective solution /Future interventions for better capacity building to reach the outreached. She also empha-

sized upon ways of Making Agriculture progressive, remunerative and attractive by collaboration, empowerment of farmers and recent developments in ICT (MOOC and MOBIMOOC) and its application in the field of agriculture. READY (Rural Entrepreneurship Awareness Development Yojna) is great initiation for, Experiential Learning, Rural Awareness Works Experience, In-Plant Training / Industrial attachment, Hands-on training (HOT) / Skill development training and Students Projects.

Dr. Chubamenla Jamir talked about Higher Studies in Himalayas – Networking & Consortium Mountain regions diversified because of their unique history and cultures. But share the same problems on mountain sustainable development. There is a need for mountain centric research and policies to improve livelihood and maintain the biodiversity and natural resources sustainable development. E.g., currently most of the agricultural developments in the region have been based on technologies and policies developed for non-mountain agriculture systems. There is an urgent need bring ‘Mountain thinking’ into education and research through; tapping the already existing knowledge and expertise in the HKH region, collaborative efforts and continued engagement amongst experts and multi-stakeholders, Facilitating interaction and exchange of knowledge between the partner institutes in the HKH region. Work towards improved livelihood of mountain people, Knowledge hub and a regional platform for policy-makers, planners and practitioners to exchange ideas, Facilitate knowledge management and communication to strengthen institutional capacity for innovation and learning, Share information and knowledge through publication.

All the talks were followed by an important panel discussion wherein all the participants shared their experiences and suggested various measures that can facilitate in management of natural resource management in a sustainable manner.

Recommendations of the Workshop

The workshop was attended by around 75 participants with maximum representation from Jawaharlal Nehru University and attendees from Central Himalayan Environment Association (CHEA, University of Salzburg, Kumaon University, Govind Ballabh Pant University of Agriculture & Technology (GBPUA&T), TERI School of Advanced Studies (TERI SAS), Jamia Milia Islamia, University of Delhi, Amity University, National Institute of Urban Affairs (NIUA), Vivekanandha College of Arts & Sciences for Women, NGOs like Pragya among others. Each of the lectures was followed by the discussions on the respective topic and finally a panel discussion was concluded the event.

The main objective of the Workshop was develop a sketch on the mountain specific multi-disciplinary course curriculum based on the feedback and suggestions from a wide range of stakeholders (academic institutions, government organizations, training institutes, research and development organizations, Non Governmental Organizations and private sectors) which could contribute to process in higher education system of the Himalayan Universities. The following were the recommendations

Course types

1. Modular courses
2. Mid-career development/training program
3. Educational programs for Universities/Institutions of higher learning
4. Practical oriented certificate/diploma courses

Institutions (which can take-up such programs/courses)

1. Doon University
2. HNB Garhwal University
3. Kumaon University
4. DIT University
5. Graphic Era University and others....

Course list (in perspective of Himalayas in India and adjoining countries) emerged from the discussion is as follows

1. Sustainable living, Urbanisation & Tourism
 - a. Urban development
 - b. Mountain tourism
 - c. Livestock and livestock production management
 - d. Sustainable Development
2. Natural Resource & governance
 - a. Biodiversity & Ecosystem response to Climate Change
 - b. Ecosystem services
 - c. Migration and livelihood security
 - d. Traditional knowledge system
3. Physical & Ecological conditions
 - a. Land use policy
 - b. Himalayan geology
 - c. Hydrological resources
 - d. Disaster studies & management
4. Human development
 - a. Sustainable entrepreneurship
 - b. Rural development
 - c. Gender issues and conflict resolution
 - d. Renewable resources & management
5. Data handling and processing
 - a. Statistical techniques
 - b. Geo-spatial modelling (RS & GIS)
 - c. Data Simulation and Analytics
 - d. Science communication and policy interface

The masters programs should have a compulsory dissertation/MSc thesis.

Any of the above modules/courses could be picked as individual certificate course/training material including skill development exercises.

Development of **PhD/Doctoral research** program focussing on issues in mountains and Himalayan landscape based on the above listed courses. The research taken-up needs to be action oriented with practical implementation on the field. The collected evidences and knowledge developed

The following **proposals** were further discussed:

1. To develop and inter-linkages with the existing mountain university consortium and/or strengthening the mountain consortium
2. To have courses developed based on experiences from the European System/Developed mountain systems
3. Knowledge sharing on development models, governance issues, best practices from the western (developed world) mountain systems
4. Identifying centre for excellence and having experiences of western world to guide the capacity building programs.



Group photograph of participants of the workshop

SUNRAISE: Sustainable Natural Resource Use in Arctic and High Mountainous Areas

Background

SUNRAISE is a multi-institutional project that aims to promote sustainable management of Arctic and high mountainous ecosystems in Bhutan, India, and Russia augmenting tertiary education linked to market needs and wider stakeholder circles. The specific objectives of the project are:

1. To revise and upgrade selected BSc, MSc & PhD programs
2. To develop SUNRAISE open education platform (SUNRAISER) and online training services of the new generation (MOOC), for qualitative improvement of the educational processes and academic workflow support among universities and stakeholders
3. To create sustainable feedback mechanisms to end-users, ensuring adaptive and pragmatic teaching contents, knowledge co-production opportunities and stakeholder support to post-project course development and teaching
4. To develop the capacity for academic mobility, shared experimental facilities and joint research activities

Achieving these objectives will significantly enhance the quality of the educational provision in the partner countries, as the expertise of the whole consortium will become available to individual and group learners (including the students from other programs). The flexibility of learning trajectories will reflect upon current and prospective demands of employers, and with enhanced teaching and learning techniques, the overall learning process will become more productive.

About the Stakeholder Workshop

The proposed stakeholder workshop is the first step towards execution of this multi-institutional project. Jawaharlal Nehru University in association with the Kumaun University (KU) and the Central Himalayan Environmental Association (CHEA) wishes to develop educational program focussing on mountains in general and Himalaya in specific. The partner organization also envisages analyzing gaps between research and development in the Himalayan region that needs critical attention.

The Himalaya are massive and highly heterogeneous, geo-ecological features of the planet. The Himalayan heterogeneity is not only limited to physical features, but also cultural diversity which results in varied forms of interactions with natural resources. The vastness and variability across the Himalaya call for comprehensive understanding of the diverse socio-ecological systems, resource utilization and management approaches. This has become urgent for combating the challenges posed by global environmental change and climate change regimes.

One of the attempts to address these challenges could be to identify various constraints associated with on-going research in Himalaya, and understand the impact of generalization based on the outcomes from other geographic regions of world or fragmented research inputs. The lateral view could be to invest in the tailor-made academic programs and capacity building focused on challenges and opportunities in mountain ecosystems. Such programs should fill the gaps in the present research initiatives in the mountain. Having such programs would help us in answering the most crucial questions pertaining to environment and development, based on calibrated and locale scientific outcomes.

This stakeholder workshop is aimed to understand the requirements of capacity building programs addressing the needs, challenges and opportunities in Mountains, specific to Himalayas. Through the lead talks by the experts and presentations by the present-generation practitioners, the stakeholder workshop will generate discussions to provide a better understanding of the current needs and guidelines for the future programs.

AGENDA

Title:	SUNRAISE: Sustainable Natural Resource Use in Arctic and High Mountainous Areas
Number:	586335-EPP-1-2017-1-DE-EPPKA2-CBHE-JP (2017-3138/001-001)
Coordinator:	University of Bremen
Partners:	UniHB, PLUS, EULS, RSHU, SFU, GASU, ASMP, RUB, JNU, KU, CHEA

Objectives

1. To understand the need for the development of educational program focusing on mountains
2. To analyze research and development gaps and need in understanding mountains

17 th May 2018	
<i>Arrival of guest from places other than New Delhi</i>	
18 th May 2018	
0930-1000	Registration
1000-1005	Welcome
1005-1015	Welcome – Rector II – Prof. Satish C Garkoti
1015-1030	Expectations from the program – Prof. P K Joshi
1030-1115	Need to know attributes of Himalayas for capacity building - transferring data from other systems are likely to mislead us Prof. S P Singh (Chair CHEA & Former Vice Chancellor HNB Garhwal University)
1115-1145	- Tea -
1145-1230	Capacity building program on Mountain Ecosystem – urban perspective Prof. Jurgen Breuste (Chair Urban & Landscape Ecology, University Salzburg)
1230-1300	Discussions & Feedback
1300-1400	
1400-1415	Higher Studies on Mountain (Himalayan) Ecosystem Prof. P C Tiwari (Dept of Geography Kumaon University)
1415-1430	Incentivizing field research for filling knowledge gaps in Himalaya Dr Rajeev Semwal (SES, Jawaharlal Nehru University)
1430-1445	Interfacing formal and informal capacity building in Himalayas Dr. Deepali Tiwari (GB Pantnagar University of Agriculture & Technology)
1445-1500	Higher Studies in Himalayas – Networking & Consortium Dr. Cubamenala Jamir (Dept. of Energy & Environment, TERI SAS)
1500-1530	Discussions & Feedback
1530-1600	- Tea -
1600-1645	Summary Points – Open House Prof. P K Joshi Concluding Remarks – Way Forward Prof. Jurgen Breuste Prof. S P Singh
1645-1700	Vote of Thanks & Dispersal

PRESS NOTE

The School of Environmental Sciences (SES), Jawaharlal Nehru University is organising the first stakeholder workshop on 18 May 2018 in New Delhi, India for the execution of the multi-institutional project, “SUNRAISE - Sustainable Natural Resource Use in the Arctic and High Mountainous Areas.” SUNRAISE aims to promote sustainable resource management of Arctic and high mountainous ecosystems in partner countries India, Bhutan, Russia and European Union. The workshop envisages understanding the gaps between research and development, and analyzing the mechanism through which higher education can be augmented to address the needs involving wider stakeholder circles in the Himalayas.

Briefly, the project SUNRAISE aims to revise and upgrade selected BSc, MSc & Ph.D. programs to create sustainable feedback mechanisms to end-users, ensuring adaptive and pragmatic teaching contents, knowledge co-production opportunities and stakeholder support to post-project course development and teaching.



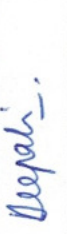

As an institutional partner, JNU in association with the Kumaun University (KU) and the Central Himalayan Environmental Association (CHEA) wishes to develop an educational program focusing on mountains in general and Himalaya in specific. The workshop includes the talk by the leading experts and presentation by the present-generation practitioners followed by panel discussion to provide a better understanding of the current needs and guidelines for the future programs in the mountainous region.

The workshop will be presided by Prof. S C Garkoti (Rector II) and Prof. AL Ramanathan (Dean SES), and organized by Prof. P K Joshi (SES). The distinguished speakers in the stakeholder workshop are Prof. S.P Singh (Former Vice Chancellor, HNB Garhwal University) and Prof. Jurgen Breuste (Chair, Urban and Landscape Ecology University, Salzburg). They will throw light on distinct characteristics of Himalayan mountain systems and needs for specific capacity building programs. The other speakers are from Kumaun University, G.B. Pant University of Agriculture and Technology and TERI School of Advanced Studies. The talks/lectures will be followed by interactive sessions in the form of panel discussion and question and answer session from the participants. The participants will be from different institutions in Delhi NCR. The follow-up this stakeholder workshop will be done through interactions in the Kumaun University and field sites of Nainital and Almora in association with the CHEA.





प्रेस नोट

पर्यावरण विज्ञान संकाय (एसईएस), जवाहरलाल नेहरू विश्वविद्यालय बहु-संस्थागत परियोजना के निष्पादन के लिए नई दिल्ली में 18 मई 2018 को पहली हितधारक कार्यशाला का आयोजन कर रहा है - "SUNRAISE - आर्कटिक और उच्च पर्वत में सतत प्राकृतिक संसाधन उपयोग क्षेत्र।" SUNRAISE का लक्ष्य पार्टनर देशों भारत, भूटान, रूस और यूरोपीय संघ में आर्कटिक और उच्च पहाड़ी पारिस्थितिक तंत्र के सतत संसाधन प्रबंधन को बढ़ावा देना है। कार्यशाला में अनुसंधान और विकास के बीच अंतराल को समझने और तंत्र का विश्लेषण करने की परिकल्पना की गई है जिसके माध्यम से हिमालय में व्यापक हितधारक मंडल से जुड़ी जरूरतों को पूरा करने के लिए उच्च शिक्षा को बढ़ाया जा सकता है।

संक्षेप में, परियोजना SUNRAISE का उद्देश्य चयनित बीएससी, एमएससी और पीएचडी को संशोधित और अपग्रेड करना है। प्रोग्राम्स कोर्स के विकास और शिक्षण के लिए अनुकूली और व्यावहारिक शिक्षण सामग्री, ज्ञान सह-उत्पादन अवसर और हितधारक समर्थन सुनिश्चित करने के लिए अंतिम उपयोगकर्ताओं को टिकाऊ प्रतिक्रिया तंत्र बनाने के लिए कार्यक्रम। एक संस्थागत साझेदार के रूप में, कुमाऊं विश्वविद्यालय और केंद्रीय हिमालयी पर्यावरण संघ (CHEA) के सहयोग से जेएनयू सामान्य रूप से पहाड़ों पर ध्यान केंद्रित करने और विशिष्ट रूप से हिमालय पर केंद्रित एक शैक्षणिक कार्यक्रम विकसित करना चाहता है। कार्यशाला में वर्तमान पीढ़ी के चिकित्सकों द्वारा प्रमुख विशेषज्ञों और प्रस्तुति के बाद पैनल चर्चा के बाद पहाड़ी क्षेत्र में भविष्य के कार्यक्रमों के लिए वर्तमान जरूरतों और दिशानिर्देशों की बेहतर समझ प्रदान करने के लिए चर्चा शामिल है। कार्यशाला की अध्यक्षता प्रो० एस सी गारकोटी (रेक्टर II) और प्रो० एएल रामनाथन (डीन एसईएस) द्वारा की जाएगी, और प्रो० पी के जोशी (एसईएस) द्वारा आयोजित की जाएगी। हितधारक कार्यशाला में प्रतिष्ठित वक्ताओं प्रो० एस पी सिंह (पूर्व कुलगुरु, एचएनबी गढ़वाल विश्वविद्यालय) और प्रो० जुर्गन ब्रेस्टे (चेयर, शहरी और लैंडस्केप पारिस्थितिकी विश्वविद्यालय, साल्ज़बर्ग) हैं। वे हिमालयी पर्वत प्रणालियों की विशिष्ट विशेषताओं पर प्रकाश डालेंगे और विशिष्ट क्षमता निर्माण कार्यक्रमों की आवश्यकता होगी। अन्य वक्ता कुमाऊं विश्वविद्यालय, GB कृषि और प्रौद्योगिकी के पंत विश्वविद्यालय और TERI स्कूल से हैं। वार्ता / व्याख्यान के बाद पैनल चर्चा और प्रतिभागियों से प्रश्न और उत्तर सत्र के रूप में इंटरैक्टिव सत्रों का पालन किया जाएगा। प्रतिभागी दिल्ली एनसीआर के विभिन्न संस्थानों से होंगे। फॉलो-अप इस हितधारक कार्यशाला को कुमाऊं विश्वविद्यालय में बातचीत और CHEA के सहयोग से नैनीताल और अल्मोड़ा के क्षेत्रीय स्थलों के माध्यम से किया जाएगा।











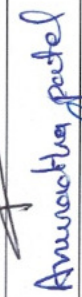

Sno	Name	Organisation	Signature
1.	Prof. Satish C Garkoti	SES, JNU New Delhi	
2.	Prof. P K Joshi	SES, JNU New Delhi	
3.	Prof. S P Singh	CHEA, Dehradun	
4.	Prof. Jurgen Breuste	University of Salzburg, Austria	
5.	Prof. P C Tiwari	Kumaon University, Nainital	
6.	Dr. R.L. Semwal	SES, JNU New Delhi	
7.	Dr Deepali Tiwari	GBPUA&T, Pantnagar	
8.	Dr Chubamenala Jamir	TERI SAS, New Delhi	
9.	Ms Priyanka Tiwari	SES, JNU New Delhi	
10.	Dr Bhagwati Joshi	Kumaon University, Nainital	
11.	Prof. D.N.Das	CSRD, JNU New Delhi	
12.	Prof. S. Sreelesh	CSRD, JNU New Delhi	

Pg No 4/4

Sno	Name	Organisation	Signature
13.	Prof. Kaushal Kumar Sharma	CSRD, JNU New Delhi	<u>PRESENT</u>
14.	Mr G. Areendran	WWF, INDIA	Absent
15.	Dr Sanjeev Sharma	JNU, New Delhi	Sg 252
16.	Dr Atiqur Rahman	Jamia Millia Islamia, New Delhi	Pg No 7 (79)
17.	Dr Kamna Sachdeva	TERI SAS, New Delhi	Absent
18.	Dr Dorje Dawa	University of Delhi, New Delhi	
19.	Mr Kanwal Nayan Singh	TERI, New Delhi	
20.	Dr Chander Singh	TERI SAS, New Delhi	Pg No 4 (48)
21.	Dr Sudipto Chatterjee	TERI SAS, New Delhi	Absent
22.	Dr Dilip Kumar	Saheed Bhagat Singh (Evening) College, New Delhi	Absent
23.	Ms Pratibha Prakash	TERI SAS, New Delhi	
24.	Mr Ankit Rana	Pragya, India	

Sno	Name	Organisation	Signature
25.	Dr B.W.Pandey	Delhi School of Economics, New Delhi	Absent
26.	Dr Randeep Singh	Amity Institute of Forestry and Wildlife, Noida.	Randeep Singh
27.	Mr Praveen Kumar	SES, JNU New Delhi	Praveen Kumar
28.	Mr M.M. Anees	SES, JNU New Delhi	M.M. Anees
29.	Ms Kundan	SES, JNU New Delhi	Kundan
30.	Ms Mani Sharma	SES, JNU New Delhi	Manisharma
31.	Ms Garima Singh	SES, JNU New Delhi	Garima Singh
32.	Dr Anita Punia	SES, JNU New Delhi	Anita Punia
33.	Ms Neha Chauhan	SES, JNU New Delhi	Neha Chauhan
34.	Ms Deepika Mann	SES, JNU New Delhi	Deepika Mann
35.	Dr Akash Sondhi	TERI SAS, New Delhi	PRESENT
36.	MANISH JAIN	SES JNU	Manish Jain

37 Vinay S.P. Singh
TERI-SAS


Sno	Name	Organisation	Signature
37.	Padma Ladon	SES, JNU	
38.	Ambuj Mishra	SES, JNU	
39.	Rajendra Prasad	SES, JNU	
40.	Pinky Doley	SES, JNU	
41.	Lala Saba	SES, JNU	
42.	Saurabh Kumar Singh.	SES, JNU.	
43.	PRATIBHA PRAKASH	TERI SAS	
44.	ANKIT RANA	PRAGYA	
45.	Richa Sharma	NIUA	
46.	Roopam Shukla	TERI SAS	
47.	ANURADHA PATEL	SES, JNU	
48.	Chander Kr. Singh	TERISAS, JNU	


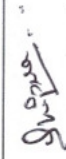








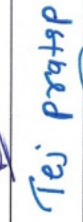

49. Chubamenla Jehni













50- MUKESH KUMAR

TERISAS

SES, JNU


Mukesh Kumar

Sno	Name	Organisation	Signature
49.	Manisha Ahlawat	SES, JNU	
50.	Supra	SES, JNU	
51.	Abhishek K. Verma	SES, JNU	
52.	Haspreet Kaur	SES, JNU	
53.	Dr. Neelion Borah	SES, JNU	
54.	ISHNAR CHAND	SES, JNU	
55.	Jayant Kumar Tripathi	SES, JNU	
56.	Bindu Yadav	SES, JNU	
57.	Shadman Nahid	SES, JNU	
58.	Neetu	SES, JNU	
59.	Tej Pratap	SES, JNU	
60.	Supriya Mantri	SES, JNU	

Sno	Name	Organisation	Signature
61.	Shailendra kumar	SES, JNU	
62.	ANAND SHANKAR	SES, JNU	
63.	MEENAKSHI DUA	SES, JNU	
64.	Amarjeet	SES, JNU	
65.	.AL-RAMANTHAN	SES, JNU	
66.	Shashi Shekhar Singh	SES, JNU	
67.	Somdutta Mishra	SES, JNU	
68.	Shrilesh Yadav	SES JNU	
69.	Kamra Rao	SES, JNU	
70.	Chandrasekhar	SES, JNU	
71.	Nidhi Roy	SES, JNU	
72.	Sandeep Kumar	SES, JNU	

Sno	Name	Organisation	Signature
73.	Mayank Krishna	SCHOOL OF Environmental sciences JNU	Mayank
74.	Dr. M. Balasubramanian	Assistant Professor, Department of Biotechnology, Vivekananda College of Arts & Sciences for Women, Namsakkal, Tamil Nadu	MB
75.	Mangul Sonuwar	School of Environmental sciences, JNU.	Mangul
76.	ANURAG CHAUDHARY	School of Environmental Sciences, J.N.U.	Anurag chaudhary
77.	RAJ MORYA	SES, JNU	Rajmorya
78.	SUNAN CHAKRABORTI	CSRD, SSS	Sunankhobori
79.	Prof. ATIQUE RAHMAN	Dept of Geography, Jamia millia Islamia, New Delhi	Atique
80.	Julie Gupta	School of Environmental Sciences (SES) JNU	Julie
81.	Sorish Raj Srivastav	School of Environmental Sciences, JNU	Sorish Raj
82.	Jyoti Krishanwala	School of Environmental Sciences JNU	Jyoti Krishanwala
83.	DUDUN MBHTA	SES, JNU	Audum Menta
84.	SARVAGYA NATSAL	SES, JNU	Sarvagya