



## MOUNTAIN AGRICULTURE POLICY DIALOGUE



## SMALLHOLDER INNOVATIONS FOR RESILIENCE

Strengthening innovation system for food security in the face of climate change

Centre for Mountain Dynamics  
Pudung, Kalimpong  
6-7 May 2017

## **MOUNTAIN AGRICULTURE POLICY DIALOGUE (6-7 May 2017)**

### **Summary and Recommendations**

The Mountain Agriculture Policy Dialogue was organized by Lok Chetna Manch and Centre for Mountain Dynamics on 6-7 May 2017, as part of the Smallholder Innovation For Resilience project (SIFOR), in the premises of the Centre for Mountain Dynamics, Pudung, Kalimpong. SIFOR is a five year EU funded participatory action research project coordinated by IIED, which seeks to strengthen traditional biodiverse farming and innovation systems to enhance food security in the face of climate change. It has been working actively with traditional farming communities in the Central and Eastern Himalayan regions in India since August 2012.

The two day multi-stakeholder workshop was held to share the results of the SIFOR project and explore ways to strengthen policy support for smallholder innovation and agrobiodiversity. It brought together senior policy makers from Nagaland, Mizoram, Uttarakhand and West Bengal; Chairpersons of the State Biodiversity Boards of West Bengal and Uttarakhand; officials of the Agriculture Department, experienced women and men farmers, heads of several committed civil society institutions; and SIFOR partners from Peru, China, Kenya and United Kingdom. The delegates visited the Eastern Himalayas project site where a Biocultural Heritage Landscape (provisionally termed a 'Bean Park') is being established by Lingsey and Lingseykha villages, to protect the unique agrobiodiversity and traditional farming systems of Lepcha and Limbu communities, including several varieties of bean, rice beans, dryland paddy and maize. They learned about the communities' efforts to conserve and improve resilient landraces working with agricultural scientists, and visited the community seed bank established with support of SIFOR. They interacted with the communities and witnessed a growing pride in their unique culture and knowledge, showcased through traditional foods and dances, and learnt about efforts to market traditional varieties and products.

Presentations from SIFOR partners in Peru, China and Kenya showed that, despite different contexts (governance, agricultural systems, cultural traditions etc.), local communities following traditional lifestyles manage landscapes with an inherent ecosystem approach, and this can provide a strong basis for resilience to climate change and economic development. The NGO ANDES presented the innovative Potato Park Biocultural Heritage Territory in Peru where some 1400 potato varieties are conserved by five Quechua communities. Potato productivity has increased despite severe climate change impacts, and incomes almost doubled in five years due to various micro-enterprises for biocultural products and services, particularly agro-ecotourism. The Centre for Chinese Agricultural Policy presented its innovative Participatory Plant Breeding program in Southwest China which links traditional farmers and scientists to jointly develop more resilient varieties. The program has conserved over 1000 landraces, and has tripled incomes in 5 years by linking farmers to ecological restaurants in regional cities. In Kenya, farmers are switching back to planting resilient cassava landraces to cope with drought, and have established a Cultural Village to generate income from eco-tourism and revitalize biocultural heritage. IIED presented relevant international policy frameworks that aim to conserve agrobiodiversity and maintain traditional knowledge, and have been accepted by India.

The workshop concluded that Bio-cultural Heritage Landscapes are an effective approach to balance conservation and development, and that at least one such Landscape should be piloted in West Bengal and Uttarakhand in the next 5 years, using the provisions of the Biodiversity Act (2002) which recommends the declaration of Biodiversity Heritage Areas. It developed the following recommendations for establishing Biocultural Heritage Landscapes/Areas in Himalayan and North-Eastern states and other areas in India where traditional agriculture is still the dominant practice:

1. Baseline information on biodiversity and conservation values in the landscape should be gathered, as required for the declaration of Biodiversity Heritage Areas under the Biodiversity Act. Collective governance structures should be established, recognizing the effective leadership role of women in agriculture and natural resource management and as custodians of biodiversity and associated knowledge.
2. The livelihood options for the inhabitants of biocultural landscapes need to be strengthened through the development of biocultural products and services, such as ecotourism, agro-tourism, marketing of traditional crops and foods, popularizing local recipes through food festivals and cultural events; development of artisanal crafts; new natural products based on local resources and knowledge; and stronger Access and Benefit sharing arrangements.
3. In due recognition of the rich biological diversity of biocultural landscapes, proper coordination and convergence of the schemes of different departments is needed for the said areas. Provisions to safeguard their biological and cultural diversity should be duly incorporated in departmental planning as well as district planning processes.
4. As these landscapes are predominantly rich in agricultural biodiversity, local landraces and cropping systems need to be nurtured with adequate support such as setting up community seed banks, determining remunerative pricing for local landraces and crop varieties and incentivizing local mixed farming and other traditional cropping systems. These and other needs of the said areas should be incorporated in the District agriculture plans for the concerned district(s) through extensive community participation.

The workshop also recognized that diverse traditional varieties are often more suitable and resilient for mountain agriculture than genetically uniform hybrids that are being promoted. It recommended the inclusion of traditional crop varieties in formal seed systems – including procurement, distribution and subsidies, and the development of community seed banks and seed exchange networks, as well as greater investment in Participatory Plant Breeding. It also recognized the key role played by women farmers in safeguarding local seed systems and the need to better support them. It identified a number of recommendations for mainstreaming biocultural heritage in agricultural policies and schemes, such as the need to extend crop insurance schemes and the Protection of Plant Varieties and Farmers’ Rights Act to include crops of importance to mountain farmers.



**Site of the Beans Park. It incorporates landscape-based approach to sustainable agriculture and natural resource management**

**About SIFOR:** The Smallholder Innovation for Resilience (SIFOR) programme has conducted baseline surveys on the status and trends in livelihoods, food security, crop diversity, climate change and traditional knowledge-based innovations in 64 target communities, including 5 in district Almora Uttarakhand and 5 near Kalimpong, West Bengal, India. It has also supported participatory action research to strengthen biocultural innovation systems through improved market linkages for traditional products and services; partnerships between farmers and scientists for joint innovation; community seed banks and biocultural heritage territories.

See: <http://biocultural.iied.org/smallholder-innovation-resilience-sifor>

**About the Lingsey-Lingseykha Biocultural Heritage Territory (BCHT):** This community BCHT (tentatively termed ‘Bean Park’) is being set up to protect the rich agricultural traditions and agrobiodiversity of tribal farmers that have provided important food crops critical for food security, but are increasingly under threat. Biocultural Heritage territories seek to protect them based on the holistic indigenous-derived concept of biocultural heritage, which emphasizes the inter-linkages and inter-dependence between biodiversity, landscapes, traditional knowledge, cultural and spiritual values and customary laws. The ‘Bean Park’ is situated in Lingsey and Linseykha (900–1400 meters) that are inhabited by Lepchas, Limbus, Sherpas, Rais, Bhujels and other communities. This mosaic of ecological niches is home to some globally endangered species such as Red Panda and Satyr Tragopan. The region abounds in flowering plants such as rhododendrons, orchids and magnolias. A spectacular diversity of more than 60 crops represented by over 200 varieties and more than 20 types of beans are cultivated here.



Children of the community present a traditional dance

## Day One

**Visit to the Lingsey-Lingseykha Biocultural Heritage Territory:** The participants travelled from Kalimpong to Lingsey and were welcomed with traditional rituals. Bumthing (priests) from the Lepcha community offered prayers for the success of the programme. Mr. Nawraj Gurung, SIFOR, welcomed the guests and briefed them about the villages, their people and the landscape. He spoke about the rich agro-diversity and significance of beans in the livelihood systems of these villages. He also mentioned a landrace of Black Rice Bean has been developed by the farmers through the process of selection over several generations. A walk to the experimental plots followed where Mr. Gurung explained that the main objective of the proposed bean park is conservation and production of beans. It is proposed as a BCHT and linkages to livelihood systems of the area will be explored. Beans are grown round the year as monsoon and winter season crops. Thirty different varieties of beans are found in the area of which 14 were planted in the demo plots at the time of the visit. Self Help Groups (SHGs) and farmers are encouraged to conduct simple trials to improve and expand the cultivation of beans and maize, as they can be a good source of income and nutrition for them.



**Mr. Rajib K. Ghosh, Joint Secretary, Department of Agriculture, Govt. of West Bengal being welcomed with traditional Lepcha rituals by Bumthing (priest)**

The participants walked around observing the plots and interacting with each other after which a discussion ensued. During the discussion, Dr. Rakesh Shah, Chairman, State Biodiversity Board of Uttarakhand spoke about the need for market linkages for surplus beans produced as well as the importance of documentation of traditional practices followed in bean cultivation. Mr. Nawraj Gurung expressed that SIFOR is exploring the market potential and they have planned to conduct a Rapid Market Appraisal. Dr. A.K. Sanyal, Chairman, State Biodiversity Board of West Bengal, enquired about the situation in the area prior to SIFOR's intervention. Mr. Gurung responded saying that a thorough baseline survey had been conducted to study livelihood, agrobiodiversity, climate patterns and biocultural innovations to cope with the impact of climate change in the villages. It was a result of the preliminary findings and lessons learnt that the Lingsey-Lingseykha BCHT was conceptualized.

Ms. Krystyna Swiderska (IIED) wanted to know from the Lepcha ladies present, whether beans have any significance culturally. She also asked if traditional and modern cultivation practices were being compared. Mr. Gurung responded saying that both cultivation practices were being compared and the ladies

informed us that beans are also used in Lepcha community rituals as offering to deities. In response to the question on cropping practices by Mr. R.P. Gurung from The Ecotourism and Conservation Society of Sikkim (ECOSS), Sikkim, Mr. Nawraj Gurung mentioned that beans were grown in two seasons with the monsoon crop for vegetable purpose and the winter crop for seeds as well as for vegetables. The same seeds were used for both the seasons.

Mr. Partho Roy, Asst. Director of Agriculture Department, brought up the issues of irrigation, pests and diseases. We were informed that there are no serious pests and diseases so far. When there is a long dry period, irrigation is done by those who can afford it through alkathine pipes. Chemuku Wekesa, SIFOR Kenya, enquired about the kind of extreme weather events experienced. He was informed that hailstorms are common during the spring and rainy season, and long dry periods during the winter. Dr. A.K. Sanyal suggested segregation of landraces that do not require irrigation for adaptation to climate change.

Dr. S.K. Goel and Dr. A.K. Sanyal raised questions on the situation that existed before interventions by SIFOR. They were informed that an extensive baseline survey was conducted on biocultural innovations, agrobiodiversity, major livelihood activities and food crops. In the course of the discussions, it was also discovered that the mountain communities of Peru, India and China follow similar agricultural practices like mixed farming and rotational crop cultivation including planting of pumpkin, beans and maize together.

After the field visit, the participants were led to the **Community Seed Bank** which was established to ensure seed security and conservation of landraces. A lunch of traditional cuisine made from locally grown crops was then served for the participants, including 18 dishes prepared from different varieties of beans. Local drinks made of millet were served. Children and youth from the community presented a cultural programme with traditional Lepcha dance and music for the visitors.

The programme was concluded with a note of appreciation from Mr. Rajib K. Ghosh, Joint Secretary, Department of Agriculture, Govt. of West Bengal. He thanked the international delegates, national dignitaries, members from all organizations and the local community of Lingsey and Lingsekha on behalf of the State Government. He called upon the locals to sustain conservation efforts and preserve the traditional methods, seeds and farming systems. Ms. Krystyna Swiderska thanked everyone on behalf of IIED and SIFOR along with Mr. Alejandro Argumedo, Dr. Song and Mr. Wekesa. Dr. Sanyal acknowledged the “unique” effort of the community for conservation of biodiversity and offered to carry further the message of the farmers’ conservation efforts in the Bean Park.

Mr. Dawa Lepcha thanked all the participants for coming this far and appreciating the local community’s way of life, vision and efforts. He said that such visits help encourage the community in meeting the challenges of preserving traditional systems.



Glimpses of the field visit to the Beans Park

## Day Two



Participants at the Mountain Agriculture Policy Dialogue

The second day of the **Mountain Agriculture Policy Dialogue** brought the participants together in the Centre for Mountain Dynamics, Pudung. The day continued and brought to conclusion discussions started in the Bean Park the previous day. President of Lok Chetna Manch, Mr. Jogendra Bisht welcomed the participants. He urged them to contribute with their experience and expertise to bring positive changes to policies that affect mountain agriculture.

Taking advantage of the august presence of the Chairmen of the Uttarakhand and West Bengal State Biodiversity Boards, Dr. A.K. Sanyal and Dr. Rakesh Shah were called upon to release the two **Traditional Recipe Books** prepared by SIFOR. Traditional recipes are a reflection of the agrobiodiversity and intrinsic to the culture of a community and provide a tool to revitalize biocultural heritage. *Apan Kumaon ka Swaad* from Govindpur village of Kumaon (Central) Himalayas records more than 200 recipes and *Traditonal Mountain Food Recipes* from the Eastern Himalayas is a collection of recipes from 11 communities.



The traditional recipe books were released by Dr. A.K. Sanyal and Dr. Rakesh Shah of West Bengal and Uttarakhand State Biodiversity Board



Mr. Ajay Rastogi, National Coordinator of the SIFOR programme conducted an introductory mindfulness session, after which all the participants introduced themselves. He went on to explain the programme and urged participants to make it as interactive as possible. The first presentation was given by **Krystyna Swiderska** to introduce SIFOR and the international policy context. The SIFOR programme aims to strengthen agrobiodiversity-rich traditional farming and innovation systems for resilience to climate change in India, China, Kenya and Peru, and has conducted baseline studies and Participatory Action Research in 64 communities. She emphasized the importance of traditional knowledge and crop varieties for climate change adaptation, and ended with a quote from Carlos Loret De Mola (Government of Peru) made during a workshop in Lijiang, Yunnan, China in May 2016:

*“If we lose traditional knowledge, we will have to invest millions of dollars to re-invent solutions for climate adaptation.”*

After the presentation, Dr. Rakesh Shah mentioned the need to incorporate animal husbandry into systems of agriculture for sustainability; and Dr. A.K. Sanyal emphasized the need to document traditional knowledge, especially about medicinal plants, using tools like People’s Biodiversity Registers. Ms. Swiderska noted the need for communities to retain control over documented traditional knowledge since publication can lead to biopiracy.

Mr. Alejandro Argumedo from ‘Asociacion ANDES’ in Peru presented on the world-renowned Potato Park in the Andes. The 5 Quechua communities conserve some 1400 landraces of potato in this Biocultural Heritage Territory (according to traditional classification). About 30 technological, market and institutional biocultural innovations that support climate-resilient agriculture and food systems have been documented in the Potato Park. One of its main achievements is the repatriation of 410 native potato varieties from the International Potato Centre in Lima (CIP), which had been collected from the communities but subsequently lost through genetic erosion, in order to broaden the genetic basis of local agriculture and enhance food security and resilience to climate change. He explained that the Potato Park landscape of 9000 hectares is governed collectively in accordance with customary laws to strengthen the biocultural heritage of the region and safeguard their rights. The communities have established collective micro-enterprises for a range of biocultural products and services (agro-ecotourism, gastronomy, crafts, natural products), which have enabled them to nearly double their incomes.

Mr. P.L. Thanga, Vice-Chairman and Secretary of Mizoram State Planning Board, expressed appreciation for the Potato Park and Mr. Argumedo’s work. He also urged him to share ideas on replication of the Potato Park model in other areas. Dr. Goel wanted to know more about the income generation aspects of BCHTs. In response, Mr. Argumedo explained that they are developing a methodological pathway with key steps and components to facilitate the wider replication and adaptation of the Potato Park model. He stressed that the Park is a process-oriented exercise. He mentioned how the communities continue to develop varieties and enhance the diversity in the Park. They are also constantly exploring the development of new biocultural products like juice, shampoos and other natural products for value addition and enhanced livelihoods.

Dr. Yiching Song introduced her work in Southwest China over the last 17 years with the main focus on Participatory Plant Breeding. It was started in 2000, and farmers were linked with seed banks and Plant Breeders to develop maize varieties better suited to local mountain conditions. In 2013 the Farmer Seed Network was set up and by 2015 many new farmers’ varieties from PPB were developed. She noted that 70% of the farmers in China are women and they are the main seed keepers. It is therefore important to focus on gender in issues related to agriculture and climate change. Formal breeding aims to increase production, storage and income through the use of pesticides and fertilizers. However, farmers have a variety of needs and including their concerns in the breeding programmes is sometimes more important

for household food security. Through Community Supported Agriculture, she has helped to link farmers directly to urban ecological restaurants, which has doubled or tripled incomes and revitalized agroecology..

Mr. T. Imkonglemba, Secretary and Agriculture Production Commissioner, Govt. of Nagaland, discussed the presentation and emphasized the importance of traditional knowledge for sustainable agriculture. He spoke about the work being done in Nagaland in the State Agricultural Research Station that has been testing traditional rice varieties. He mentioned that 867 traditional varieties of rice have been collected so far. He mentioned the need for adequate policy reform, especially for Northeast India including Darjeeling. He suggested that the Northeast could be encouraged to grow pulses instead of them being imported from Myanmar. Apart from the recent focus on an Organic Agriculture Policy for the Northeast, no major agricultural policy measures have been taken. He also suggested creating networks for women farmers as they were the majority of the workforce as well as key knowledge holders.

Mr. Chemuku Wekesa from Kenya Forestry Research Institute, presented on SIFOR in Kenya, which is being implemented in the coastal region, rather than mountain areas (as in the other three countries). It is a low lying area about 10-100 meters above sea level. The presentation focused on traditional knowledge-based innovations for climate change adaptation in four Mijikenda communities, such as planting pruned cassava tops which has increased productivity 4-5 fold. They have established a Cultural Village in the Rabai community to preserve culture, conserve agro-biodiversity, enhance incomes from cultural tourism, and provide a platform for community knowledge exchange. They also have advanced plans to establish a biocultural territory or 'Cassava Park'.

Dr. S.K. Goel discussed the presentation and brought focus on the learnings that India could draw from the Kenya case. He mentioned the fundamental need to influence policy so that mainstream development models can become more open to biocultural heritage agriculture. He endorsed the idea of traditional seeds and practices in suitable areas as effective means to aid climate change resilience. He also thought that the development of "cultural villages" with traditional/tribal communities in India would help preserve biocultural heritage and also enhance incomes through eco-tourism along with development of biocultural products.

Dr. Reetu Sogani of the SIFOR Central Himalayas team. She gave a brief overview of the region and elaborated on the biocultural innovations that the project has documented like various modifications in cropping patterns to increase productivity, more intensive mixed-cropping close to the homestead and development of new radish variety among others. She mentioned trials of traditional crop varieties as well as participatory documentation of traditional recipes that were undertaken. Dr. Sumit Chakravorty Scientist-in-charge, RRS, Hill zone-Kalimpong, reinforced the need to acknowledge the role of farmers as knowledge-holders and technical experts. It would help develop a positive interface between all stakeholders for effective agricultural development and rural livelihoods. Mr. Nawraj Gurung presented on the biocultural innovations documented in the Eastern Himalayas like domestication of broomstick grass, new cardamom cropping system and locally adapted variety, community developed cultivar of rice-bean etc. He Also stressed on the urgent need for policy changes. He also spoke about the potential of Comprehensive District Agriculture Plans as an effective approach in integrating biocultural practices and their conservation in the mainstream planning process.

Mr. R.K. Ghosh discussed the two presentations by SIFOR-India and concluded the need for policy change as common to both the sites. He also quoted the example of the Kenya case which brings to light the importance of community development as an important aspect of any development strategy. From China, that has taken strides in policy measures in participatory plant breeding, there is a lot to learn and the model of the Peru Potato Park has important lessons for biocultural heritage as a livelihood source. He suggested that the SHGs of the BCHAT be scaled-up to Farmer Producer Organisations. This will bring more opportunities through better linkages with government schemes as well as the market. He mentioned

schemes like the Rashtriya Krishi Vikas Yojana (RKVY): National Agriculture Development Scheme and Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) that can be instrumental in facilitating local need-based planning and implementation. A discussion ensued on the obstacles faced by farmers in growing broom grass in farms and commons. Broomgrass is treated as a forest produce, thus requiring a special permit called the forest transit pass. This forces farmers to sell goods to traders and middlemen on unfair terms. Mr. A.K. Sanyal gave an example from Tripura where Biodiversity Management Committees (BMCs) had earned money through the ABS system from the broom industry. Mr. P.L. Thanga mentioned that Mizoram had increased its revenue from Rs. 37 lakhs in 2009 to more than Rs. 75 crores\* in 2017 through the sale of broomgrass. These examples need to be studied and adopted in West Bengal.

In the afternoon, participants were divided in three groups to come up with recommendations on specific issues through focussed group discussions. These recommendations have been presented briefly below.

### **Group One: Developing the Bean Park as a Biocultural Heritage Site**

Group one worked together to chart out steps to further the Lingsey-Linseykha BCHT. The recommendations of this group were presented by Dr. S.K. Goel. They are as follows:

- Exploring and defining the territory, mapping of land use zones and documenting biodiversity of the proposed BCHT.
- Creating a repository of traditional knowledge and practices.
- Taking a stock of customary and statutory laws and validation of traditional resources and practices through tools like the People's Biodiversity Registers, Biocultural Protocols, Access and Benefit Sharing mechanisms.
- Conducting baseline survey for production planning to understand market opportunities, requirement for household consumption and possible surplus produced in case of beans as well as other crops.
- Exploring BCHT as a site for agro-tourism, eco-tourism and cultural tourism.
- Increasing participation of various stakeholder communities, traditional institutions as well as Self Help Groups in governance and improving access to District Agriculture Plan, clusters for Paramparagat Krishi Vikas Yojana (PKVY): Traditional Agriculture Development Programme, National Rural Livelihood Mission (NRLM), Rashtriya Krishi Vikas Yojana (RKVY): National Agriculture Development Scheme, Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), Integrated Watershed Management Programme (IWMP), National Food Security Mission (NFSM), Mission for Integrated Development of Horticulture (MIDH) and other schemes. Working out convergence in several schemes to comprehensively address the needs of BCHT.
- Participatory Action Research for climate change adaptation.
- Developing the Seed Bank and a Seed Village.

### **Group two: Developing Seed Networks and Participatory Plant Breeding**

This group discussed the problems of formal seed systems and came up with strategies to promote local seeds and seed systems. The recommendations were presented by Mr. Tshering Bhutia which are as follows:

- Including local and traditional seeds in the formal seed networks, government procurement and distribution systems. At the moment, subsidy and promotion is limited to conventional seeds

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\* Lakh= 100,000 and Crore= 10,000,000

developed by universities, research institutions or the private industry. Traditional seeds are often more suited to ecological niches and produce better in marginal environments with limited inputs.

- Developing local seed systems through establishment of seed banks, gene banks, seed production and seed exchange and developing regional seed networks with farmers sharing similar habitats.
- Developing capacity of communities and sensitivity of the scientists to practice Participatory Plant Breeding.

### **Group three: Mainstreaming biocultural heritage agriculture in policy, plans and programmes**

The third group was presented the task of proposing ways to bring biocultural heritage agriculture to mainstream policy measures, plans and programmes. The recommendations were presented by Mr. R.K. Ghosh to the house. They are enlisted below.

- Changing the national guidelines of certain schemes to incorporate important mountain-specific local issues.
  - Pradhan Mantri Fasal Bima Yojana (PMFBY)—Prime Minister's Crop Insurance Scheme—needs to include many crucial crops for mountain farmers such as ginger, large cardamom, mandarin orange, red chillies, radish, turmeric, beans and millet. In addition, there is a need for developing crop compensation schemes in forest villages for addressing crop depredation (man-animal conflict).
  - Protection of Plant Varieties and Farmer's Rights Act (PPVFRA), 2001 needs to include minor crops and some vegetables such as radish in the schedule.
  - Initiative for Nutritional Security through the Intensive Millets Promotion (INSIMP) could be resumed with a focus on diversity rather than a single focus on finger millet.
  - Paramparagat Krishi Vikas Yojana (PKVY)—Traditional Agriculture Development Programme—promotes organic practices and there is a need to make the certification process simpler and inputs cheaper.
  - Integrated Child Development Scheme (ICDS) procurement for mid day meal and other schemes such as take-home rations for the elderly could include local produce thereby guaranteeing better quality to the consumer and livelihood for the local farming community.
  - National Mission for Sustainable Agriculture (NMSA) flagship programme on rainfed area development could be extended to include district Kalimpong.
  - Pradhan Mantri Krishi Sinchayi Yojana (PMKSY)—Prime Minister Farmer Irrigation Scheme—to include small water harvesting measures appropriate in mountain areas.
  - ATMA to Integrate district development plans prepared with participatory methods.
  - Minimum Support Price (MSP) assessment and declaration to include important mountain crops eg. ginger, broomgrass, turmeric, mandarin orange, orchids and large cardamom etc. which are important livelihood sources for local community.
  - Other schemes that have the provisions to support post-harvest activities (storage, processing and marketing) could be extended specially to remote mountain farmers.
- Traditional Knowledge Cell in the state Agriculture Department for better coordination with indigenous communities; the cell could also provide an interface for coordination of agriculture with schemes of rural development and employment.

- Commence the process of declaration of the Lingsey area as a Biodiversity Heritage site by the State Govt. under the Biological Diversity Act, 2002.

The **final session** was a closing discussion moderated by Dr. Tej Partap who urged the participants to voice their observations, recommendations and comments. Mr. Dawa Tshering Lepcha, emphasized that in addition to the diversity of beans, the Lingsey-Lingseykha BCHT is a repository of other crops and varieties making it a model for ecologically sustainable farming system. It is the need of the hour to work towards making it economically sustainable too. He also observed that in the meeting he realised that the farmers were not aware of many of the schemes being run by the government in their regions and therefore could not adequately benefit from them.

Mr. T. Imkonglemba emphasized on the need to make government schemes more effective and appropriate for mountain areas. For example, the command areas specified in the irrigation schemes are too big in scale making their implementation difficult. Therefore, these schemes should have options for adapting to the scale in specific locations. He asked for a network for seed sharing among places of similar altitudes and soil types. He also suggested better interface with appropriate technology for mountain areas giving the example of the high potential of electricity generation in the BCHT utilizing the water run off through small-scale generators.

Mr. R.K. Ghosh exclaimed that the BCHT in Lingsey is “a place worth visiting”. It is one of the rare examples of living indigenous cultures and we need to ensure that the work being done around it continues. He encouraged an exploration of avenues for livelihood generation using various government schemes and augmentation of organic farming.

Dr. Tej Partap underscored the inclusion of traditional seeds in formal seed systems and due diligence to be undertaken in formulating schemes so that mountain crops are not left out of the incentives and subsidies. He also suggested that the BCHT could become a model site in other areas for in situ conservation of agrobiodiversity and associated traditional farming systems.

Ms. Swiderska expressed keenness on the part of IIED to get further support for the development of the Lingsey-Lingseykha BCHT. She stressed on the need to have a collective governance model along with generating economic benefits to ensure equitable sharing. She also recommended that the site be registered as a Biodiversity Heritage Site under the National Biodiversity Act of 2002. Dr. A.K. Sanyal mentioned that some additional baseline information, especially in inventorying biodiversity, needs to be generated. Submission of the information in proper format and following the due procedures could lead to the declaration of the proposed BCHT as a Biodiversity Heritage Site in the near future.

Mr. Argumedo expressed the commitment on behalf of the Potato Park to help in developing the Lingsey-Lingseykha BCHT with their experiences and strategies. Ms. Mayel Lepcha of Tandrabong village observed that over the two days the community was able to appreciate the value of the work they have been doing. She, like Mr. Dawa Lepcha, stressed on the need to develop the economic benefits of the BCHT. Ms. Lepcha commented that they learnt about Participatory Plant Breeding (PPB) in the group-work session and she believes that it will empower the community by helping them develop varieties according to their own needs. Ms. Swiderska stressed the importance of PPB, which not only enhances local food security and agrobiodiversity, but can also lead to changes in policy. She also urged the policymakers to invest in PPB which has brought positive change in seed policies in countries like China and Vietnam.

Mr. Rastogi further added the need to establish a network of the North-eastern States where experience of PPB can be shared and requested Mr. Imkonglemba to speak about the work he has done in Nagaland. Mr. Imkonglemba narrated that his department has been working with local varieties of paddy for many

years and he realizes that they are undertaking Participatory Varietal Selection, which is an important step in the PPB process. They have already tested 367 varieties from a collection of 867. Among these, three varieties are being promoted based on their adaptability, compatibility and yield. They have promoted seed exchange to build trust among various communities. Dr. Tej Partap commented that it was important for scientific institutions to participate in such initiatives, as they would bring acceptance and recognition through their scientific know-how.

Dr. S. Chakravorty invited SIFOR to work together with his scientific team and collaborate on any participatory technology development programme including PPB. Based on interactions with the women farmers present in the group-work session, Dr. Yiching Song observed that they preferred local varieties. She also invited women farmers from India for exchange of knowledge and experience sharing with the women farmers of China by visiting each other. Mrs. Chayanika Bisht, Hill Craft India, commented on women farmers not being given any special recognition or benefits despite their crucial role. Dr. Tej Partap responded by bringing attention to the lack of recognition of women as farmers. He said, “we need to start using the phrase farmer and her husband and not farmer and his wife” because more than 80% of the work on farm is done by the women of the household.

Traditional farming systems and diversity are suffering at the hands of policies that favour hybrid seeds of much fewer crops than those grown traditionally. Dr. Tej Partap quoted this as a reason for the present day need for community seed banks and traditional farming systems as conservation tools. It was also concluded that the most significant aspect of the initiative of the BCHT has been coming together of various stakeholders for a cause like that of conservation of agrobiodiversity and traditional knowledge. It is also important to note that if the BCHT is not economically sustainable then the initiative will collapse in the long run.

In his closing remarks, he observed that the greatest opportunity presented to us in this meeting is the collective voice that has developed between various stakeholders. The biggest threat to such an opportunity is when such a project fails to meet the strategic needs of the key players who are farmers in this case. As emphasized earlier, the biggest concern of the farmer is economic benefit. Ms. Swiderska commented that another threat to a project like the Bean Park is that of becoming a top-down initiative instead of a truly bottom up and community driven effort, which is important to ensure its effectiveness and long term sustainability. The success of the Potato Park is largely thanks to its highly participatory approach.

The session ended with Mr. Rastogi asking the participants to stand in a circle and join hands to thank everyone who made the initiative possible, especially those who had been working silently and providing logistical support.

### **List of Participants (in alphabetical order)**

<b>S. No</b>	<b>Name</b>	<b>Organization/ Department</b>	<b>Designation</b>	<b>Contact</b>
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Glimpses of the Policy Dialogue in progress

