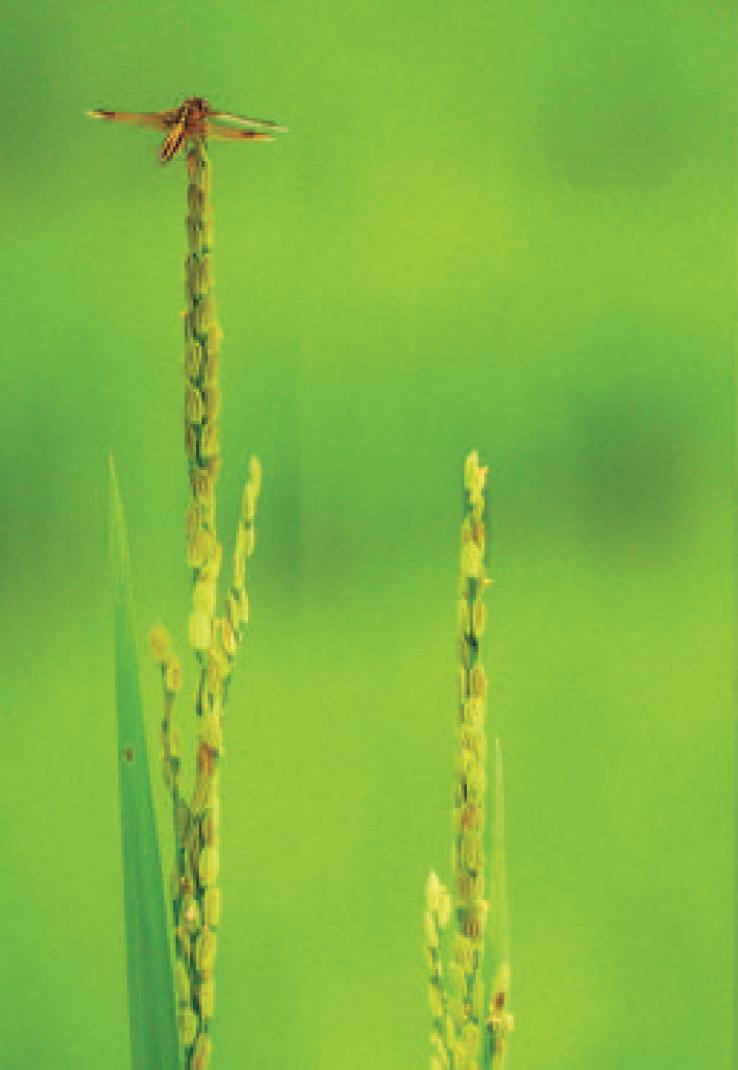
NDIAN MOUNTAIN INITIATIVE



MOUNTAIN









Contents

03:	Introduction
04	Sustainable Mountain Development Summit (SMDS)
06	SMDS-III: The Kohima Summit
10	Summit Theme: Agriculture
14	Summit Theme: Forest
18	Summit Theme: Water
24	Thematic Sessions & Outputs – Agriculture
31	Thematic Sessions & Outputs – Forests
37	Thematic Sessions & Outputs – Water
45	Indian Himalayan Legislators Meet
47	Indian Himalayan Policy Makers Dialogue
50	SAPCC Mountain Caucus
51	Landscape Yatra
55	3 rd Indian Himalayan Photography Competition
58	The Food Fest: Celebrating Food and Food Production Systems
61	Exhibitions
63	Culture and Art Events
<u>65</u> :	First Indian Himalayan Youth Summit
70	List of participants — SMDS-III
86	List of Participants — Youth Summit



Abbreviations and Acronyms

CDM Clean Development Mechanisms

CHEA Central Himalayan Environment Association

CSS Centrally Sponsored Schemes

ECOSS Ecotourism and Conservation Society of Sikkim

EIA Environmental Impact Assessment

FRA Forest Rights Act

GLOBE Global Legislators Organization for a Balanced Environment

GLOF Glacial Lake Outburst and Flood

GOI Government of India

HYCOS Hydrological Cycle Observing System

ICIMOD International Centre for Integrated Mountain Development

IHCAP Indian Himalayan Climate Action Programme

IMI Indian Mountain Initiative

IPCC Inter-governmental Panel on Climate Change

MGNREGA Mahatma Gandhi National Rural Employment Guarantee Act

MLA Member of Legislative Assembly MOA Memorandum of Association

MoEF Ministry of Environment and Forests

MOMS Meeting of Mountain States
MOU Memorandum of Understanding
MRC Mekong River Commission

NAPCC National Action Plan on Climate Change NEZCC North Eastern Zonal Cultural Centre

NGO Non government organization
NTPC National Thermal Power Company
PES Payment for Ecosystem Services
POP Persistent Organic Pollutants

REDD Reduced Emissions from Deforestation and forest Degradation

SAPCC State Action Plan on Climate Change

SDFN Sustainable Development Forum Nagaland



INTRODUCTION

Indian Mountain Initiative

The Indian Mountain Initiative (IMI) is a civil society movement involving the 11 Indian Himalayan Mountain States and the Darjeeling district of West Bengal. With the vision of "Making people of India proud of our mountains" the IMI is a collective initiative for recognizing the value of mountain regions and enabling people to realize the potential by integrating knowledge and experiences of multiple stakeholders. It is an Inclusive and Collaborative Initiative of large number of constituents who are united by the common vision and mission

The Indian Mountain Initiative (IMI) brings mountain concerns to centre stage in regional, national, and global agendas through sustained and informed dialogue between all stakeholders. It provides 'a functional discussion platform for Indian Mountain States with the determination to follow up what gets collectively agreed upon'. It thus provides a forum to all Indian mountain states to discuss the mountain agenda both horizontally and vertically on a continuous basis and bring effective policy mechanisms into place. As a proactive, voluntary collective of individuals and organisations, which are not mandated by any personal agenda but the common vision and mission, the IMI is process drive and goal oriented and in itself is a dynamic, constantly evolving and continuous process.

The Mission of the Indian Mountain Initiative (IMI) reads as follows: "We are a collective initiative for recognizing the value of mountain regions and enabling people to realize the potential by integrating knowledge and experiences of multiple



stakeholders." The IMI aims to work towards highlighting value of the mountain region, to the nation and its people, in the form of rich and abundant resources. It also aims to work towards enhancing the value for the mountains people by enabling grassroots organisations and impacting policy changes from the perspective of the mountain people.

Vision

"Making people of India proud of our mountains"

Mission Statement

"We are a collective initiative for recognizing the value of mountain regions and enabling people to realize the potential by integrating knowledge and experiences of multiple stakeholders."



Sustainable Mountain Development Summit (SMDS)

The first IMI-SMDS Summit was held in Nainital and hosted by CHEA on 21st to 22nd May 2011 and the second in Gangtok by ECOSS on 25th-26th May 2012. The Summits were aimed at institutionalizing a mountain perspective through sharing and collaborating on research, information and knowledge dissemination. These paved the way for a more enriched advocacy in influencing public policy at all levels through dialogues, networking and various other activities involving all types of stakeholders.

Both the Summits had participants with representatives from all the Indian mountain states and the Darjeeling district

of West Bengal. Participants included a rich mix of eminent scientists, researchers, academicians and scholars from reputed scientific, research and educational institutions, senior and distinguished officers from various state governments and governmental organisations, local government representatives, representatives from national and grass-roots level NGOs, business and industry representatives, consultants, and experts, eminent citizens and representative of the media.

The Summits have so far deliberated on themes with the objective to inform and influence public policy formulation with regard to the mountain region. Following are the themes deliberated so far:





- 1. Hydropower Projects in Mountain Regions, (SMDS-I)
- 2. Adaptation Measures under Climate Change Scenario in Mountain Regions, (SMDS-I)
- 3. Rural Tourism in Mountain Regions (SMDS-I)
- 4. Community Forestry in Mountain Regions (SMDS-I)
- 5. Water hazards, ecosystem services, rights and policy (SMDS-II)
- 6. Mountain livelihoods (SMDS-II) and
- 7. Communities and forests (SMDS-II)

The third Summit (SMDS-III) continued in line with the objectives of the previous two Sustainable Mountain Development Summits (SMDS) - to provide a platform for Indian Himalayan states to come together and discuss issues of development priority,

as well as, to find ways to influence national and state public policies. The Kohima Summit was designed to look at, share and understand policy and governance issues around the selected themes so as to learn from and suggest key interventions based on field experiences and intellectual inputs.

Besides academic discourses and networking, the summit also emphasised on processes of cultural and social exchanges through special site visits based on the themes, home stays, cultural and musical programs, food expositions and other events. Special events such as the Meeting of Youth from Indian Mountain States, Legislators' Meet of Indian Mountain States, Meeting of Policy Makers from Indian Mountain States and also sessions on State Action Plan on Climate Change (SAPCC) and on Himalayan Disasters.





SMDS-III: The Kohima Summit

Numerous factors run parallel in the lives of the mountain dwellers, while the topography sets them apart from those in the plains, it binds the communities in the mountain regions into one as their lives are based on the foundation of such terrains, traditions and resources therein. Their lives, including culture and social structure, are profoundly related to water, forests and agriculture which were the main themes of the SMDS-III.

While the attraction of mountain regions comes in several forms, particularly as tourist destinations - because of its rich landscapes, diversity and culture - there can be no denying that things are not as calm and tranquil as it seems. There are huge challenges that mountain communities

face and these range from policy gaps to poor infrastructure, opportunity costs and losses, reduced livelihoods options and alienation from all almost aspects of development.

The SMDS-III in Kohima, Nagaland brought together more than 350 registered participants from all 11 Indian Mountain States and the Darjeeling Hills District of West Bengal and numerous visitors and walk-in participants. Participants consisted of elected legislators, policy makers, development specialists and practitioners, researchers, NGOs, students, academicians, youth representatives, media persons and people from all walks of life.





Pre Summit Events for SMDS-III

Pre-summit events and meetings enable reaching out to all stakeholders across the mountain region and facilitated identifying issues, paper presenters, participants and strengthening the IMI network upwards from the ground level. It proved to be a crucial and critical activity in enhancing not just the quantity of participation but the involvement of people from the region.

Meeting of Indian Mountain States in Delhi

The first official event post the SMDS-II in Gangtok, Sikkim to formally kick-start the Kohima SMDS-III was the Meeting of Mountain States (MOMS) in Delhi. During this meeting, the team from the Sustainable Development Forum Nagaland (SDFN) laid out its strategy and plans for the 3rd SMDS to be held in Kohima.

State Level Workshops

In partnership and collaboration of individual members and organizations, a series of State Level meetings were held in Arunachal Pradesh, Assam, Darjeeling, Meghalaya, Mizoram, Nagaland, Sikkim and Uttarakhand. The state level meetings facilitated each state to independently organise themselves, select participants and identify state specific issues, and finalise on papers presenters.

Pre Summit Events and Media Campaigns

In order to build up the momentum and draw public attention and interest to the Sustainable Mountain Development Summit, a number of public events and media campaigns were planned across numerous states. The events ranged from a Grassroots Comic making workshop in Nagaland to meetings, workshops and the publication of numerous articles in local and national dailies across the mountain states.





The Summit Process

Building upon the learning from the previous Summits, the SMDS-III develop the sessions making it more participatory and in a dialogue format so as to provide sufficient time to enable participants to share experiences and concerns. The summit did away with the usual paper presentations but accepted papers to be used as references and also for compiling into a compendium. Three key-note speakers were identified for each theme and teams of thematic subject experts and anchors formed for each thematic group. Each team of subject matter experts reviewed all papers received under their respective themes and further compiled the information into a single presentation which was shared with their thematic group before the deliberations started. Following are the key processes adopted for the **Kohima Summit:**

Plenary sessions

Key note presentations on the three themes from speakers during the Inaugural Session. The speakers were briefed in advance on the line of presentation so that their presentations encompassed issues the Summit planned to address, deliberate and work upon. Plenary sessions also included the presentation reflecting the "Voices of Mountain Youths" so that their concerns, ideas and challenges were

included and not lost during the deliberations in the thematic break-away groups. Special presentations, as well as, the outputs from each thematic group were also shared in the plenary sessions so that others have a chance to input to the outcomes.

Break Away Sessions

Participants were divided into the different thematic break-away groups of Agriculture, Forests and Water. Each group was anchored by a team subject specialists and one professional facilitator. The role of the facilitators was simply to ensure participation and to synergize the richness of the deliberations based on the group's collective experiences, lessons and concerns. The use of participatory methodologies such as group discussions, the world café and wide use of meta cards, sorting techniques was encouraged.

The anchors presented the lead paper reflecting the sum of ideas and issues raised in the submitted papers, as well as, the thematic key note address - to the group and then opened up for deliberation. Concerned paper writers were also encouraged to share their key ideas and findings if any. The outcome from the group's discussions were then refined and presented as group outputs in the closing plenary.







Group Activity:

Following all the deliberations, presentations and Q&A sessions, each group through a facilitated participatory process worked to produce their "The Ways Forward and Recommendations". They came up with actionable ideas for research, policy and pilots, as well as, with suggestions and recommendations for policy and development.

Site Visits

As a way to facilitate exposure and handson experience for participants, especially those from outside Nagaland, special Site Visits based on the themes were organised in numerous locations around Kohima. The sites were identified and put up on the Summit website for participants to select and participate on a subsidized payment system.

Side Events

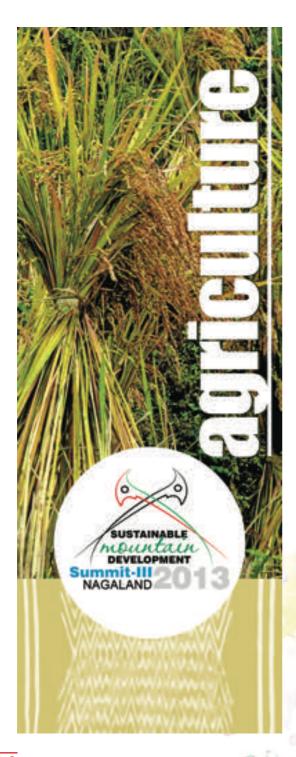
Like in the previous Summits, various sideevents were organised to allow a wider range of deliberations and accommodate different interest groups. The side events included the following:

- 1. 1st Indian Himalayan Policy Makers Dialogue
- 2. 1st Indian Himalayan Legislators Meet
- 3. Indian Himalayan Meet on SAPCC
- 4. Indian Himalayan Disasters
- 5. 3rd Indian Himalayan Photography Competition
- 6. Exhibitions
- 7. Food Festival Celebrating Local Food and Sustainable Production Systems





Summit Theme: Agriculture



Mountain Agriculture

Climate change is bound to have multifarious impact on agriculture and its practitioners. Change in precipitation patterns, moisture or temperatures can lead to alteration of crop cycles across the fragile mountain regions leading to shortage in crop production, livestock and food in general. The established agriculture practices in mountainous regions may no longer be viable with changing climatic conditions and this need to be looked at with a perspective that recognised traditional practices and knowledge systems. The challenge would then be to devise positive steps in adapting to the newer climate along with adaptation and mitigation efforts.

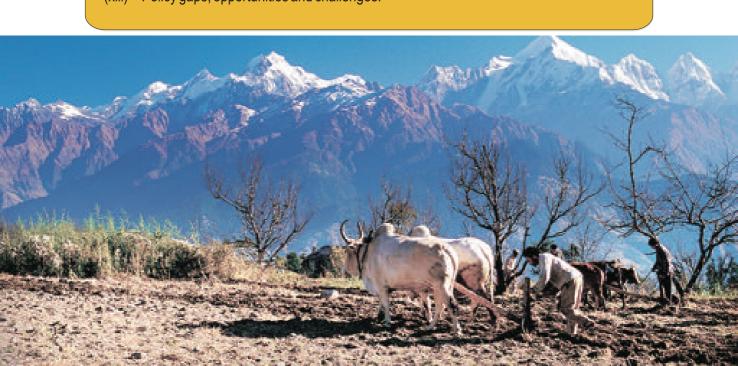
While acknowledging traditional practices and knowledge systems, as well as, the rich agro-biodiversity in mountain farming, the summit looked into exploring such problems of agriculture with the focus of sustainable agricultural options for mountain regions. The various challenges and opportunities available for agriculture were closely looked into and discussed in different sub groups.

Given the multi-dimensional reach and nature of climate change, the also groups also deliberated upon the above mentioned issues in the light of various cross-cutting factors such as human development, gender, which intersect with the various aspects of climate change. Similarly, understanding the role and importance of technological innovations for dealing with climate change is crucial at this juncture as humans gear up to deal with the impending effects of climate change.



Guiding points for paper writers on Agriculture theme

- (i) The gradual 'adulteration' of mountain agriculture with the conventional 'green revolution' approach, causing irreversible damage to the sustainability of traditional mountain agriculture (and the resultant loss of agro-biodiversity)
- (ii) The stagnant/rapidly declining productivity and declining returns, resulting in outmigration and the growing shift of management responsibilities on women (particularly in the western Himalayas) - commonly known as 'feminisation' of agriculture,
- (iii) Challenges, opportunities and responses to growing number of women in agricultureby policy makers, administrators, researchers, technologies for women.
- (iv) The rapid shift from food crops to cash crops and the resultant 'elite capture' of resources (also implications for growing disparities),
- (v) Challenges and Opportunities given the impacts of CC,
- (vi) The importance of mountain agro-diversity in CCA, especially the need for identifying/developing stress tolerant crops to meet the growing needs for food (and ensuring food and nutrition security).
- (vii) Farmer rights on traditional seed-maintenance and continuity of development challenges.
- (viii) Foresight on mountain agriculture- what do we want future of mountain agriculture to be and what is required to make it possible.
- (ix) Alienation of mountain youth from agriculture because of educational system, policy neglect, aspirations and perceptions and what needs to be done.
- (x) Agriculture still provides gainful employment to a majority of mountain population- what alternative to this mass employment for mountain people?
- (xi) Food and nutrition security for mountain regions how can it be secured if not through local farmers (especially in disaster prone mountain topographies.)
- (xii) Community based and local innovation in agriculture not only research by scientists but farmer led research is important especially with regard to the need to continuously adapt to climate change.
- (xiii) Policy gaps, opportunities and challenges.





Key Note Address: Mountain agriculture and livelihood - Dr. Tej Partap, Vice Chancellor, Sher-E-Kashmir Agricultural and Technology University of Kashmir, J&K

Mountain regions are home to so many special produces, for example, pineapples are widely grown in Nagaland but why has it not been able to transform the economy of the people? Mountains also offer so many opportunities such as mountain tourism but this unfortunately too has not been harnessed well enough. The development of mountain regions and its agricultural practices, including pasture have so many linkages need to be addressed from a holistic perspective. It has been said that "God is destructed where man has constructed and this seems to be so apt to the Himalaya states.

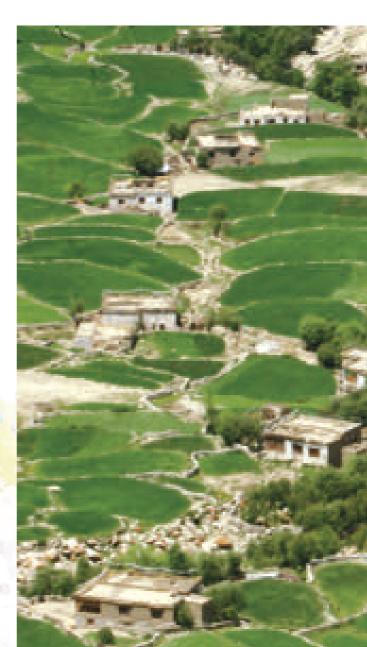
In recent years farmers have begun to experience changes due to shifts brought about by infrastructure development and education. Farming is no longer the same and the new generation of farmers seem more cash than sustainable agriculture. Integrated hill agriculture has disintegrated under the combination of three factors where mountains have become 'crowded, hot and flat'.

- i. Crowded with the increase in population and shrinking land holding, reshaping farmer's choices and fragmented croplands.
- ii. Hot with the global warming and climate change impacts on hill agro ecosystems.
- iii. Flat with the increasing economic opportunities for growth of hill farm economy in a liberated world.

What does a hot-flat-crowded world mean to the mountain farmer? Most mountain farmers live on subsistence farming and it may not be not sufficient for them to survive the 21st century where urban civilizations are fast crowding

mountain areas. Policy makers need to understand this and facilitate the development of sustainable livelihood options for mountain farmers. The challenges are complex and while hill farming trends may have changed in some places, traditional systems of farming like shifting cultivation and the use of traditional knowledge are still prevalent in many mountain societies.

On the other hand, climate change offers new challenges and opportunities to mountain farmers. New crops are fast being introduced and traditional farming is giving way to new and modern farming

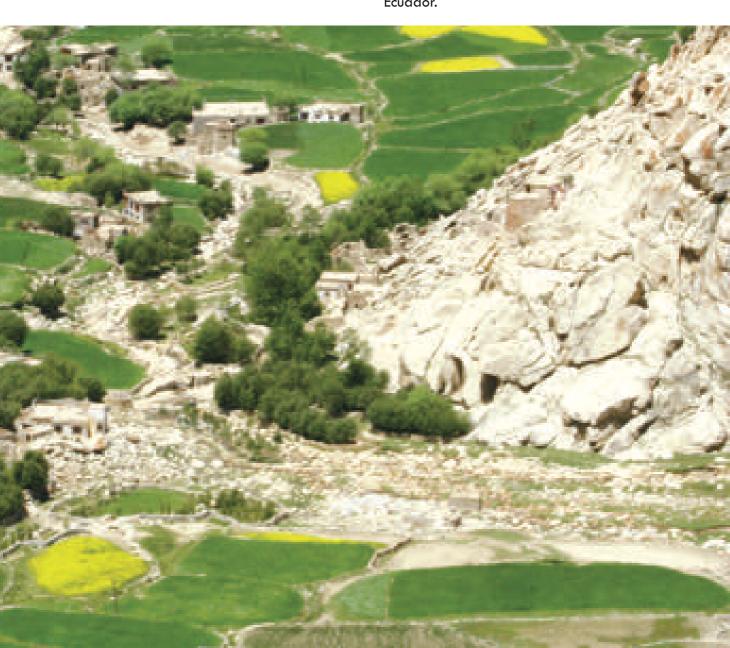




ways and livelihoods. There is increase in the family income ensuring food and income security, enhanced livelihood options and activities, including livestock rearing but it also has negative impacts. Climate change in the mountains also means water scarcity, migration, extinction of mountain crops.

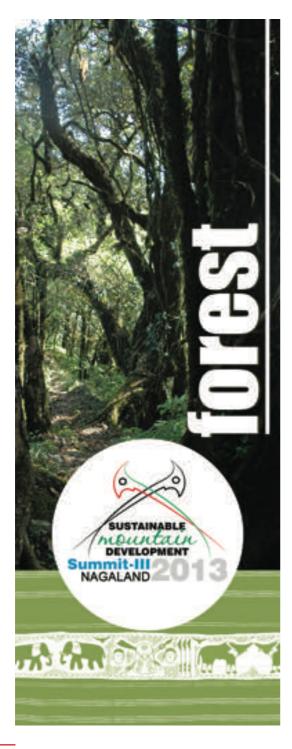
The trend among the mountain community people has shifted from illiterate mother to literate daughter, from nomads to government servants and farmers to entrepreneurs. In such a growth pattern we need to find different ways to address the changing patterns among the

community. In respect to mountain hill agriculture the policies, planning, investment of technologies and infrastructure development should be specific to mountain systems considering the inaccessibility, fragility, marginality, diversity and traditional mountain agriculture system practiced by the mountain hill farmers. Make opportunities for mountain farmers some may continue but many may get lost in the years to come. Eco and social marginalization of mountain farmers need to understand the lessons of what is happening to mountain farmers in China, Japan, Swiss, Bolivia, Peru and Ecuador.





Summit Theme: Forest



Forests

It is not only the mountain communities who are dependent on forests for their well-being but a majority of the downstream communities who dependent on the forests of the Himalayan regions for their survival through the numerous ecosystem services provided by the Himalayas. The forests in most of the Himalayan region are controlled by communities or community based forest institutions like the Van Panchayats in Uttarakhand. In spite of the huge dependence on such forests, there continues to be a lack of clarity on tenure, ownership and benefit sharing mechanisms.

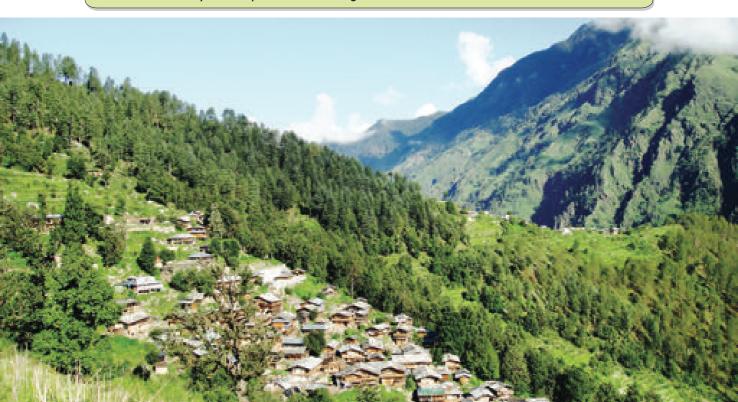
Forests are also central to climate change mitigation strategies. The significance of forests in fighting climate change lies in the fact that they serve as carbon sinks which sequester CO2 from the atmosphere thereby lessening the accumulation of greenhouse gases. The Indian Himalayan mountain regions are naturally bestowed with plush green coverage. However, the challenge in maintaining a healthy forest cover is increasing with population growth and developmental aspirations of governments. This brings the need to engage into a dialogue with policy makers and civilian communities to understand the state of forests and their growth.

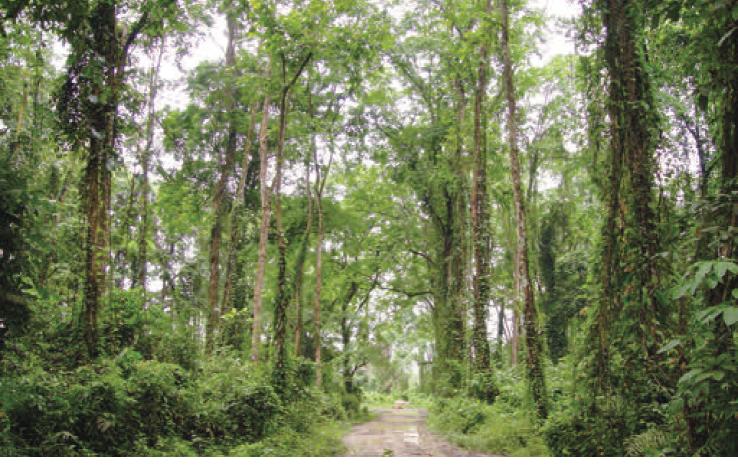
The summit discussed governance and policies regarding forests in the region with specific focus on community governance. Aspects for maintenance of forests, available policy options within the context of climate change and the implementation of REDD plus were also discussed within the sub theme.



Guiding points for paper writers on Water theme

- I. Forest degradation more than the actual cutting of forests, the gradual degradation of forests, typically a result of heavy biomass collection (lopping of trees, litter removal etc), is damaging Himalayan forests.
- ii. Human dependence on forests in addition to a high dependence for energy (mostly as firewood), agriculture is heavily dependent on forests, be it for fodder and nutrient inputs in the western Himalaya or a direct dependence on forest lands through Jhum cultivation in the eastern Himalaya. In addition, ecotourism, the collection of NTFP (specially by the poorest and most marginalised) and other aspects of forest dependence could be discussed.
- iii. Ecosystem Services the Himalayan forests provide a variety of ecosystem services which promote and support the lives of hundreds of millions of farmers in the indo gangetic plains of India as well as Bangladesh and Pakistan. Valuation systems of these ecosystem services are poorly understood. The cross cutting nature of ES and developing these into a common agenda for Himalayan states is as yet at an incipient stage.
- iv. Governance and development The management of forests varies across the Himalayan arc, from the Van Panchayats of Uttarakhand to the importance of Village Councils in Nagaland to autonomous councils in others. Tenures differ greatly from largely state ownership in the western Himalaya to community/tribal ownership in the east. This variety of tenurial and usufruct regimes is locally appropriate but may have inhibited the development of overarching governance systems of these forests and the development of national policies that incorporate forests into development models.
- v. Climate change the impact on forests and livelihoods. How corridors and migrations routes become even more important and the impact of increased climatic variability and high precipitation events which can lead to disasters. Practicality and importance of mitigation mechanisms such as CDM and REDD.





Key Note Address: 'Forests of the Himalayas - current scenario, future prospects' - Rajesh Thadani, Honorary Director, CEDAR, Uttarakhand

Forests of the Himalayas are unique and of international importance but rapidly declining in quality and quantity. This region has extreme diverse pattern that vary from desert to the wettest place on earth. The depleting forest cover in the Himalayas is important since the degradation of forests that is occurring with the loss of dense forest cover which is greater than 40% canopy. If this degradation continues at the current rate, the Himalayas will only have about 10% of its land covered by dense forests.

The degrading quality of forests resulting in loss of dense forests due to biotic pressure on these forests from local communities, fodder load, use of fertilizers and fuel. Forests cover is further degraded due to urbanization, roads construction, and conversion of forests areas to agriculture, hydro electric projects and other development projects. Agriculture systems have depleted with collection of fodder and fuel. The fall in the quantity and quality of forests cover needs to be

well documented and need to move beyond technical reports and 'work' with nature. The fall in quantity of forest cover is not well documented and the official figure underestimates the loss of forests.

Despite differences across the Himalayas, there are similarities such as chronic distance, weak community institutions and development pressures. The fragmentation of forest is important in a climate change scenario, forests get fragmented climate change requires migration of species to cooler areas of precipitation that are more appropriate for these species.

The recognition of ecosystems services were there but only in recent years, emphasis has been made particularly on forests. We must recognize the ecosystem services of our natural resources and the ability of forests to store carbon. In a climate change scenario, it is urgent to focus on CDM, REDD and PES. Monetizing ecosystems with benefits from systems like the CDM and REDD such as the recent financial support from the 13th Finance Commission that could get payment for ecosystem services that flow from the forests, however, most benefits for the community are still elusive. "We abuse land



because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect" - Aldo Leopold: A Sand County Almanac.

As a community, we need to respect that forests are a part of a varied landscape and legislation to protect forests is not enough. We need to protect forests and diversity from within local communities and beyond. We must go beyond simply seeing the trees in a forest and understand the ecosystem structure and functions, where the ecosystem services matter more than individual trees.

There is huge degradation of our ecosystems and degradation goes beyond deforestation. It includes loss of fauna, spread of invasive species that lead to decline in ecosystems and the ultimate removal of ecosystems functioning. Unfortunately, there is no data on the Himalayan region and even if data is available, it is not reliable data. Therefore, the need to build institutional capacity for data collection is of paramount importance.



The presence of micro raiser a function that helps the trees roots to expand and get more water and nutrients fell by 90%. These are insidious activity which we do not notice but are extremely important. We need to think like a forest, work with nature rather than opposing nature. Forests are not agricultural lands where we can plant or control. Natural regeneration of forests or direct seedling works better with nature which was done for more than 100 years, why not continue with the same practice of natural regeneration rather than nursery regeneration. In the Eastern Himalayas, discussions are on replacing jhum cultivation with terrace agriculture. People can try animal forestry where ecosystems functions are limited. One can create the structure and functions of forests, plants that would preserve some of the ecosystems of the forests and still provide all the forest produce e.g. tree-roots bridge in Meghalaya.

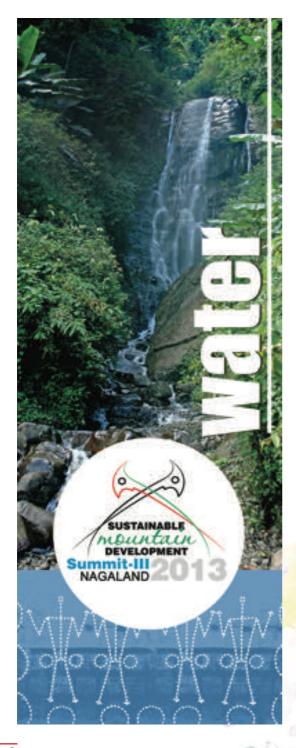
There has to be policies that facilitate reducing pressure on forests through alternate biomass products, create clean energy such as solar technology and bio gas plants that would help reduce black carbon which in turn improve respiratory health, reduce black-out and reduce women's work drudgery.

Of late, community institutions are more proactively talking on forests protection and in such circumstances, the monetary and any other benefits from the forests must go to the people such as PES, CDM and REDD benefits to infuse modern communities. This will help local communities access modernized institutions that will further help and encourage them to sustainably manage their resources. Training of people and awareness to understand importance of forest benefits, prevent migration although most regions are sparsely populated, they are important for security and sustain. Forests of the Himalayas are unique so also are the voices of the communities.



6

Summit Theme: Water



Water:

The Himalayan region in India covers about 5 lakh square km and consists of ten states and two districts. It is inhabited by approximately 64 million people per the 2001 census. Water resources in the region are under stress due to increasing population, erratic rainfall and winter aridity due to climate change. The mountain states of India face common issues and challenges. Similarly, mountain peoples across the Himalayan region have realised that the solutions to meet these challenges are also similar. Implementing them will become easier if the states work together.

Climate change is expected to have disparaging effects on water security across the globe, especially in geographical regions with difficult terrain such as mountains. Melting of glaciers, ice caps leading to unprecedented flooding and subsequent droughts are some anticipated impacts of climate change. These are bound to pose as serious challenge to water security for inhabitants of mountainous regions. On the other hand, away from the glaciers and ice caps are the streams, springs and other water bodies, including watersheds and catchments under the direct use and control of communities in the mountains.

Water resources are not only diminishing at a fast pace but are first becoming centres of conflicts with regard to access, rights and even control not just amongst communities but in some cases also between communities and the states. The thematic group on water therefore explored all these factors, as well as, governmental policies on water management.



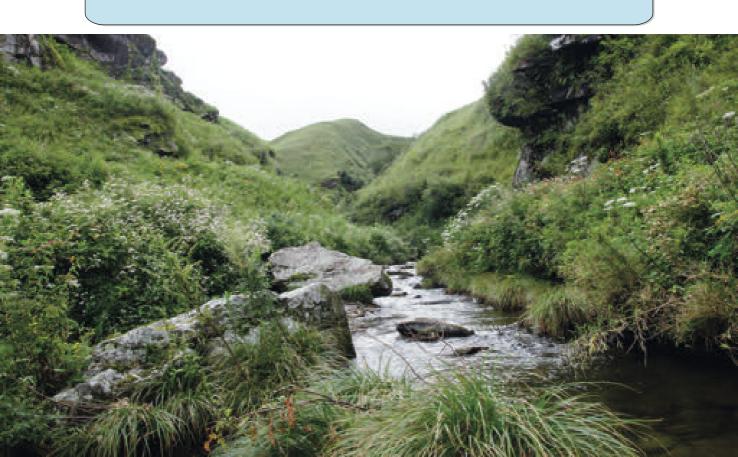
Guiding points for paper writers on Water theme

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Climate change is a reality in the mountains, more than in any other part of the world. It influences every aspect of life in the Himalayan region. Conflicts are exacerbated by heightened water insecurity, which also affects peoples' access to water. Technologies need to take into consideration future weather and water behaviour in a changing world and policies for water conservation also need to keep an eye on future changes. Climate change is therefore a crosscutting issue in the four themes listed above, and we hope that your papers will reflect this reality.

i. Water conflicts

Perhaps the most contentious issue in the mountain states is that of hydropower. The aggressive construction of dams in the mountain areas to satisfy a perceived (and magnified) demand for power does not acknowledge the concerns, wishes and demands of the mountain people. This exploitative focus on 'maximum power generation' is widening the rift between mountain peoples and the rest of India. While hydropower can be - if ethically and conservatively planned - a source for clean energy, the planning and construction process needs to take into consideration mountain communities and mountain ecosystems.





Conflicts on a more local level are also increasing. While on one hand it is commercial establishments versus local communities, on the other it is also between communities or even the states. This is manifesting itself as increased control of once-free springs restrict access to other people who may wish to share the water.

ii. Water rights and access (including governance and gender issues)

Receiving a quarter of the country's rainfall while only housing 6% of its population, the Himalayas seem water-abundant. The reality however, is that the odds are stacked against people having equitable access to water. First, topography plays an important role. The steep slopes mean that most precipitation flows down to the drain line of the watershed and so towards the plains. Since most villages are located on the slopes or near the ridges, water availability post-monsoon is low. Climate change is manifesting itself as fewer rainy days with more intense rainfall. This too means a decrease in water availability. Several villages in Uttarakhand have a separate spring for the dalits, which is often seasonal. The people dependent on these springs are then at the mercy of their higher-caste neighbours for access to water. Urban-rural conflicts over the use of water, especially during the summer months are on the increase, as was illustrated in the Kosi basin, Almora district where a ban on irrigation supplies water to the city of Almora. Government policies and projects that look upon the Himalayas as a source of supply of water to cities in the plains exacerbate this discontent. Swajaldhara, which gives communities ownership over their water supply and the renewed focus on resurrecting dying traditional water sources are positive initiatives.

iii. Innovations and technologies for mountain water management/conservation

Why are hydrams not the norm in mountain areas? The answer to this question may provide help with designing a strategy that focuses attention on technologies appropriate to the mountain





areas. In this case, appropriate technology will be one that makes use of the topography and the climate to increase efficiency rather than to fight it. Some of these technologies can be found in traditional water management techniques, while some are the product of innovative research. Hydrams, micro-hydel plants, and gharats (traditional water-based mills) put the terrain to work to produce energy and goods. Compost toilets and traditional architecture conserve scarce resources. Solar pumps, photovoltaic cells, and Norphel's technique of storing water in its frozen form all use local weather to human advantage. Research on innovations and technologies in the mountain environment needs to be two-pronged. Development of new and robust technologies that are suited for mountain environments and resilient enough to encompass future climatic changes is necessary; sociological research into the question of why existing appropriate technologies are not more widely embraced by both the local communities and policy makers is perhaps even more pertinent.

iv. Policy gaps and opportunities in water conservation and management

There are several policies that are targeted towards increasing control of tribal communities over their natural resources. Swajaldhara, aimed at enabling villages to take ownership of their water supply systems, is functioning throughout the nation. What do these policies mean to the tribal councils and Gram Panchayats they are designed to empower? While the north-eastern states claim there is a disconnect between DONER and their needs, some individuals are campaigning for DONER to include the remaining Himalayan states within its purview. A rigorous analysis of the efficacy of these policies and their implementation at the Panchayat level needs to be carried out. Does DONER have a role to play in the NorthEast or in the entire Himalayan region? How can its relevance to the Himalayan states be increased? The states are now tasked with developing the State Action Plan for Climate Change. Will this prove to be an opportunity for the states to define policies to manage their natural resources and their unique vulnerabilities, or will it remain another 'on-paper' exercise?





Key Note Address: Floods and Disasters - Dr. David Molden, Director General, International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

Himalayas are prone to disasters. According to statistics from 1990-2012, the Hindu Kush Himalayan region has had an average of 76 disaster events each year. On an average, more than 36,000 people are killed and 178 million affected each year due to natural disasters in the Himalayan region where 1/3 of these disasters are floods.

Floods are the most common disasters experienced in the region. Floods are mostly caused by riverine floods, dam outbursts, cloud bursts, glacial floods. Flash floods lead to higher mortality and these are often trans-boundary. This brings to light the issue of shared vulnerability and the need to work together across borders and the opportunity to prevent disasters.

There however is the large challenge of lack of exchange of data and information across boundaries that lead to inadequate lead time. The lack of data for high altitudes is further aggravated by the fact that there are often no weather and satellite stations or technology to detect/estimate rainfall, flood events, snowfall data on hydro meteorology. Having a diversity of technical, scientific and institutional capacities is important and need to be encouraged upon by each state.

Trans-boundary floods have great impact on the lives and properties of mountain communities. It is responsible for 59% of displaced people, 32% of high casualties and 14% damage to properties due to floods. This indicates the need to urgently manage to prevent such situations and not treat it as a matter of fate. It will be much better if people manage a situation that they can relate to and to work together across borders and take on the

opportunity to prevent disasters. For example, in April 2000 a landslide in the Yigong river a tributary of Yarlung (Brahmaputra) river in China, created a flash flood which caused huge casualties in India but none in China.

Information and the communication system need to urgently address data gaps, proper infrastructure, planning, management and trans-boundary cooperation to deal with any flood situation. It becomes important in making information travel faster than flood waters. Regional Flood Information systems need to be initiated and established. HYCOS is one example of such a system, it is a vehicle for technology transfer, training and capacity building. The Mekong HYCOS, for example is managed by the Mekong River Commission (MRC) - an inter governmental agency - for joint management of shared water resources and sustainable development of the Mekong river. The Mekong HYCOS network comprise of Cambodia, Lao PDR,





Thailand, Vietnam and China with a total of 49 stations that provides flood situation information to national agencies every 15 minutes and forecasting on flood management and mitigation programme.

An alert using low technology with low cost was applied in Assam where the local communities were trained on how to use these systems. Considering the migration of men, women should be included as key stakeholders while responding to disasters enable them to use systems such as mobile alerts, SMS. Towards such efforts, ICIMOD set up MODIS- a Forest Fire Detection and Monitoring System receiving facility that helps provide timely data for various applications including early flood and fire detection. One such alert was provided in Assam which MODIS images are used for National and Regional level mapping including rapid response after a flood. MODIS was developed by ICIMOD in close collaboration with Department of

Forest, Nepal in March 2012 with SMS and email fire alerts features, sends fire notifications within 20 minutes of Terra/Aqua satellite overpass.

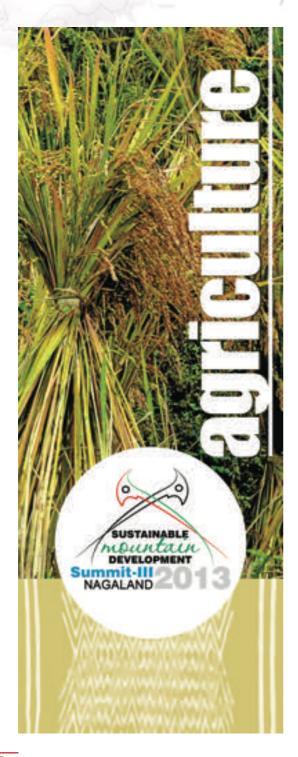
With the growing threats of disasters related to glacial melting in the Himalayas, proper infrastructure planning including highly vulnerable hydro-power plants and human settlement areas should be considered to reduce human loss of lives. The practice of risk assessment should be a standard procedure for the feasibility study of hydropower before any infrastructure is build.

In conclusion, it is important to build a continuum of information systems that are hi-tech to low-tech, the need to move from science to government and to the community for responding to disaster. Proper planning is required before any construction of infrastructure to identify risks and vulnerabilities in the mountains. Encourage trans-boundary information sharing mechanism on floods and disasters through regional cooperation.





Thematic Sessions and Outputs: Agriculture



Agriculture:

Climate change is bound to have multifarious impact on agriculture. Change in precipitation patterns, irrigation systems, etc., could lead to alteration of crop cycles across the globe leading to shortage in crop production, livestock and food in general. Established agriculture practices in mountainous regions may not be viable with changing climatic conditions. The challenge would then be to devise positive steps in adapting to the newer climate along with mitigation efforts.

The summit explored such problems in agriculture associated climate change with the focus of sustainable agricultural options for mountain regions. Thrust was also given to governmental policies regarding agriculture, food security and food systems and protection of agro biodiversity. The various challenges and opportunities related to agriculture were also looked into as a part of this sub theme which included various cross-cutting issues such as human development, gender, biodiversity, which intersect with the various aspects of climate change.

The thematic Session-I on Agriculture began with introductory address by the facilitator and the anchors. An opening note on the scope of the session was delivered by the anchor, Dr Dhrupad Choudhury from ICIMOD who that agriculture goes beyond crops and includes livestock/animal husbandry. Mountain agriculture is linked with forest, water and the mountain people. The anchor raised questions as to where



mountain agriculture is heading and how to sustain mountain agriculture, taking in regard the limited arable land in the region and lack of settled/ irrigated agriculture. He further made mention of areas of concern like food security, erosion of biodiversity, risk management, migration of people away from mountains due to absence of options for income generation, lack of interest of young people in agriculture, pressure of population and climate change. The need for stress-tolerant crops was also emphasised.

The facilitators initiated the group discussions with the question "Where do we stand? and Where do we want to go?" with regard to agriculture. Since the exercise involved expression of individual opinions, participants were asked to note down on meta cards and grade them as 'Glad', 'Sad' or 'Mad' about their opinions.

'GLAD' cards represented the areas of mountain agriculture the participants were happy or proud about and raised the following issues:

- i. Mountain agro biodiversity;
- ii. Rich natural resources;
- iii. Mountain farmers are innovative, hard-working and tenacious in the face of challenges;
- iv. Traditional farming system and indigenous technical knowledge;
- Good climate and favourable climatic conditions for cultivation of certain crops;
- vi. Potential of mountains to be developed for income generation and employment;
- vii. Opportunity for healthy organic food;
- viii. Abundance of agro products;
- ix. Great opportunities for demand of locally produced chemical free products;
- Conservation of natural resources;
- xi. Good efforts toward sustainable development and good initiative of government in programmes like Watershed Development.

After reviewing and discussing the GLAD issues, participants concluded that there is knowledge with the mountain people and



this is supported by ample natural resources and good practices. Despite adversities, farmers in mountain regions continue to be innovative. There is an underlying potential in the mountains that can be built upon. For example, organic farming provides niche opportunities for The process for mountain farmers. developing mountain agriculture cannot suddenly occur but needs to be gradually ushered in with appropriate knowledge, resources and practices. There exists a lot of positivity and opportunities for mountain agriculture but there remains question on how to build upon it and if governments serious about it?

Issues identified under 'SAD':

 Socio-economic issues: The mountain people facing socioeconomic issues like decrease in farmers, migration of people away from the mountains, drudgery of women in agriculture, land use

- conversion from agricultural to nonagricultural activities, lack of easy market access, low incentives for agricultural maintenance, low productivity and food insufficiency.
- ii. Natural resource destruction: There is destruction and degradation of natural resources due to activities of man (forest fires, deforestation) and due to natural calamities. Pollinators are declining. Shortening jhum cycle.
- iii. Erosion of culture and tradition:
 There is erosion of culture, traditional knowledge and crop varieties.
 Erosion of culture is leading to erosion of identity. There is lack of knowledge validation.
- iv. Developmental impacts:
 Urbanization and hydro projects are causing land use change.
- v. Planning, Policy and Programmes:
 There is no separate policy for mountain states. Government schemes are not reaching the people and planning is disconnected from the grassroots.





Issues identified under 'MAD':

- i. There is erosion of indigenous knowledge and local institutions;
- ii. There is a mismatch between policy and the needs of mountain people. There is lack of mountain specific policies taking into consideration the perspectives of the mountain community;
- iii. There is lack of mountain specific agriculture infrastructure (investments, marketing and distribution chains);
- iv. Agriculture research is biased toward some major crops;
- v. Research and development organizations work in isolation. There is a need for better networking and shared learning between Research and other development organisations;
- vi. Agriculture is not viewed as an enterprise opportunity; and
- v. Trans-boundary zoonotic diseases.



Ways Forward and Recommendations

- i. Mountain agriculture is different from that of agriculture in the plains and therefore there needs to be state specific mountain agriculture guidelines in each state culminating in a national policy for mountain agriculture. Questions were also raised as to whether representatives of mountain states were effectively carrying forward the voices and aspirations of the mountain people by taking into consideration specific needs of mountain agriculture within their state policies or even in representing them to the central government.
- ii. Consultative policy making process must be a norm. The policy disconnect is very evident and this





needs to be worked out not only with the centre but within the states too. In order to reduce policy disconnects between grassroots, within states, and between states and centre, consultation process needs to be institutionalized at various levelscommunity, district, state and the centre. Separate policies should be made for mountain states. Policies have to be based on the topography and socio-ecological setting of the area. Policies should be monitored and evaluated. Existing policies need to be assessed. There should be periodic review of policies and modifications should be made, when required.

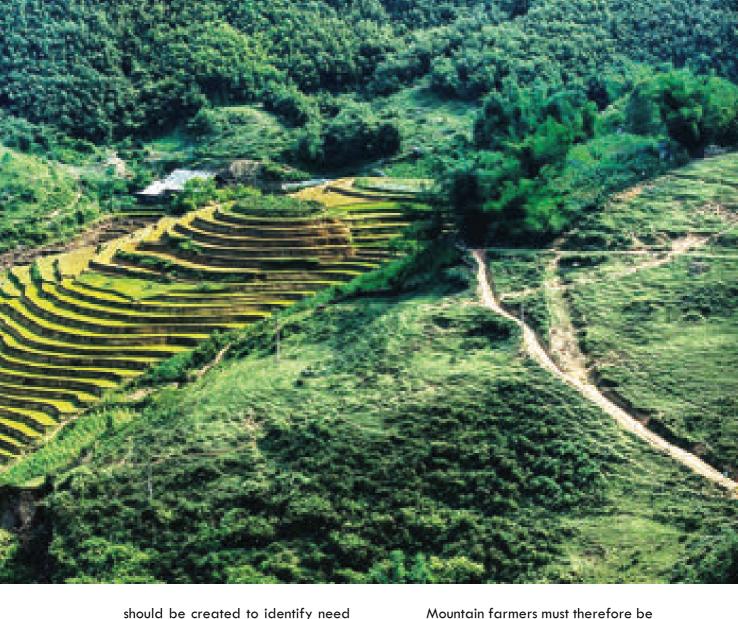
iii. The allocation of funds to mountain states need to be more than that for the plains, taking into account the expenditure involved in transportation of materials/labour wages. Huge costs are borne by the mountain states in transporting supplies to mountain areas. The differences caused by disproportionate expenditures must be covered by disproportionate fund releases.

There has to be an institutional iv. mechanism to reduce the gap between line departments and research agencies, and between line departments and farmers. This also required better collaboration between universities, researchers and policy makers, as well as, with development organizations, farmer groups and even the media. In order to make agriculture research agenda relevant and inclusive, research needs to focus on the issues of stress tolerance, small land area and climate change. In research, importance should be given to nutritive crops that can benefit communities (nutritional securities).



Site- specific research has to be carried out. Agriculture universities and Research institutions should include Mountain Agriculture as a subject. Research needs assessment ought to be done through consultation of local communities, state government universities and research centers with farmers.

v. Adequate financial support should be extended for research. Research information should be made accessible to practitioners through Information Technology. Integrated farming approach should be adopted due to reduced landholding size. Focused research on area specific crops needs to be carried out to ensure that the niche mountain products benefit the communities. A mechanism for knowledge exchange and sharing



agriculture and allied sectors. Linkages should be established between farmers, line departments and R & D Institutes. Agriculture Extension Workers should be trained and incentivized in order to transfer technologies to end users effectively. vi. Agro biodiversity particularly in mountain regions is declining very rapidly due to pressure on ecosystem and 'destructive methods of extraction', as well as, inappropriate policies and programmes. There is a need for the collective action to preserve the agro biodiversity of the mountains through appropriate policies.

based researchable issues of

vii. The rich agro biodiversity in mountain areas is of immense asset not just to the nation but to the world.

Mountain farmers must therefore be incentivised for maintaining such agro-biodiversity in their fields. Key economic/socially important components of Agriculture like Food, Grains, Vegetables, Fruits, Medicines, Aromatics & Non-land avocations should be identified to generate interest and appropriate cash crops need to be introduced. Agricultural marketable surplus should be enhanced through professional interventions and technological backup.

viii. Subsidies and soft loans should be provided to potential youth and they should be empowered through capacity building and skill development programmes. Agriculture graduates in government jobs should be encouraged for entrepreneurship through bank finances.



- ix. Appropriate technologies and mechanization should be introduced to improve efficiency in agriculture sector.
- x. Indigenous knowledge and practices should be incentivized through promotion of eco/agro tourism, festivals or cultural events and cross learning among mountain communities. Inventories need to be made and traditional knowledge should be documented. Such accomplishments made by researchers and farmers should be acknowledged and rewarded.
- xi. Traditional knowledge needs to be validated. Traditional knowledge can be integrated with modern knowledge. Traditional knowledge also needs to be promoted in schools and should be incorporated in the study course by the state and central education agencies. Certification

- and branding of local products and services need to be ensured.
- xii. Crop insurance and special compensations for harvest losses should be provided. Proper value chain linkages and Minimum Support Price for traditional crops should be established.
- xiii. Promote landscape level land-use and traditional conservation activities and management systems. Such practices need to be studied and documented as an inventory for future reference.
- xiv. Promote integrated organic farming practices.
- xv. Recognise the significance of livestock in mountain areas. Agriculture in many mountain areas cannot thrive without animal husbandry and hence, requires special attention.

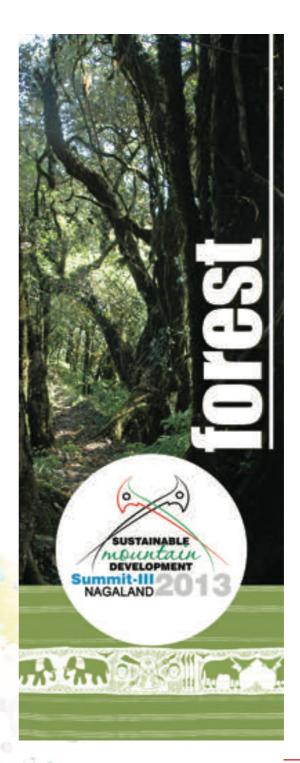


Thematic Sessions and Outputs: Forest

Forests:

The significance of forests in fighting climate change lies in the fact that they serve as carbon sinks which sequester carbon from the atmosphere thereby lessening the accumulation of greenhouse gases. Mountain regions are naturally bestowed with plush green coverage. However, the challenge in maintaining a healthy forest cover is increasing with population growth and developmental aspirations of governments. Therefore, there arises a need to engage into a dialogue with policy makers and civilian communities to understand the state of forests and their growth. The summit discussed governance issues and policies regarding forests in the region with specific focus on community governance. Aspects for maintenance of forests, available policy options within the context of climate change and the implementation of REDD plus were also discussed.

The 'Forest' thematic group had sixty-five members representing government and non-governmental organizations, while some were activists, researchers and concerned citizens. Participants reviewed the presentation by the facilitators who collated the issues and concerns raised by the numerous papers submitted for the summit.





Issues:

- i. People of the region are highly dependent on forest resources for food or trade which affects forests. The demand for forest products like timber, fuel fodder, herbs, flowers or fruits, encroachment for agriculture and habitation are major contributory factors of forest cover reduction and these need to be not only closely monitored but incorporated into mountain specific policies;
- Need for scientific studies that look at carrying capacity, productive capacity of forests and sustainable extraction issues from forests in mountain areas;
- iii. Many forest areas particularly in inter-state borders remain disputed and this has greatly hampered resource and biodiversity management;
 - Landownership in scheduled areas where community land is managed by panchayats or village authority

- need to be better understood and studied. The meaning of 'community' must also be better defined so that it is not misused;
- v. Conversion of forest lands for development or promotion of tourism remains a major issue. While roads, dams, hydro-electric projects, mines are constructed, there is also the woes of destruction and disruption of ecology.
- vi. Poor implementation of policy acts, and government's failure to keep its promises have made the people apprehensive towards the government.
- vii. Man animal conflict in mountain areas due to existence of good forests and wildlife often creates problems for livelihood activities of mountain communities;
- viii. National programmes like PMYSGSY and NREGA - boon or bane for mountain ecosystems; and
- ix. Ecosystem fragmentation.



Concerns:

- i. There is inadequate data on natural resources inventory which is not shared, not analysed nor put to right use. The existing data are often not reliable, for which the Himalayas are referred to as a 'white spot' in IPCC reports due to the lack of data and that their climate change models often use data from analogous forests. The need to build institutional capacity to get data was highlighted during the discussions.
- ii. Change in forest land and land use pattern such as shifting cultivation, mono-cultured cash crops are a major concern. Shifting cultivation remains the main form of agriculture in the mountain regions and maybe credited by some as a destructive form of forest degradation. Alternatives or ways to improve it is however critical to address such issues.
- iii. The dilemma between conservation forestry and production forestry in



forest management policies or strategies need to be reviewed. On one hand are policies to conserve and protect forests but on the other hand, there continues to be high demand on forest products, wildlife and other natural resources. Likewise, there may be policies to manage notified forests but very rarely are there any for community owned and conserved forests. There is no proper classification of forests that encompass all types of forests.

- iv. Contradictions between forest conservation and development and also traditional practises and forestry conservation. The Forest Act needs to be reviewed and revised.
- v. Climate change and adaptations with regard to forest conservation and management, changes in geographic distribution of flora and fauna and the timing of seasonal events, threat to high altitude biodiversity within forest due to presence of security forces.





Challenges:

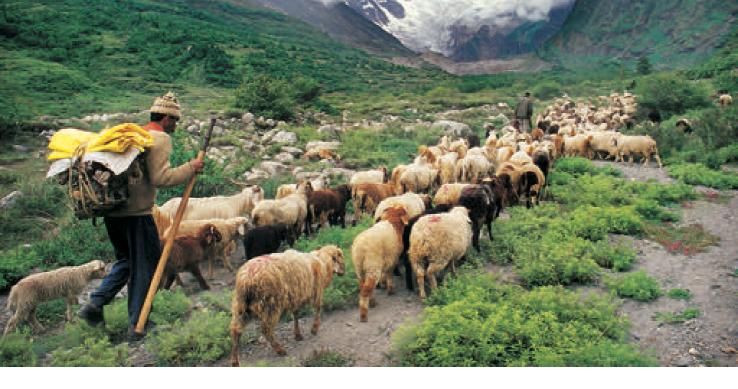
- i. The problems with regard to operationalization of programmes like the joint forest management due to lack of awareness of actual objectives; lack of legal power to stakeholders or lack of processing and marketing facilities
- The lack of continuity of good policies and support for human resources till they achieve desired goals;
- iii. The continued debate between conservation versus development, particularly in mountain regions;
- iv. Fixing optimum limit to having minimum percentage of land under forest cover;
- v. Ecosystem functions of forests not defined in laws or policies;
- vi. Degradation of forest areas;
- vii. Shifting cultivation, and
- viii. Natural resources degradation.

Ways Forward and Recommendations

Strategies

- Develop threat assessment protocols and conservation models for mountain related forests and ecosystems, including conservation strategies for medicinal and aromatic plants;
- ii. Establish market and industrial linkages to enhance the livelihood opportunities of local communities;
- iii. Link forest patches to facilitate species migration (development of corridors);
- iv. Development of a portal for Indian Mountain Initiative;
- v. Enhance forest based biomass production in the form of food, fuel wood, grass/fodder, timber, bamboo, cane etc.





- vi. Strengthen community organizations involved in forest conservation and management practices;
- vii. A holistic model to integrate issues of forestry in gram panchayats need to be delivered through training;
- viii. More freedom should be given to panchayats to implement policies which will have more effective impact on the local people;
- ix. Forest dependent communities need to be empowered and educated on sustainable development;
- x. Promote diversification of livelihoods to reduce forest dependency. For example, the Government of Nagaland practise tree farming through jhum cultivation where tree species are planted in jhum sites so that community gets its economic returns;
- xi. Provide alternative to jhum cultivation by building capacity of community at each level and link them with policy makers rather than by just introducing new practices;
- xii. Create awareness and empower stakeholders particularly the youth;
- xiii. Recognise and make use of success stories of forest conservation and management practices so that they can be replicated in other areas. For example, the introduction of biogas in villages of Uttarakhand which

- reduced exploitation of forests or the success of the conservation story of the Amur Falcons in Nagaland;
- xiv. Promote and facilitate clean energy technologies with adequate energy provision for forest dependent communities in order to reduce black carbon; improve health indicators; and reduce women's drudgery;
- xv. Plan and commission more extensive studies on geology and hydrology for stable environment. The degradation of forests due to landslide and other natural calamities, for example, cannot be contained with just tree or other vegetative plantations on hill slopes alone but need proper and in-depth study on geology and geography of the land. Such information must then be widely shared with all stakeholders and also incorporated into policies;
- xvi. Integrate forest management practises into academic curricula not just for forestry courses but also agriculture and rural development courses; and
- xvii. Need to review the agenda and impact of studies and research undertaken by national level research institutes and organizations working on forestry and mountain specific issues.



Policy and governance:

To bring about transparency and effectiveness in the implementation of forest acts and rules, there need to be good governance that is aware and sensitive while streamlining forest policies and laws. With regard to tackling cultural norms contradicting with modern forest management, review or weed out rules that are outdated. For example, the Hunting Rules of India has not been revised since 1905 or the Gun Licensing Rules need to be stringently reviewed so that the high rates of hunting especially in mountain areas are closely monitored.

There also is a need to provide equity with regard to land particularly in scheduled areas so that excess landholding can be brought about through adoption of a land ceiling policy. This issue the participants felt needed to be taken as a recommendation from the SMDS.

Streamline mountain specific forest programmes and requirement of forests especially when strategizing policies under laws like the Forest Rights Act (FRA). It may be noted that while states like Mizoram are careful in the implementation of the FRA by launching in only few districts

on a pilot basis, it was not being applied in Nagaland as the rights already exist with communities and individuals. Given such contexts, the FRA needs to be looked at state wise according to the land tenure system.

State governments must also get into MoUs with villages and communities where natural resources are being rapidly sourced out. This further brings to the fore the need for support from the government so that it given an impetus to effecti ve governance, as well as, ensure that the community benefit commercially too.

Good governance, as in all fields and themes is critical to ensure that mountain resources are conserved and communities benefitted. The documentation of indigenous knowledge systems; identification and protection of catchment areas of biodiversity as hydrological significance; supporting and initiating action on payments for ecosystem services, reduced emissions from deforestation and forest degradation (REDD) Plus preparedness and equitable sharing of benefits with the communities out of incentives or awards.

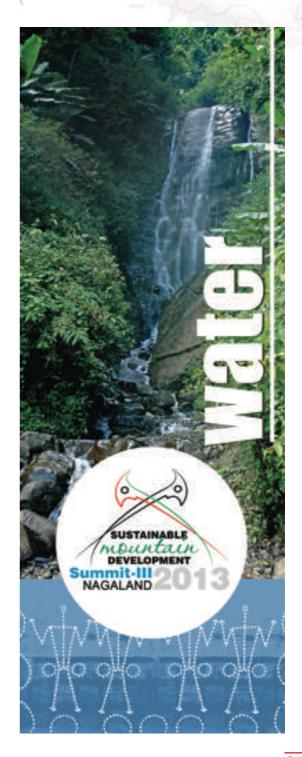


Thematic Sessions and Outputs: Water

Water:

Climate change is expected to have disparaging effects on water security across the globe, especially in geographical regions with difficult terrain such as mountains. Melting of glaciers, ice caps leading to unprecedented flooding and subsequent droughts are some anticipated impacts of climate change. These are bound to pose as serious challenge to water security for inhabitants of mountainous regions. The summit aimed at exploring the various aspects to water security for people of mountainous regions with reference to the health of water resources such as rivers, springs, watershed and aquifers in the region, and also to deliberate on existing governmental policies on water management.

The Water group comprised of over 40 participants. The participants were divided into six sub-groups under Policy & Governance, Water Supply & Infrastructure, Climate Change, Ecosystems, Hydropower and Disasters to deliberate the issues by taking into consideration the various aspects related to them. Each sub-group submitted a set of recommendations which were declared at the valedictory programme of SMDS-III and will be included in the Kohima Recommendations.





1. Policy & Governance:

This sub-group discussed the aspirations and concerns on water issues faced by the people of the Himalayan states and shared state experiences with existing policies. Generic key points that were identified are:

- i. Need for state specific water policy in alignment with respective SAPCC;
- ii. Analyse whether current national water policy has mountain regions under privilege due to differences in topography, water domain etc.;
- iii. How to frame policy for governance when water is owned by individuals or communities by tradition or customary law (e.g., Nagaland);
- iv. Need for a policy on research and development of water resources;
- Initiate water information sharing and upstream and downstream cooperation;
- vi. Water governance traditional versus modern;

- vii. Develop visions on water conservation and water by-product management;
- viii. Focus attention also on water quality of the mountains; and
- ix. While the need for a common water policy for mountain states is glaring, it was agreed that varying land ownership among different states could hinder the framing of a suitable common policy as such may not be comfortable for all the states to adopt.

Key concerns and reflections:

- Policy process: not based on science and peoples' feedback;
- ii. Governance: more attention to water ownership and institutions needed;
- iii. Policies need to take advantage of state-relevant acts and suggest reforms where necessary;
- iv. Lack of capacity development for policy awareness and implementation;
- v. Lack of data availability and access.





Ways Forward and Recommendations

- i. Himalayan states to have transboundary perspective;
- Water policy to strongly imbibe principles of sustainability, equitable sharing, traditional rights etc. and not merely have economic focus;
- iii. Institutional reforms to facilitate acceptance of water policies;
- iv. Learn from policy making initiatives and experiences of the Himalayan region:
 - (a) Communitization of services in Nagaland;
 - (b) Review Meghalaya's draft water policy; and
 - (c) Uttarakhand water policy initiative.
- v. Policy on construction in quarrying overbanks;

2. Water Supply & Infrastructure:

- i. Most mountain states do have good water supply, however, issues pertaining to water availability in terms of both quantity and quality, the usage of technology (modern and traditional) and distribution which are typical to the region need serious contemplation;
- ii. The government does not support decentralization of water and while there are problems relating to the local issues at the community levels, state governments have completely failed to pursue it;
- iii. With regard to harnessing existing water resources for, the interconnection of domestic (rural and urban) and agricultural use of water there is a critical need for new norms on water management;



- iv. All buildings in urban areas and hill towns must mandatorily install suitable rainwater harvesting systems; and
- Other issues included the essentiality of resource efficiency across all sectors and domains- reduce, reuse and recycle water; conservation of water through technology such as organic POP in agriculture, restoration of lakes and elimination of water pollution; water management - ground water recharging and replenishment; rainwater harvesting and management; revival of traditional water harvesting systems; and the critical aspect of restoring management and control to the communities.

Key concerns and reflections:

- i. Receding water availabilityquantity and quality;
- ii. Ensuring sustainable access to water for urban areas;
- iii. Ensuring sustainable supply for agriculture;

- iv. Attention to degradation of water source; and
- v. New norms for water management in east and northeast India.

- Participatory planning and community ownership; Clear roles and responsibilities of the stakeholders;
- Site specific infrastructure planning keeping in mind climate change; Advance planning for future water demand under rapid urbanization;
- iii. Promote ecological agriculture to conserve water and prevent pollution for sustainable livelihood;
- iv. Revival of traditional irrigation systems; Rainwater harvesting structures and recycling of waste water a must; and
- v. Create multi-purpose reservoirs depending on needs such as drinking water, irrigation etc.; Transparency in distribution to tackle loss of water.



3. Climate Change:

The impact of climate change weighs heavily on water resources and the participants of this sub-group primarily listed out as many as 30 key points to muse over. There is excessive rainfall in summer and drought-like situation during winter in all the states resulting in frequent floods or drought, soil erosion, landslides and flash floods, affecting all sectors. The group discussion zeroed in on infrastructural development, urbanization, timber logging and unsustainable agricultural practices as factors leading to climate change and scarcity of water against demand. The rainfall pattern is observed to be more erratic as compared to previous decades and there is an increased frequency in cloudburst and GLOFs. Climate change is also viewed as the main reason behind the receding of glaciers (e.g., Ladakh) giving rise to unstable rainfall and snowfall and increase in disasters. Besides the brunt from soil erosion, landslides and flash floods, the impact of climate change on agriculture was noted as unanticipated dry spells during critical crop period leading to change in farming practices and rise in shifting cultivation and forest fires which consequently reduces water availability. Several other factors leading to depletion

of water level were also discussed where groundwater exploitation in the hilly terrain and boring of well were listed as major concerns. The group also observed that there is a rise in water related disputes owing to scarcity, struggle for distribution (irrigation and drinking water) and ethnic tension. It was commented that due to flash floods in parts of Assam and Arunachal Pradesh, the land become uninhabitable and people migrate to other areas, giving rise to land disputes and congestion.

Key concerns and reflections:

- i. Receding glaciers;
- ii. Erratic rainfall leading to changes in agricultural patterns;
- iii. Mountain people more vulnerable;
- iv. Increasing water disputes; and
- v. Increasing hydro-meteorological disaster.

- Setting up of auto weather station to study climate change; Early warning systems be installed in all possible vulnerable locations;
- ii. Change agricultural pattern based on scientific investigation; sustainable shifting cultivation methods be promoted;





- iii. Develop the adaptation capacity of the local community towards climate change for developing resilience; Mechanism to compensate affected population from meteorological disasters;
- iv. Develop inter-state, inter-district water sharing policy to strengthen water sharing practices; and
- v. More scientific studies on mapping of glaciers through mass balance.

4. Ecosystems:

This sub-group laid special emphasis on policies that are causing imbalance in the ecosystems of the mountain states. The major issues in discussion comprised of unplanned development activities such as large infrastructure projects damaging the ecology of water sources; mega development constructions leading to major imbalance in the ecosystems; unregulated tourism spoiling wetlands (e.g., Loktak Lake, Manipur) and biodiversity; environmental flows not maintained in the Himalayan states by power project developers; and loss of aquatic biodiversity due to pollution and development activities (construction of dams, tourism). Restoration of power/ownership of various resources controlled by government departments to the people was suggested as minimal attention and maintenance is being given. The group also felt that more research on reasons of dying springs and sand streams is needed. Some other factors leading to shortage in water availability were observed as deforestation; lack of small reservoirs resulting in waste of stream water; spring water ownership rights; accurate mapping and IEC missing; and rainwater not harvested and flows away from the mountains.

Key concerns and reflections:

 i. Inadequate knowledge about dying springs;

- ii. Loss of forests and grasslands affecting water availability and storage;
- iii. Water conservation including rainwater harvesting necessary;
- iv. Unregulated infrastructure and development constructions damaging ecosystems;
- v. Check-dams are not proper;

- Protection, sustainable management and conservation of forests for headwater regions of watershed/catchment/river basin level by forest department with community participation;
- Urban waste should not be disposed at water/river body directly but should be treated;
- iii. Provisioning of adequate water flows for the streams/rivers to maintain the aquatic biodiversity; Spring sanctuary development should be undertaken in requisite areas:
- iv. Rooftop rainwater harvesting be made mandatory in all Himalayan states and increase water storage structures; and





v. Geo-hydrological studies in the catchment areas for identifying suitable groundwater recharge zones and constructing suitable recharge structures (trenches, staggered pits, ponds).

5. Hydropower:

This sub-group gave more focus on governance issues in hydropower as it was felt that decision making processes in this sector are non-transparent and noninclusive. The need to create consensus among the masses, especially the affected people, before signing of MOAs/MoUs was underscored. The group categorized suggestive points as follows- demand management will be a viable means of reducing the energy deficit without dams or coal; identify the interests pushing mega dams and large projects in fragile ecosystems despite serious doubts in official and unofficial circles; capacity of setting up such projects- assess areas where feasible, ensure three aspects at the time of granting of the project, namely, transparency, community inclusion and incentives and outputs (for upstream and downstream people); resettlement policy as per the demand of the affected community. Discussions on damage of river



ecosystems due to multiple projects along the course of a river and need for promotion of capacity projects like microhydel projects were also made.

Observing hydropower as a transboundary issue, a reference was made to the 'Energy Independence' in the US which reduced imports of oil from the Middle East leading to reduction of oil prices. Participants in this sub-group were of the view that increasing hydro power costs will push the sector back and decrease in focus by state implementers which are yet to be realized.

Key concerns and reflections:

- Decision making processes are nontransparent and non-inclusive;
- ii. Focus on demand management;
- iii. Cumulative impact assessment a must;
- iv. Promote small hydropower projects under community ownership; and
- v. Technical knowhow.

- Revise policy of hydro power projects; Limit project size in hill states;
- River basin carrying capacity studies prior to project planning including trans-boundary water cooperation; Cumulative EIA studies at river basin levels;
- iii. Ensure public participation throughout project life-cycle through multi-stakeholder oversight committees and FPIC; micro-finance;
- iv. Capacity building- enhance and prioritize community ownership (before private corporate ownership) and project related skills through skill development; and
- v. Certain stretches of all Himalayan rivers be declared as protected zones.



6. Disaster

Landslides and flash floods are the major disasters faced by the hilly states due to excessive rainfall. Anthropogenic aspects such as deforestation, unregulated construction, lack of drainage, mining etc. are contributing factors to these disasters. The participants, while deliberating on landslide mitigation and management, pointed out that there is lack of awareness and rehabilitation programme in the states. The need for identification of vulnerable and risk prone areas was emphasized. They observed that although weather conditions are unavoidable and people cannot predict rainfall for a specific place, satellite data can be helpful in finding out the rain patterns and prepare for any outcome. Land compensation was also focused on and the common consensus was that it becomes imperative to adopt land compensation from the government in the case of land damaged by natural disasters.

Key concerns and reflections:

- Disasters are increasingly anthropogenic;
- ii. Lack of early warning systems;

- iii. Vulnerable and risk-prone areas are not identified;
- iv. Lack of compensation of land lost to disasters; and
- v. Need to create awareness and rehabilitation programme.

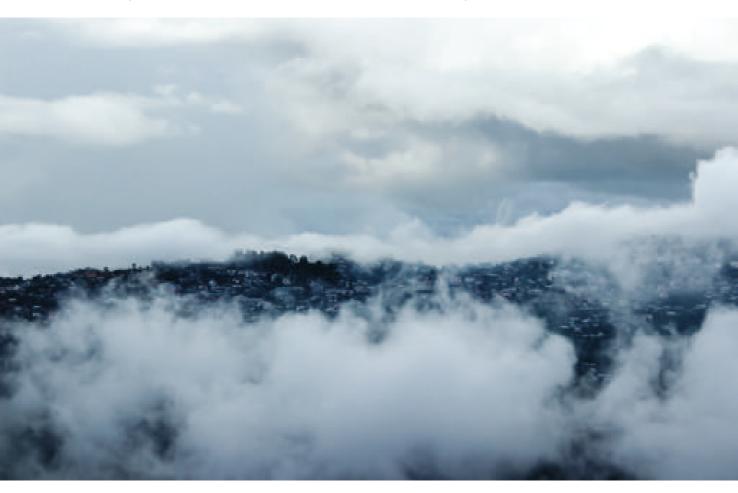
- Landslide policy compensation, building code, constitution of landslide control board;
- ii. Awareness programme in educational institutions, village level and government level;
- iii. Landslide mitigation hazard zonation, vulnerability and risk assessment, landslide database;
- iv. Control of proper construction of roads, stream bank erosion control, proper drainage systems; Induction of new technologies for reduction of disasters;
- v. Flash floods early warning systems through social media, mass media, community risk management, and
- vi. Legislators Meet of the Indian Himalayan Mountain States.



First Indian Himalayan Legislators Meet

To bring together legislators from the Indian mountain states and to facilitate a discussion that focuses on collective action and thinking based on a vision for sustainable mountain agenda for the Indian mountain states. The event was coorganised with the Global Legislators' Organization for Balanced Environment (GLOBE) whose mission is to create a critical mass of legislators that can agree and advance common legislative responses to the major global sustainable development.

The event was hosted by the Speaker of the Nagaland Legislative Assembly with the Speakers of Nagaland and Sikkim as chair and co-chair. It brought together Members of Parliament and elected legislators, including those from Autonomous Councils and Municipalities, from Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim, Uttarakhand and the Darjeeling hills district of West Bengal. The members after much deliberation passed the following resolutions:





Resolutions

India Himalayan Legislators Meet **September 26, 2013**

- It is resolved by all the Legislators of Nagaland under the Chairmanship of Speaker of Nagaland Legislative Assembly Mr. Chotisuh Sazo that they would immediately come together to form the Nagaland Chapter of GLOBE India. To initiate the process of integration with GLOBE India, they have nominated Mr. Mmhonlumo Kikon, MLA and Chairman of MARCOFED, who will complete this process within the next three months.
- 2. It is resolved after much deliberation by all elected members present from many Indian Mountain states that they would come together under the banner of The Pan Himalayan Legislators' Forum. To take this forward, the Speakers of Nagaland and Sikkim, Mr. Chotisuh Sazo and Mr. K. T. Gyaltsen, will jointly write to all the Speakers of all mountain States of India for action within their own Legislative Assemblies. This effort will be facilitated by IMI in collaboration with GLOBE India. This effort will be directed towards addressing the environment related policies and legislation needed to address the growing concerns as articulated by organizations like IMI.
- 3. It was resolved that the Indian Himalayan Legislators' meet do welcome the Kohima Declaration presented by Indian Himalayan States Youth Summit 2013. Further all the legislators and elected members present at the meeting expressed their full solidarity with the thoughts, concerns, expectations and suggestions detailed out in the declaration. It was further resolved that the Legislators, in groups and in their own States, would seriously examine all the issues and come back in the next Summit with concrete policies, programmes and solutions.
- We resolve that we fully support the IMI & SFON activities. We support their process and outcomes.

We will helpfully by way of better and more effective way of policies and legislation in future so that the youth and the people of the Mountain States are fully benefited through sustainable development.

SPEAKER

GYALTSEN) (B. KAI SPEAKER



1 First Indian Himalayan Policy Makers Caucus

Theme: "Appropriateness of Centrally Sponsored Schemes and Other Programmes for Indian Mountain States"

The Indian Himalayan Policy Makers Meet was held to discuss and deliberate upon the appropriateness and relevance of the guidelines for centrally sponsored schemes and other programmes for Indian mountain states and to come up with suggestions and policy recommendations, if any. In the words of Dr. R.S Tolia, IMI is breaking new grounds with the voice of the smaller and Himalayan states being heard for the first time in the form of path breaking set of recommendations to be implemented in the 2nd year of the 12th five year plan. This has come about as a result of efforts being made to bring mountain issues to the centre



stage. Most of the centrally sponsored schemes are often found to be such where they become irrelevant for small mountain states and therefore, the Policy Makers' Dialogue has also emerged as a means to address the appropriateness and relevance of centrally sponsored schemes and other programs for mountain states.







The keynote presentation was made by Dr. R.S. Tolia, Former Chief Secretary, Uttarakhand & NTPC Chair, Institute for Public Policy, Doon University set the ideal tone to carry forward the discussion, wherein, he also suggested that this year's five year plan has three major key words including Faster Growth, Sustainability and More Inclusive.

The paper maintained that the centrally sponsored schemes were helpful not because they were appropriate but because they were available. Currently out of 147 schemes, the number of CSS has been reduced to a manageable 60 odd. There are three types of schemes, namely, flagship schemes, sub-sectoral schemes and umbrella schemes. Given that the complaint raised by the Chaturvedi

Committee has been accepted and acknowledged by the centre, how prepared are mountain states in advocating their perspectives.

Participating in the dialogue, Nagaland Commissioner & Secretary for Education, Imkonglemba Ao emphasized that there is need for long term planning for the 11 Himalayan states. He said that except for Mizoram, most of the states have 70% living in the rural area, where agriculture is the main stay and therefore, the need to expand agriculture and food processing as well as animal husbandry. 'There are no major schemes in this regard. We have poultry but not on meat products', he maintained.

Parliamentary Secretary for Agriculture, Nagaland, Dr Benjongliba felt that in the mountain region, marketing support and other marketing linkages have to be put first as our farmers are not encouraged to produce more due to the lack of market. He touched upon the need to make policies and strategies for marketing support while noting further that, "we have to see the marketing linkages first, then production will come out. There is also the need for water harvesting to use in the lean season."





Minister for Agriculture, Arunachal Pradesh, Setong Sena spoke about the scenario in Arunachal Pradesh while maintaining that they are at the base of development - a young state looking for all sorts of development. In agriculture, farmers are going for cash crop farming to improve their livelihood, he said while also dwelling on the Look East Policy and there is a need to look at it seriously for the benefit of the region. 'Technology', he added 'has to come into our policies and the younger generation mindset also has to be taken in.'

Joint Secretary of Ministry of Environment and Forests, BMS Rathore expressed that solutions to the issues of mountain states have to be found and with special emphasis on the area of connectivity, he stressed that marketing is the key theme and called for the need for value chain especially in the agriculture sector, if we are to promote agriculture.

Director General of International Centre for Integrated Mountain Development, Dr David Molden said there must be a way to include the private sector while commenting that if they are addressing the issue it can be sustainable and inclusive as there is also the need for entrepreneurs. Hydro power, he felt is the most contentious issue on the table during the discussion hour and in this regard, put across that there's

slightly going to be more hydro powers in the future and we can do much better in planning how to go about.

Touching upon the goals of the policy once again, Sushil Ramola, member of Steering Committee, IMI said faster growth, more inclusive growth and sustainable growth can be achieved by engaging the youth and engaging the skills. Stating his belief that huge resource base is available, he said, "if we utilize these resources, we grow faster to social and economic development. We also need to skill people in the rural areas, need to train the youth and make them productively available and employable."

Commissioner & Secretary Urban Development, Nagaland, M. Patton pointed out that the 11 mountain states are special category states and that resources are a very big issue. In most of our projects, there are delays and cost escalation due to issues of land, he said pertaining to the land holding system.

While these thoughts had emerged from the discussion of the Policy Makers' Dialogue, Dr. R.S Tolia, in his report at the valediction, expressed his belief that due diligence and review in the next few years can hugely benefit our mountain states. His emphasis was on reinstituting and reprioritizing ourselves.



2 SAPCC Mountain Caucus

In 2008, India's first National Action Plan on Climate Change (NAPCC) was launched, stating the country's contribution towards combating climate change. The plan seeks to outline existing and future policies and programs addressing climate mitigation and adaptation while identifying eight core "national missions" running through 2017, which can be identified as the National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, National Mission for a "Green India, National Mission for Sustainable Agriculture, and National Mission on Strategic Knowledge for Climate Change respectively.

In line with the NAPCC, all the Indian states have also been asked to develop action plans to define how they intend to undertake activities and programmes aimed at climate change adaptation and mitigation under the banner, State Action

Plan on Climate Change (SAPCC).

The SAPCC Mountain Caucus brought to the forefront a comparative analysis of SAPCCs from the Indian Himalayan Region beginning with a presentation by Kritiman from IHCAP to an audience of policy makers, academicians, researchers, journalists, representatives and organizations from the Himalayan states.

Participating in the discussion questions regarding the state of preparedness and what in reality is the quality of the state action plan apart from the back-up assistance at the national level were raised and discussed. Who is validating and transmitting the plans and the strategies therein.

Participants reiterated the need to sensitize the masses including legislators, researchers, NGOs and even the academia. They pointed out that it is still not mainstreamed enough and has to be integrated across sectors and addressed through the sectoral missions.





Several participants representing different mountain States also raised the issue of the need for additional funding for the SAPCC and its linkages to the National Mission under NAPCC. The issue of availability and sharing of relevant data to all stakeholders was also deliberated upon during the discussions. Participants also sought further clarity on the SAPCCs and questioned if the agencies in the state are themselves clear about the strategies and proposed action plans.

Arunachal Pradesh, for example, recommended that the central government should earmark annual funds for Climate Change and pointed out that most funds go to actual research and not just for the development of the plan. Following this issue, participants sought clarification on questions like "What actually is the focus of the SAPCC?" The noted that the state agencies seemed to be looking at the entire exercise in isolation where the focus seemed to be in the plan only. Participants also questioned if there exists a real time frame and what are the indicators and parameters set in place to monitor the planning process, as well as, its execution.

In line with the discussions on the SAPCC, participants also asked if the government has any policy in place for the Green India Mission and why the information was not publicly available. Participants reiterated that while governments can come up with numerous programs and plans, unless it trickles down to the grassroots and is owned by them, nothing will succeed. Simply having government agencies implementing it by way of resource spending will not be successful.

Jammu and Kashmir said that while there have been numerous interactions with stakeholders and while action plans are being discussed in the state assembly, a majority of questions relating to its implementation and funding remain unclear. They noted that excepting Solar Mission and Clean India Mission, nothing is clear regarding other missions. They further asked "what are the additional activities for adaptation?"

Sikkim also expressed concern on the quality of these documents and also raised the issue of mainstreaming and funding. In the case of Nagaland, participants



highlighted that 90% of land in the state is owned by the village communities and forests are conserved through community initiatives. A majority of people continue to live in villages and depend on firewood and non-timber forest produce for both their energy and food security. Participants noted that the government need not wait for consensus amongst states on SAPCCs but rather focus on the needs of each state and initiate actions based on the priorities thereof.

While gaps were discussed, participants also noted that climate profiling budget is available or contributed by other existing schemes too. Citing SAPCC Orissa as a case study, it was highlighted that 80% of the fund they are asking for were already available in some form or the other.

The deliberations acknowledged that there do exist opportunities and existing provisions and that agencies and climate change leaders must tap such means. The report given during the valediction of the SMDS-III indicated that the need of SAPCC at the state level was emphasized by the Prime Minister himself. It may also be mentioned here that all the Himalayan states have submitted their draft action plans out of which six have been endorsed.





3 Landscape Yatra

Ajay Rastogi is Director, Foundation for Contemplation of nature, Uttarakhand and BMS Rathore, IFS is Joint Secretary in the Ministry of Environment and Forests, Government of India

The Landscape Yatra is an experiential journey through the Himalayan landscape. It is an experience where participants rediscover the values of one's ecological and cultural heritage within a modern context and in understanding sustainability issues by linking science, technology, policy and practices. It is walking embodied in knowledge creation with journeys that are sacred, like explorers, festive journeys, environmental, cultural and livelihood for trade.

Data collected from the yatras was able to capture what landscape is so much so as an experimental journey through the realm-landscape of the mountain region. It is based on the belief that these yatras reveal 'emotions' by experimental realm of feeling which formal science cannot usually explain. It facilitates social interaction helping in understanding the transition in a comprehensive way from natural to cultural, economic and political.

The yatra focuses on value systems from the context of a global village which creates lessons and models from experimental ways over the years, thus bringing together constituencies with proper science, policy

and practices in communion with nature. Experiences from the global village are those that one collects or becomes aware of without being conscious during the transitions about agriculture, biodiversity, appropriate technologies which are more ecosystem friendly.

Landscape Yatra is a creative way of approaching an area with multidisciplinary team to explore the feasibility and planning effort as relevance as development practitioners. It brings forth the need to understand horizontal dimensions of what other stakeholders think, the people, the community and their aspirations and the need for consultation with others like the pastoral communities. It helps make vertical linkages for deeper explanation of the various learning and experiences and collate to be synthesized for policy makers, development practitioner and draw lessons for the landscape decisions.

Yatra network can be a an active interface of systems to synthesise information between cross sections of the aspirations of the people, their needs, natural resources,







links and priorities, transition, protection and prospects for development. The yatra can be perceived as a network for -

- Understanding the interface and transition of systems between science, policy and practice;
- ii. Strengthening, planning, implementation and monitoring;
- iii. Cultivating a sense of self and belonging to the landscape;
- iv. Issues of out-migration where economic drivers are not the only factor though dominant, and
- v. Comprehensive development approach which encompasses not just economic drivers but also cultivates what belong to the landscape needs to be explored.

Landscape yatra brings to focus

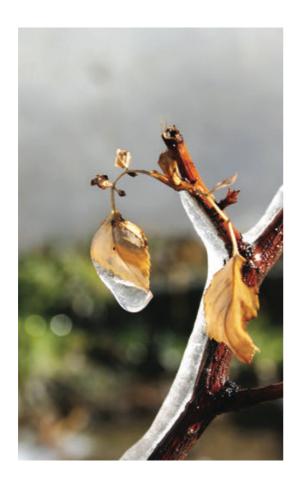
- 1. Stakeholders' needs and priorities
- 2. State of natural resources
- 3. Potentials and prospects for development



3rd Indian Himalayan Photography Competition

In continuation to the past two summits, the 3rd Indian Himalayan Photography Competition was also held during the Kohima Summit 2013. The Competition not just highlighted the salient features of the Indian Himalayan Region but also encourage photography as a medium to speak for and about mountains, its people, their challenges and to celebrate life in the mountains as it is. There were three themes for the competition:

- i. Life and livelihood in the mountains;
- ii. Tradition and modernity in mountain society, and
- iii. Biodiversity in the mountain.





While the competition was open to all, a special category was held for students to encourage young people to compete in the competition. The response was overwhelming and participation came in from Assam, Haryana, Himachal Pradesh, Jharkand, Karnataka, Meghalaya, Nagaland, Odisha, Sikkim, Uttarakhand, West Bengal, Uttra Pradesh, Delhi and even Honk Kong. Over 300 photographs were judged for the completion.

The Judges were

- Mr. Munisk Khanna (New Delhi) is known in the photographic circuit as one of the most versatile and innovative photographers trained in digital photography in New York;
- ii. Anup Shaha (Uttarakhand) AllPC, IIPC Diamond, FICS. He is a nature photographer, environmentalist and floriculturist based in Uttarakhand, and
- iii. Dr. Mhathung Yanthan, (Kohima) Assistant Professor, Department of Botany, Kohima Science College and an avid photographer.





Student Category: 1st Prize: "When spider webs unite they can tie up a lion"; Mr Peazaneilie Rupreo, Nagaland.



Student Category: 2nd Prize:"A green spider on a green paddy plant"; Mr Erekhro-u Nakhro, Nagaland.

Student Category: Consolation:
"Agriculture is the main source of livelihood in the mountains, everyone depends on agriculture"; Mr Tekhewulo Chirhah, Nagaland.



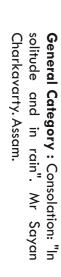






General Category: 1st Prize:"In Yangkhullen, an enduring village built on the steep slopes of a hill, a jhum cultivator enjoys his meal after a hard day's work"; Mr Rashingam

Ngoruh, New Delhi.





General Category: 2nd Prize: "Beyond Rain". Mr Kingshuk Chakravorty, Kolkata.



with mobile phones in a bamboo garden Ziro". Teiso Yokha; prize: "Aya Do ah?" Apatani women Nagaland



The Food Fest: Celebrating Local Food and Food Production Systems



Together with the Department of Women Development, Government of Nagaland and in collaboration with their numerous women organizations of different Naga tribes, a Food Festival was organised during the Summit. The purpose of the food exhibition and festival was to celebrate local agro-biodiversity, food systems and knowledge and to showcase and promote healthy indigenous food habits. Altogether 15 Naga tribes participated with special indigenous food items.





Apart from the exquisite food festival which also served as the working lunch for participants during all days of the Summit, more than 150 local crops, cereals, vegetables and other food items were exhibited to celebrate local food diversity and food sustainability.

Following is the indigenous Naga food menu which was served with Indian vegetarian and non vegetarian food served during the lunches of the Summit.

Angami

- 1. Thevuchu Gacha (Chicken Curry)
- 2. Seguo Gacha (Crab Curry)
- 3. Ghalo (fresh local greens with rice)

Lotha

- 1. Kyong Wokosohan (Pork curry)
- 2. Limohan (Mixed vegetable)
- 3. Matchihan (Chutney)
- 4. Konyak
- 4. Nyik Nyee (Steamed sticky rice)

- 5. Teang Hoi (Yam curry)
- 6. Wekok/Bah Hoiling (Nicker bean chutney)
- 7. Pai (oil nut chutney)

Sangtam

- 1. Muxu (Adukhi bean salad)
- 2. Lingle hi (Kidney beans with bamboo shoots)
- 3. Xune (Ginger salad)

Yimchungru

- 1. Jiamap (Maize with kidney beans)
- 2. Tanji-ji (Millets)
- 3. Zidong Kongzhu (Local mushroom dish)

Zeliangrong

- 1. Hekagi (Fresh river fish without gravy)
- 2. Ziegi Chang (Chutney made with fermented mustered leaf extract)
- 3. Hemagi (Mixed vegetable and pumpkin leave dish)







Phom

- 1. Anphat (Pork & rice steamed in fresh bamboo clumps)
- 2. Donghao (Yam with smoked meat & dry fish)
- 3. Nyahpetpu (River fish cooked in fresh bamboo clumps)

Kuki

- 1. Vohthithun (Stuffed pork sausage)
- 2. Ankamthu (Fermented mustered leaf extract)
- 3. Gotoi-Changalme (Fresh bamboo shoot cooked with local soda)

Αo

- Nuoshi (Smoked Pork cooked with sun dried and fermented yam leave -Nuoshi - condiments)
- 2. Repsa Aon (Mixed seasonal vegetables boiled with local herbs)
- 3. Amerso (Chicken stew cooked with pounded rice powder and local herbs)

Chakhesang

- 1. Qhide (Hornet larvae dish)
- 2. Nuna-mu kuna (Snails in sesame curry)
- 3. Gaganyo (Mixed vegetable dish)

Chang

- 1. Ngaou (Fresh river fish steamed inside fresh bamboo clumps)
- 2. Washik (Rice flour stew)
- 3. Hint Etak (River crab chutney)

Rengma

- 1. Nyun (Eri grub dish)
- 2. Henkenjvu (Seasonal mixed vegetable steamed with yam)
- 3. Khumosha Chutney

Pochury

- 1. Anga Kusu (Tizu river fish dish)
- 2. Athialo (Rice stew cooked with fresh vegetables, meat and local herbs)
- 3. Ngaji Kuve (Banana sweet dish)
- 4. Tsetha Kumpru (Millet cooked with rice)

Sema

- 1. Ashi Khulo (Sumi pork dish)
- 2. Aikibeye(Boiled yam & Hibiscus leaves)
- 3. Akuwu (Ginger with fermented soy beans Axone Chutney)

Khiamnuingan

- 1. Wionyie Chie (Chicken cooked kidney beans)
- 2. Anyitsipan (Sticky rice and sesame oil item)
- 3. Niamchachie (Sesame chutney)





16 Exhibitions



To facilitate networking opportunities and the space for organizations to share their work and activities during the Summit, participating organizations were provided stalls for exhibition and display of their work and products. A total of eight organizations representing Arunachal Pradesh, Meghalaya, Nagaland and Uttarakhand participated in this event.

- I. GOI-GEF UNDP Project:
 "Mainstreaming Conservation and Sustainable Use of Medicinal Plant Diversity of Three Indian States". The project displayed their activities in the states of Arunachal Pradesh and other states through the use of multimedia projections, posters etc.
- ii. GIZ (CCA-NER): The Climate Change Adaptation North East India project team from the GIZ supported programme displayed their activities in Meghalaya and other project states, as well as, displayed numerous silk products, as well as, different rice varieties and literatures related to climate change adaptation activities in the region.
- iii. Clover Organic Pvt Ltd: This was the only private organization that participated in the exhibition. Clover Organic from Uttarakhand which promoted organic agriculture displayed and exhibited a number of their innovative products and



- systems such as the energy pillar, composting systems and vertical 3-D farming.
- iv. North East Network (NEN): North East Network is an NGO working from Chizami in Phek district, Nagaland displayed numerous indigenous seeds, cereals and products developed by their SHG members. The organizations also brought numerous handicraft and handloom products for sale and display.
- v. Myki: An initiative of the Department of Women Development, Government of Nagaland, "Myki" which means women in Nagamese is the brand name of the products produced by the women SHGs promoted by the department. Numerous products ranging from puffed rice to dried wild apples and other spices and herbs got from the field of farmers in Nagaland were put on display and sale.





- vi. Nagaland Bio Resource Mission (NBRM), Government of Nagaland: The NBRM team exhibited and sold publications related to the rich biological resources of Nagaland. They also displayed numerous information and photographs related to their activities.
- vii. Nagaland Honey and Bee Keeping Mission (NHBM), Government of Nagaland: With a mission to promote awareness and impart skill and knowledge for scientific bee keeping management practices in the state, the NBRM team participate by exhibiting their honey and wax related products and other information materials and publications.
- viii. Nagaland Bamboo Development Agency (NBDA), Government of Nagaland: The NBDA is a premier organization in the state dealing with bamboo management and value addition. The mission not only contributed in the design of the SMDS-III venue but also displayed numerous exhibits for sale as well as, information exchange in the stall.







18 Culture & Art

Mountain communities are equally known for their rich and diverse cultures. The Summit also had cultural events as part of the networking and experience sharing processes. Following are the cultural items presented in collaboration with the North East Zonal Cultural Centre (NEZCC).



Bordoichikla dance is one of the most colourful, rhythmic and graceful dance of the Bodo tribe of Assam. The term Bordoichikla is derived from the word "BOR" meaning storm, "DOI" meaning water and "chikla" meaning girl. This dance is performed by girls depicting the storm and rain with the intention to welcome the monsoon. It is performed on festive occasions. The young women assemble in a particular place in the village and perform this dance to relieve them of the wearisome day's work by singing and dancing to the accompaniment of drums, flute and cymbal. This dance is performed with bamboo clappers and scarves in their hands. This dance is made fascinating by its colourful costumes and graceful body movements of the dancers.

Assam: Dahal Thungri:

The Dahal Thungri dance is performed by the women folk of the Bodos, who take pride in calling themselves a warrior community. Dahal means Shield and Thungri means Sword. This dance is performed while worshipping "Bathou" the only religion of the Bodos. With this, they try to pay tribute to their God and seek his



protection while seeking to ward off any evil in store for their community.

Manipur: Dhol Cholom

'Dhol Cholom' a traditional folk dance of Manipur, is performed usually on religious occasions to the accompaniment of songs and dhol (large drum) - the most important component of this dance form. Usually performed during the Yaoshang Festival (or the festival of colours), the dance expresses love and creativity, with an intricate interplay of dhols and fire play. Dhol Cholom belongs to the Manipuri Sankirtan traditions.

Manipur: Pong Cholom

The Pong or Manipuri drum is the soul of Manipuri dance. The Pong Cholom dance is performed during the festival of Holi. The Pong Cholom or Drum dance is a visual interpretation of the various rhythmic patterns played on the pong. In this dance, the drummer identifies completely with the intricate rhythms he plays on the drum and expresses it through corresponding body movements and footwork. The Pong Cholom is part of the music of the Sankirtan tradition and is acclaimed as one of the best art forms of the state.



Manipur: Thang-Ta

Thang-Ta is the martial art of Manipur practiced with swords and spear. Training in this art, associated with myths of creation, is rigorous and begins early. Several forms of dance in Manipur have affinity to Thang-Ta. Indeed all dance movements of the Meitei people are said to have originated from this martial art and are linked to the Snake Lord of Manipur. The movement with the Thang (Sword) are to ward off evil spirit, while the Ta (Spear) is held in a position to protect. Apart from its ritualistic character, Thang-Ta also provides basic training in welfare, therefore the Kings of Manipur maintained Thang-Ta experts in their Courts.

Manipur: Lai-Haraoba Dance

The ancient Manipuris have developed a very comprehensive form of dance which is popularly known as Lai-Haraoba which mirrors the Pre-Vaishnavita culture. It is performed generally between the spring and rainy seasons before the temple of Umanglai.

Lai-Haraoba is an important festival giving the people a glimpse of life and art of small Kingdom. The Kings, members of the royal family and the common people participate in it under the direction of high priest. It is customary for them that the Kings dance with their Queens, the unmarried princes with the girls of their choice, princesses with productive youths as their partners. Husbands and wives, boys and girls take part in it for the peace and

prosperity of the country. A sort of undeclared competition for the presentation in dance and costume exists among them.

Meghalaya: Wangala Dance

Wangala, a tribal dance of the Garos, is performed during the Wangala festival of Meghalaya. Celebrations are usually spread over two days, though at times it may continue for a week. This dance festival doubles up as an occasion for selecting brides and bridegrooms, and is considered to be the most colourful and spectacular festival of the Garo community. The dance performances, led by the troupe leaders, are characterized by vigorous shuffling of feet and graceful body movements held in rhythm by the tunes of native musical instruments.

Nagaland: Aphilo Kuwo

This is a folk dance of the Sumi tribe of Nagaland. Dance is an important and essential activity in the Sumi Community and the performance of a dance requires the dancer to adore themselves in traditional fineries hornbill feathers, wraparounds and belt sewn with cowrie shells, sash decorated with dyed goats hair and orchid stems.

In olden days dances were performed during times when the rich gave feasts of Merits to their village community at the instance of a war victory or during particular festivals and on occasions when one village invited another as a sign of victory and fellowship.





18 First Indian Himalayan Youth Summit



Echoing "Young Mountains" every time a hand went up in the air, the first of its kind Youth Summit of the Indian Mountain Initiative for Sustainable Mountain Development Summit-III at the Naga Heritage, Kisama near Kohima, Nagaland was a picture of hope carrying aspirations of what young people from across the Indian Himalayan Region want. The over 70 participants representing the states of Himachal Pradesh, Uttarakhand, Sikkim, Nagaland, Manipur, Mizoram, Meghalaya, Arunachal Pradesh and the hill districts of Darjeeling, Assam and Tripura exhibited zeal and energy for sustainable development while looking at issues from the local context and the grassroots level.

In his inaugural address on day one, Nagaland's youngest minister, who holds the portfolio for Sports & Youth Resources, Merentoshi R. Jamir had described the youth summit as a path breaking event where the youth are given a platform to have a hand in the efforts of the elder generation towards building a sustainable

development of the mountain region. Putting across that the mountains are viewed basically from the perspective of scenic beauty, tourism, trekking or climbing them as challenges, he also opined that people often fail to perceive the contribution of mountains to the survival of humankind whereas the great Himalayas contribute largely towards the cooling down of the planet, creating a conducive atmosphere for life forms to exist.





He was mindful of the fact that living in the mountains has many drawbacks such as the inability to have roads, rail and air services like that of the plains, while the backwardness and high disaster level of the region also pose as major handicap for the mountain people, but on a more positive note, he felt that the present generation is privileged to have complete access to all modern technologies and in this regard, called upon them to harness these technologies to make their mountains more sustainable. "Let us build on them so that we are not fragile and susceptible, especially to disasters like those experienced recently in Uttarakhand or even the Sikkim earthquake and the Ladakh floods", he advised.

Dwelling extensively on pertinent issues of environment, Mmhonlumo Kikon, MLA strongly advocated that, "we share one ecological citizenship" and hence, also the need for sharing responsibilities in guarding our ecology. The young politician who had been environmental foot soldier for over a decade emphasized that, "we all need to welcome positive and inclusive development and stand up against unsustainable planning at the same time." "Remember that you are planning for your future and also for the generations to come after that. Please put on your ecological virtues to create the new sustainable development models that will sail us through this dark age of environmental doom", he exhorted the assembly of young people in his keynote address on the opening day.

By the end of the summit, strong recommendations ranging from agriculture, water, forest and other common issues confronting the Himalayan states were drafted by the youth representatives as the "Kohima Declaration".





KOHIMA DECLARATION INDIAN HIMALAYAN STATES YOUTH SUMMIT 2013

We, the delegates comprising of youths and young professionals of the 1st Indian Himalayan States Youth Summit, held at Kohima on 22nd and 23rd September 2013, on behalf of the youths of the Indian Himalayan mountain region representing Arunachal Pradesh, Dima Hasao District of Assam, Darjeeling Dist of West Bengal, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, and Uttarakhand

- 1. Reaffirm our commitment and ability to partner in executing sustainable pathways
- 2. Recognize our unique diversity yet see the oneness
- 3. Support the protection of the region's unique ecosystem
- 4. Strongly recommend the empowerment of youth by engaging in decision making through transparent and effective mechanism
- 5. Reaffirm youth are the game-changers of tomorrow.

We require strong need based policies and commit to contributing in effective and transparent implementation:

I. Sustainable Agriculture

- i. We recommend the formation of a working group with a fair and combined representation of youth, academics, experts, progressive farmers and government to review the existing agriculture policies of each mountain state and come up with recommendations and policies specific to this region.
- ii. We call upon the governments to declare the Himalayan states as Organic Zone to encourage youth entrepreneurship through promotion of local food and ecotourism.
- iii. We seek to create more space for promotion & preservation of indigenous knowledge, local & cultural history, and create indigenous seed banks which would inspire young farmers.
- iv. We demand for farmer-friendly infrastructures, low cost post- harvest technology, and storage facilities easily accessible to farmers and villagers.
- v. We strongly suggests the reevaluation of market regulation policies with emphasis on minimum price policy, agricultural goods import tariff (tax) policy, high incentives policies for local food producers and farmers and strict regulations for agricultural imports products.
- vi. We further recommend to identify geo-specific crops for production and create local-environment specific market linkages and transportations.

II. Managing our water resources wisely

- i. We strongly discourage the rampant construction of mega dams and hydro power projects and urge the government to consult and take consent from the local community that is fair, transparent and accountable.
- ii. We seek greater representation of the civil societies and communities in the Environmental Impact Assessment (EIA) for water and developmental projects.
- iii. We seek to ensure adequate safe drinking water for all and further recommends identifying the water recharge zones, protect, preserve and secure them as water reservoirs.



iv. We draw the attention on the importance of training the next generation hydrologist, scientist and practitioners to aid in sustainable water management practices.

III. Protecting our Forests

- i. We call upon states to implement integrated tourism policies empowering local communities and youths which would help in promote eco entrepreneurship.
- ii. We reaffirm the wildlife and forest acts and further suggest the reinforcement of the policies to curtail bio-piracy and stringent laws against poachers.
- iii. We strongly urge the development policies implemented to be mountain specific and eco-sensitive.
- iv. We support the implementation of forest right and draws the attention on empowering the local communities, equitable sharing and retain local ownership.
- v. We strongly support the quantification of forests based resources and build on the traditional knowledge and information at the local level.

IV. Towards an ecological citizenship.

- i. Waste Management: We seek innovative system on waste management with special focus on electronic, bio-medical and hazardous waste, which should have a decentralized approach where local stakeholders have more authority over multi-national companies.
- ii. Education:
 - a. We recommend the inclusion of mountain specific environment education, local history, cultural and traditional knowledge, local languages in the high school and college curriculum.
 - b. We call on the government to fund, facilitate and establish universities of international standard incorporating ecological mountain specific course.
- iii. Migration: We suggest strict monitoring and implementation of minimum wage and labour policies, annual inventory of illegal immigrants and regulate the growing economic migrants.
- iv. Health Care: We suggest Government make political and financial commitment to fund and develop policies, laws and programme that recognize, promote, protect and ensure proper health care facilities. This must be developed in accordance with the principle of human rights, non discrimination, inclusive of gender, multicultural and secular approach.

In conclusion, we the youths of the Indian Himalayan Mountain region resolve to take ownership to pursue these stated goals with collaborative action. In order to sustain our efforts, to initiate further green innovation for the region, and to ensure active participation of the youth in decision-making, we strongly feel the need to setup a youth wing in the institution of Indian Mountain Initiative and further agree to organize the Indian Himalayan Youth Summit every year in Kohima, Nagaland.





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