



# TENTH SUSTAINABLE MOUNTAIN DEVELOPMENT SUMMIT DARJEELING & KALIMPONG

Organised by:



**TOWARDS ONE HEALTH :**  
Making Our Mountains Resilient

# 18th - 20th

November 2021





# TENTH SUSTAINABLE MOUNTAIN DEVELOPMENT SUMMIT DARJEELING & KALIMPONG



#breakfreefromplastic



TEEKAMPAGNE



Ministry of Environment, Forest & Climate Change



**18<sup>th</sup>**  
**NOVEMBER 2021**

**Inaugural Session**

**2:00 - 2:10 pm**

**Welcome address**

Mr. Praful Rao  
*(President, Darjeeling Himalaya Initiative / Save The Hills)*

**2:10 - 2:20 pm**

**Address by Session Chair**

Mr. PD Rai  
*(President, IMI & Former MP (Lok Sabha), Sikkim)*

**2:20 - 2:25 pm**

**Address by Director**

Mr. Amar Singh Rai  
*(North Bengal Development Board)*

**2:25 - 2:35 pm**

**Cultural Programme**

**2:35 - 2:45 pm**

**Special Address**

Mrs. B.V. Umadevi  
*(IFS, Addl Secy, MoEFCC)*

**2:45 - 2:50 pm**

**Introduction of the keynote speaker**

Mr. PD Rai  
*(President, IMI & Former MP (Lok Sabha), Sikkim)*

**2:50 - 3:20 pm**

**Keynote Address**

Dr. Soumya Swaminathan  
*(Chief Scientist, WHO, Geneva)*

**3:20 - 3:30 pm**

**Message from Hon'ble Chief Minister, West Bengal**

**3:30 - 3:45 pm**

**Address by Chief Guest**

Dr. Pema Gyamtso  
*(Director General, ICIMOD, Kathmandu Nepal)*

**3:45 pm**

**Vote of Thanks**

Ms. Priyadarshinee Shrestha  
*(Secretary, IMI / WWF-India)*

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**Panel Discussion**

**4:00 - 4:10 pm**

**Opening remarks and setting the context  
Introduction of the Speakers**

Dr. VB Mathur  
*(Chairperson National Biodiversity Authority)*

**4:00 - 4:55 pm**

**Address by the Panel:**

**'One Health from the lens of Biodiversity and  
Environment Conservation'**

Mr. Ravi Singh  
*(CEO and Secretary General, WWF- India)*

**'One Health from the lens of Food Systems'**

Dr Vandana Shiva  
*(Founder, Navdanya, Uttarakhand)*

**One Health - Veterinary Science & Practice in India**

Dr. Sandeep Chaudhuri  
*(Asst Prof Veterinary College Nagpur, One Health Mission,  
Maharashtra)*

**4:55 - 5:10 pm**

**Questions and Answers**

Moderated by Dr. VB Mathur

**5:10 - 5:25 pm**

**Summing up and responses from panel**  
*(5 mins each)*

**5:25 pm**

**Concluding remarks**

Dr. VB Mathur



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**NOVEMBER 2021**

**One Health response  
to Zoonosis**

**11:00 - 1:00 pm**

**Introduction and Objectives of the Session**

Dr. Sunita Pradhan

*(DHI/ATREE)*

Mr. STS Lepcha

*(IFS, Retd. PCCF from Uttarakhand Cadre)*

**11:10 - 11:30 am**

**Zoonotic diseases in the IHR: prevalence, trends & emerging public health threats**

Dr. R. C. Dhiman

*(ICMR, Govt. of India )*

**11:30 - 11:45 am**

**Eco-epidemiology in Risk assessment: consideration & challenges**

Dr. Lallianpuii Kawlni

*(Wildlife Institute of India)*

**11:45 - 12:00 pm**

**One Health and Zoonoses in the Indian Himalaya Region: Lessons from Sikkim**

Dr. Thinley Bhutia

*(SARAH, Government of Sikkim)*

**12:00 - 12:10 pm**

**UNDP's perspective on One Health Approach and zoonosis in IHR**

Mr. Rajarshi Chakraborty

*(State Project Officer, Sikkim, GoI-UNDP-GEF*

*SECURE Himalaya project)*

**12:10 - 12:20 pm**

**Questions and Answers**

Dr. Sunita Pradhan

*(DHI/ATREE)*

Mr. STS Lepcha

*(IFS, Retd. PCCF from Uttarakhand Cadre)*

**12:20 - 12:25 pm**

**B R E A K**

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**NOVEMBER 2021**

**One Health response  
to Zoonosis**

**12:20 - 12:30 pm**      **Youth Perspectives on Media in strengthening Surveillance**

Youth Representative

**12:30 - 12:33 pm**      **Question & Answer for the student session**

Dr. Sunita Pradhan

*(DHI/ATREE)*

Mr. STS Lepcha

*(IFS, Retd. PCCF from Uttarakhand Cadre)*

**12:33 - 12:45 pm**      **Interactive Session**

Dr. Sunita Pradhan and Youth representative

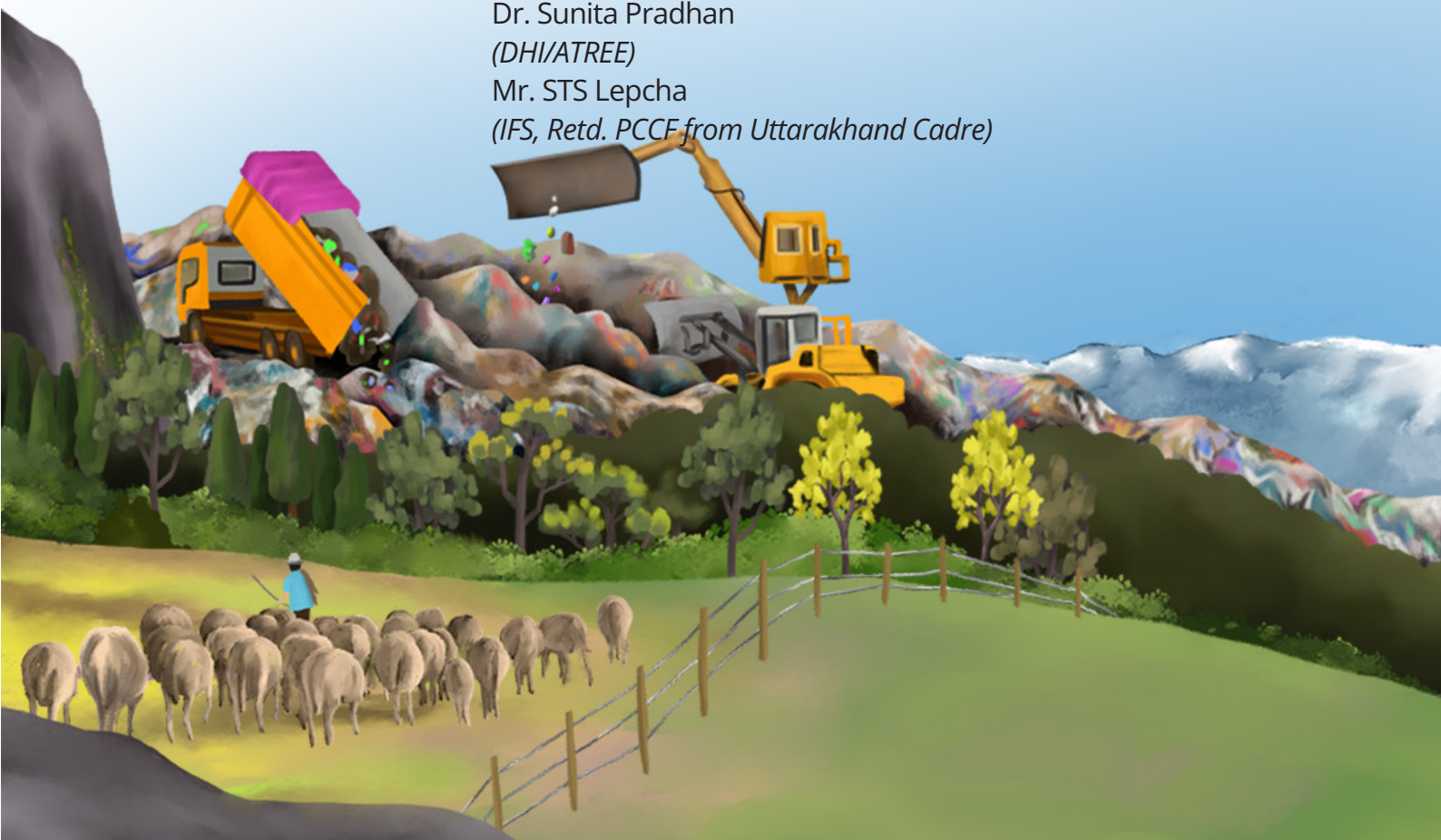
**12:45 - 1:00 pm**      **Session Summary and Concluding Remarks**

Dr. Sunita Pradhan

*(DHI/ATREE)*

Mr. STS Lepcha

*(IFS, Retd. PCCF from Uttarakhand Cadre)*



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**NOVEMBER 2021**

## Biodiversity & Ecosystems for Human Health

**2:00 - 2:10 pm**

**Objectives of the session and introduction to the session speakers**

Dr. G.S. Rawat  
(IMI)

**2:10 - 2:30 pm**

**Keynote talk 1: Biodiversity, Ecosystems for Human Health: An overall perspective of research, action and policy in the IHR**

Prof. Uma Rama Krishnan  
(NCBS, Bangalore)

**2:30 - 2:45 pm**

**Keynote talk 2: Ecosystem Restoration in the IHR: A critical need for human and animal health**

Dr. Nakul Chettri  
(ICIMOD, Kathmandu, Nepal)

**2:45 - 3:00 pm**

**Keynote talk 3: Traditional knowledge, systems and practices underlies One Health in the IHR**

Dr. Melari Nongrum  
(Martin Luther Christian University, Shillong, Meghalaya)

**3:00 - 3:10 pm**

**Question and Answers on the presentations**

Dr. Sarala Khaling  
(DHI, ATREE)

**3:00 - 3:15 pm**

**B R E A K**

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## Biodiversity & Ecosystems for Human Health

**3:15 - 3:30 pm**

**Youth Perspectives: Best practices of Biodiversity Conservation and Ecosystem Management from the IHR: Implications for One Health approach**

Youth Representative

**3:30 - 3:45 pm**

**Interactive Session**

Moderated by Dr. Sarala Khaling

**3:45 - 4:00 pm**

**Conclusion and key takeaways from the session**

Mr. Deependra Sunar  
*(DHI / WWF-India)*





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**Sustainable  
Food Systems**

**4:15 - 4:25 pm**

**Introduction and setting the context: Food Systems and Food Cultures of the IHR, Challenges and Trends**

Ms. Binita Shah  
(IMI/SARG)

**4:25 - 4:30 pm**

**POLL - Challenges of local food systems and food cultures**

Youth Representative

**4:30 - 4:45 pm**

**Indigenous peoples' food systems: Opportunities and challenges**

Bah Phrang Roy  
(Coordinator, *The Indigenous Partnership for Agrobiodiversity and Food Sovereignty*)

**4:45 - 4:50 pm**

**Voices from the mountains  
Positive stories of sustainable food systems of the IHR**

Mr. Biju Negi  
(*Beej Bachao Andolan*)

**4:50 - 5:10 pm**

**Question and Answers / Interactions**

Ms. Binita Shah  
(IMI/SARG)

**5:10 - 5:20 pm**

**Changing Consumption Patterns - Setting the Context**

Mr. Roshan Rai  
(Councillor IMI/DHI/DLR Prerna)

**5:20 - 5:25 pm**

**POLL - Changing Consumption Patterns**

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Sustainable  
Food Systems

**5:25 - 5:40 pm**

**Changing Consumption Patterns - A reflection on One Health**

Amit Khurana  
*(Centre for Science and Environment)*

**5:40 - 5:50 pm**

**Rapid assessments (IHR level) of challenges on local food cultures and changing food patterns. Mapping Local Markets**

Youth representative presentation

**5:50 - 6:05 pm**

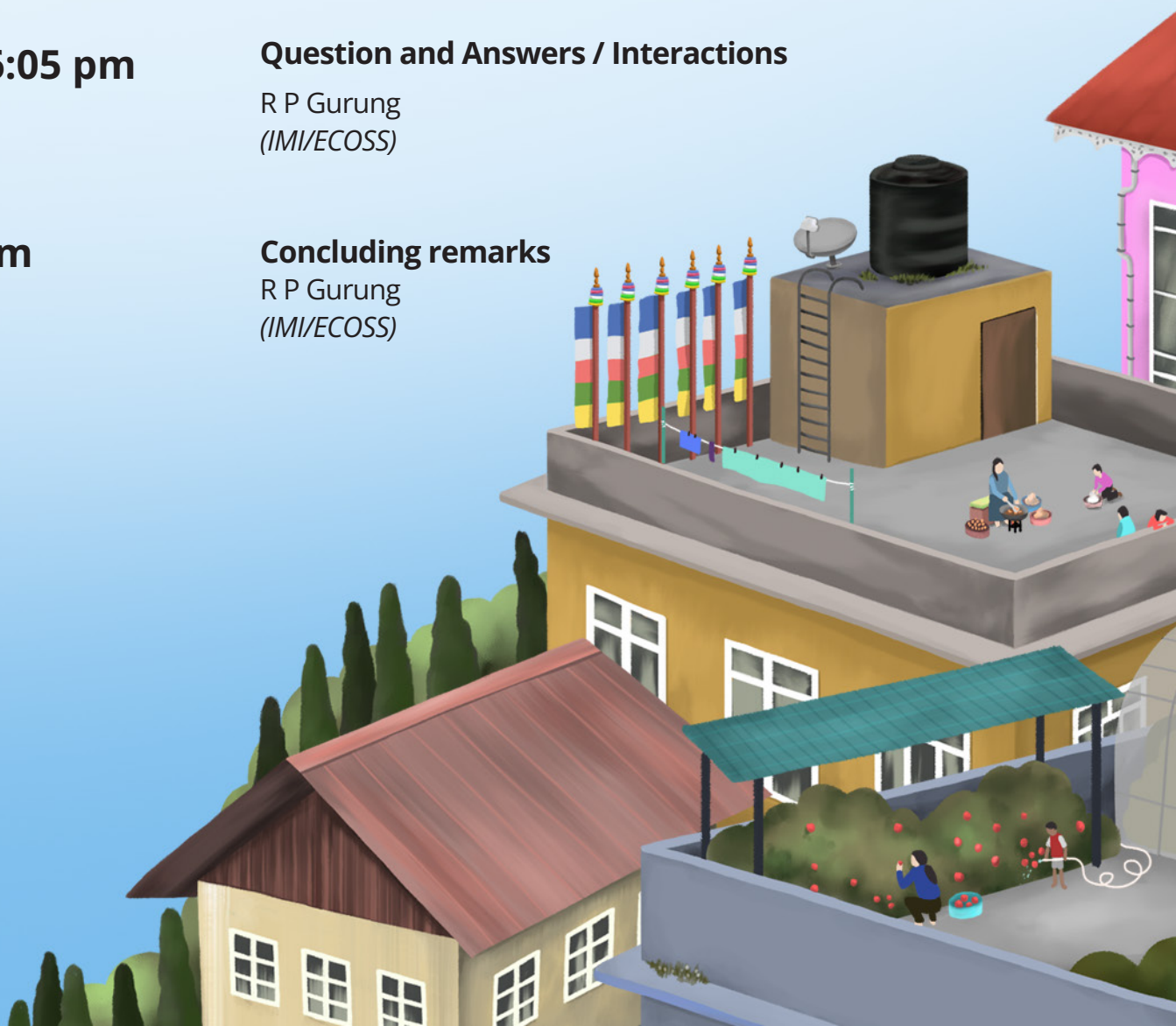
**Question and Answers / Interactions**

R P Gurung  
*(IMI/ECOSS)*

**6:05 pm**

**Concluding remarks**

R P Gurung  
*(IMI/ECOSS)*



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**NOVEMBER 2021**

**Mountain  
Legislators' Meet**

- 10:00 - 10:30 am**      **Arrival, tea and registration**
- 10:30 - 10:40 am**      **Welcome Address - SMDSX Background**  
Mr. PD Rai  
*(President, IMI)*
- 10:40 - 10:50 am**      **Background presentation on UNEP Projects**  
Ms. Divya Dutt  
*(UNEP)*
- 10:50 - 11:05 am**      **Issues and Challenges of Waste Management in the IHR  
with specific reference to Uttarakhand, IHR perspective**  
IMI / ZWH team/ SDFU
- 11:05 - 11:20 am**      **Inaugural Address**  
Shri Chowna Mein  
*(Hon'ble Deputy Chief Minister Arunachal Pradesh)*
- 11:20 - 11:30 am**      **Special Remarks**  
Shri Premchand Aggarwala  
*(Hon'ble Speaker, Uttarakhand LA)*
- 11:30 - 11:40 am**      **Special Remarks**  
Co-Chair: Shri Sanjay Jaiswal  
*(Chairperson, Water Resources Committee)*

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**Mountain  
Legislators' Meet**

**11:40 - 1:40 pm**

**Open Discussion**

Led by Chair or Moderator

**1:40 - 2:00 pm**

**Closing Remarks**

Shri James Sangma

*(Minister, Department of Forests, Environment & CC, GoM)*

**2:00 - 2:10 pm**

**Summing Up & Way Forward**

Shri Sushil Ramola

*(Former President IMI)*

**2:10 - 2:15 pm**

**Vote of Thanks**

SDFU





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**Youth Reflections  
and Way Forward**

- |                         |   |
|-------------------------|---|
| <b>11:00 - 11:05 am</b> | <b>Welcome and Setting the Context</b>  |
| <b>11:05 - 11:25 pm</b> | <b>Youth and Mental Health in IHR</b><br>Raj Mariawala<br><i>(Director, MHI)</i>        |
| <b>11:25 - 11:35 am</b> | <b>Q&amp;A and Concluding Remarks</b>   |
| <b>11:35 - 1:05 am</b>  | <b>Youth Discussions - Taking forwards the youth activities<br/>(3 breakout groups)</b> |
| <b>1:05 - 1:15 pm</b>   | <b>Conclusion</b>   |

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**NOVEMBER 2021**

**Governance &  
Institutional processes  
that promote One Health**

**2:00 - 2:10 pm**

**Introduction and setting the context  
Mapping the intersect of One Health**

Dr. Sarala Khaling  
*(ATREE / DHI)*

**2:10 - 2:15 pm**

**Chairperson's opening remarks**

Dr V B Mathur  
*(Chairman, National Biodiversity Authority)*

**2:15 - 2:35 pm**

**Insights from previous sessions**  
**- One Health response to Zoonoses**  
**- Biodiversity and Ecosystems for human health**  
**- Sustainable Food Systems**

Session Leads

**2:35 - 2:40 pm**

**Interactive session - Polls on Key Questions**

**2:40 - 3:15 pm**

**Responses and Reflections from IHR**

Key Stakeholders from IHR  
Shri Jane Alam,  
*(IAS, Chief Secretary, Nagaland (TBC))*  
Shri S Ponnambalam  
*(IAS, PS GTA)*  
Sh. Mayur Dixit  
*(DM, Uttarkashi)*

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**Governance &  
Institutional processes  
that promote One Health**

**3:15 - 4:15 pm**

**Inputs and responses from the Panel Governance and institutional processes for One Health implementation: challenges, policy environment and capacity**

Dr Arun Maira

*(Former member, Planning Commission)*

Shri C K Mishra

*(Former Secretary, GoI)*

Dr. Madhu Verma

*(Chief Economist, World Resources Institute)*

**4:15 - 4:25 pm**

**Concluding remarks**

Dr V B Mathur

*(Chairman, National Biodiversity Authority)*

**4:15 - 4:30 pm**

**Vote of Thanks**

Mr. Roshan Rai

*(IMI, DHI)*

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**Dr. R. S. Tolia  
Memorial Session**

**5:00 - 5:05 pm**

**Welcome and Introduction to the Speaker**

Priyadarshinee Shrestha  
*(Secretary, IMI / WWF-India)*

**5:05 - 5:45 pm**

**Dr. R.S. Tolia Memorial Lecture**

Dr. Eklabya Sharma  
*(Vice Chancellor, TERI School of Advanced Studies)*

**5:45 - 6:00 pm**

**Dr. R.S. Tolia Award 2021 Announcement**

**Few words from the Winner**

Ms. Preranandita Baisnab  
*(Programme Coordinator, IMI)*



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**Valedictory Session**

**6:00 - 6:05 pm**

**Welcome address**

Mr. Praful Rao  
*(President, DHI / STH)*

**6:05 - 6:15 pm**

**Outcomes and recommendations of SMDSX**

Ms. Priyadarshinee Shrestha  
*(IMI/WWF-India)*

**6:15 - 6:25 pm**

**State Chapter Actions for taking forward the recommendations**

Ms Binita Shah  
*(IMI/SARG)*

**6:25 - 6:35 pm**

**Youth Recommendations**

**6:35 - 6:45 pm**

**Announcing the Indian Himalaya Photography Contest**

Mr. Praful Rao  
*(President, DHI / STH)*

**6:45 - 6:55 pm**

**President's Remarks**

Mr. PD Rai  
*(President, IMI)*

**6:55 - 7:00 pm**

**Vote of Thanks**

Mr. Roshan Rai  
*(Secretary, DHI )*

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Partners &  
Sponsors' Booth



### **Trends and Distribution of Infectious Disease Outbreaks in the Indian Himalayan Region**

Dr. Joshitha Sankam  
*(IISc-DCCC)*



### **Mental Health and Youth**

Hamsini Ravi  
*(Mariwala Health Initiative)*



### **Landslide Paper and Mobile Tracker**

Mr. Praful Rao  
*(President, Darjeeling Himalaya Initiative / Save The Hills)*



### **Plastic Crisis in the Mountains**

Ms. Priyadarshinee Shrestha  
*(IMI/WWF-India)*