another fruitful year
another fruitful year
We dedicate this Annual Report to the community members with whom we work; the grant-extending agencies who trusted our endeavours; partner organisations who came forward to collaborate and collectively achieve a sustainable future for the generations to come; life members and Council of CHEA for handholding and mentoring our pathways to up-scale the learning captured from field actions; and finally the staff of CHEA who have served in far-flung areas as ‘catalysts of change’ to facilitate the rural communities in meeting their developmental aspirations, as well as conserve the fragile ecosystems of the Indian Himalayan Region.

Contents


CHEA Team 70
Our Mission

To develop and provide integrated and innovative solutions in cooperation with regional and international partners, to foster direct action and policy change for overcoming environmental, economic and social vulnerability of the mountain people.
A Note by the Executive Director

The journey over three decades covered by CHEA has given critical insights on the livelihood based management of natural resources in the Indian Himalayan Region (IHR). Direct interventions undertaken through action research on field and attempts to link the lessons learnt for policy formulation and informed decision making witnessed another fruitful year.

The ongoing endeavours to conserve age old symbiotic relation between Human and Nature were carried out with the support of field staff spread in different districts of the Uttarakhand state. Conserving natural environment and simultaneously uplifting socio-economic status of rural communities through appropriate technological interventions and promoting rural innovation continue to serve as the guiding principles around the focused thematic areas.

During this annual reporting period of April 01, 2012 - March 31, 2013, CHEA made significant process through field actions around the four Thematic Action Groups (TAGs), which are listed as follows:

TAG 1 - Climate Change with special reference to Mountains and Adaptation Interventions for Mountain Region.
TAG 2 - Rural Livelihood Initiatives in Mountain Regions for Reducing Rural Poverty, specifically with interventions related to livelihood based management of natural resources.
TAG 3 - Art, Culture and Handicrafts Promotion in Mountains. Focus is primarily on natural resource based products, hence developing biomass base for sustaining the sector has been overall approach.
TAG 4 - Research and Documentation of the Mountain and the Regional Best Practices to facilitate the process of informed policy decision making at multiple levels of district, State and Central Governments.

The Indian Mountain Initiative (IMI), envisaged by CHEA in 2010 has made progress since its inception. The Second meet of the Mountain States (Meet) was organised in New Delhi on March 19, 2013 by CHEA and the third Sustainable Mountain Development Summit (SMDS) is scheduled in September 2013 in Kohima (Nagaland) by the Sustainable Development Forum, Nagaland. Mr. Harish C.S. Rawat, Hon'ble Union Minister Water resources, Government of India addressed the Meet as the Chief Guest highlighted some of the key concerns for the IHR. According to Mr. Rawat the mountain regions have two main assets, Water and Green cover. Climate solutions can begin with Himalayas, by focusing on how to minimize glacial melt which affects the river flow from the mountains. Mr. Rawat emphasized that to tackle the problem of climate change the mountain regions have to be treated as a contiguous core area with mountain people perceived as first class citizens, instead of the 'second class' treatment they have received so far. The need to think about not just the green bonus but also the blue bonus for the water that is being delivered, as expressed by hon'ble minister indicates the thrust areas for action in coming future in the IHR in general and Uttarakhand state in particular. CHEA shall integrate these concerns in its future strategic and annual plans to be implemented in the current organizational catchment.
Institutionalization process of IMI is gathering momentum and while CHEA has extended an inclusive forum to the stakeholders from 11 mountain states and 2 hill districts of IHR, we remain steadfast in our commitment to play the ‘default host’ of the SMDS or Meet in the event of not having a willing State to organize any of these two annual events.

The State Action Plan on Climate Change for Uttarakhand is being developed and it was seen as an effective planning guide by CHEA. Accordingly, with partner organisation Alternate Future and the concerned government departments, it was attempted to mainstream Gender dimension into Climate Change Adaptation Plans and Programmes related to the Agriculture and allied sectors. The State of Uttarakhand is highly vulnerable to climate change risks with a large proportion of its population dependent on climate-sensitive resources like land, water and forests for its survival and livelihoods. Historically, a large section of the able-bodied men have been out-migrating to remit cash incomes to the State’s economy. This has resulted in the hill women undertaking most of the agricultural work and also shouldering the responsibility for fetching fuel-wood, fodder and water for the household. Scientific studies reveal that women’s vulnerability to climate change differs from men and climate change interventions that are not gender-responsive often result in deepening the existing gender divide (Fourth Assessment Report (2007) of the Intergovernmental Panel on Climate Change (IPCC), Chapter 17, especially pages 729-730).

The ongoing long term programmatic intervention on strengthening community forestry through Van Panchayats (VPs) focused on empowerment of women during the reporting year. Where a large number of poor, rural women depend on climate-sensitive resources they are also less likely to have the education, opportunities, decision-making power and access to resources to adapt to climate change. Accordingly to build their capacities to perform so as to empower them for effective decision making role in Van Panchayats, a focused activity, with support from United Nation Environment Programme (UNEP) Eco Peace Leadership Centre, was undertaken. This project resulted in a useful output in the form of a training module for women representatives across VPs, which has a potential for replication in the entire State.

The efforts being made by CHEA have been appreciated at various forms and in December 2012 the organization was recognized with a special mention award under the 2012 Human Right Award of the French Republic.

On behalf of CHEA Council, its life members and staff I extend our gratitude to the continuing support and trust shown by partners and the communities, who not only provided us resources but the conviction and inner strength to continue our collective efforts. This is the underlying strength motivating us to do our bit for improving situations of the mountain regions and its people.

Pushkin Phartiyal, PhD | Executive Director | Nainital, India
The Central Himalayan Environment Association, CHEA in short, was founded on October 2, 1981, on a day which has a special significance for India, being the birthday of the Father of the Nation, Mohandas Karamchand Gandhi. The society was registered soon after in May, 1982. Arguably CHEA is one of the earliest Societies founded in the Northern India which had ‘Environment and Livelihood of the people of Himalayas’ as its core concern.

Much water has flown in the great Himalayan rivers and the Indian Himalayas have since been a witness to much distress, conflict, degradation, demographic dynamics, political restructuring and impacts of various global revolutions and their regional and local impacts. CHEA has since espoused many mountain causes, engaged itself actively in scores of action-research on human and environmental aspects and livelihood related projects and continues to be so involved to this day.

**THEMATIC GROUPS**

- Climate Change, with specific reference to Mountains and Adaptation Interventions for Mountain
Since the Rio Earth Summit in 1992 with the inclusion of Chapter 13: 'Managing Fragile Ecosystem: Sustainable Mountain Development' in the UN Conference on Environment and Development (UNCED), the importance of mountain social-ecological systems have been acknowledged for the first time on a global scale. Establishment of CHEA, let it be recalled, pre-dated the Rio Summit by more than a full decade. To ensure solution for increasing pressure on natural resource for rural livelihoods CHEA has developed strategies for strengthening grassroots environmental governance and undertaking need based action research.

**MANAGEMENT AND MEMBERSHIP**

CHEA stands with twelve members in the Council along with one hundred and twenty Life members and two Institutional members.

- Rural Livelihood Initiatives in Mountain regions for reducing Rural Poverty
- Art, Culture and Handicrafts promotion in mountains
- Research and Documentation of the Mountains and the Regional Best Practices
CLIMATE CHANGE
(WITH SPECIAL REFERENCE TO MOUNTAIN AND ADAPTATION INTERVENTIONS FOR MOUNTAIN REGION)

"Himalayas are dead in Afghanistan, dying in Nepal and sick in India"

2013 celebration of Earth Day focused on the theme "The Face of Climate Change", this theme is not only about discussions over statistics of the phenomenon, it is about the Society—the human and the impacts being faced by them. Economically fragile communities are more vulnerable to climate change. Global food prices have risen ruthlessly in the last few years and according to "Commission on Sustainable Agriculture and Climate Change" it will rise further and become more volatile. In 1996, around 800 million people suffered from chronic hunger, which increased to 1 billion by 2009 (Vermeulen et al., 2012). According to World Bank, due to the recent price rise in food articles 44 million more people have fallen into extreme poverty since June 2010.

Agriculture is highly sensitive to climate change factors like rainfall and temperature which influence the quality and quantity of crop. Extreme climatic events, drought, floods, heat waves, frost, etc. also determine the overall availability of the food articles. Because of this fragile tendency of weather conditions farmers particularly, marginal farmers are at risk of their existence.

Excessive use of chemical fertilizer in China (average annual agriculture GDP growth is 6%) is contributing to nonpoint source pollution and Greenhouse Gases (GHGs) emissions (Foley et al., 2011). Further, in India due to inadequate transit packaging, post harvest loss of fruit and vegetables has been estimated to be about 20% (Choudhury M.L., 2006).
"Himalayas are dead in Afghanistan, dying in Nepal and sick in India"
- Anonymous

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In Bangladesh every year environmental hazards temporarily send half a million people to urban areas and displace 64,000 inhabitants. (Foresight, Migration and Global Environmental Change, 2011) are some of the examples of threats from climate change and unsustainable resource use.

In June, 2013 during the United Nation Conference on Sustainable Development Summit at Rio de Janeiro (Brazil) the common consensus developed that the promotion of an economically, socially and environmentally sustainable future for planet and for present and future generations is of utmost importance.

Using natural resources judiciously and in a 'climate smart' manner, is the key to climate change adaptation and mitigation. In Almora and Nainital district of Uttarakhand, farmers are now determinant to deal with current and potential climate change impacts by adopting appropriate pre and post farm technologies and making advantage of information communication technologies.

However, mere adopting appropriate technologies may not suffice in fighting climate induced stresses and thus sustainable use of natural resources is equally essential. Sustainable use of resources is about improvising the current systems and approach through which we extract or use natural resources. These improved systems will surely lead to reduction in GHGs emissions, increased resource use efficiency and ultimately in maintaining ecosystem services.

Van Panchayats (VPs) of Uttarakhand are unique in many ways, it gives rights to the communities over forest as well as underlines the duties through which they conserve and protect their forests. There are over 12,558 VPs in Uttarakhand constituted under Indian Forest Act 1927 (Section 28(2)). In spite of this not all of them are strong and self reliant and a lot needs to be done to empower these Peoples' Institutions.

CHEA’s endeavour at Lamgarah Development Block in Almora District of Uttarakhand towards empowering the VPs and the response from community is overwhelming. The journey started in 2003 with the "Kyoto: Think Global, Act Local" an action research multinational project being taken up in four VPs viz., Dhaili, Toli, Guna and Asota. This action research aimed to build up Biomass inventory of the selected VPs to advocate for inclusion of community forest under the Kyoto Protocol. After 10 years it has become a flagship programme of the organisation with the mandate to strengthen this age-old community institution.

In 2006, Sir Dorabji Tata Trust (SDTT), Mumbai became a partner of CHEA through a project entitled "Strengthening Rural Community Managed Natural Resource Institution (Van Panchayats) for Enhancing Livelihood". This project was taken up in seven VPs and based on its success in 2008 it was extended to fifteen VPs.

Where, in 2003 the project focused on ecological aspects of the forest and to analyse sustainable approach of using available resources. In 2005, VP as an institution became a major intervention thrust of the organisation. Now the core purpose of the project is to develop replicable models at the village level which advocate for interdependence and linkages between rural livelihood and management of natural resources.

Besides supporting communities with truly sustainable sources for livelihoods, these interventions will also contribute in reducing exploitation of resources in VPs and enhancing active role of VPs in performing their duties. Communities are being motivated and educated to maintain a balance between their traditional rights over natural resources, forest conservation and income generation.
ADAPTATION AND MITIGATION

It is well established that trees and undergrowth presence is vital to mitigate climatic disorders and also to keep the natural resource based livelihood intact. In case of VP’s it’s strengthening and management is directly correlated with existing natural resources and their utilization pattern. The purpose of strengthening VP’s have various benefits i.e., availability of fuel and fodder, control over soil erosion, moisture retention, habitat to wildlife, protection of forest as a carbon sink to mitigate climate change and source of revenue for VP’s through extraction of various products in a sustainable manner. VP’s also focus on growth of existing species and carry out afforestation and fodder plantation for enhancing the density and undergrowth vegetative cover in VP’s.

In Himalayan states most of the forest loss currently occurs as a consequence of forest degradation, in which forest stock declines without decrease in area. This represents a form of chronic disturbance in which the biomass removal on a given day is invisible, generally in form of a few human loads of firewood, fodder, and forest floor litter for manuring. Because of grazing of domestic animals seedlings are not allowed to grow as saplings and saplings seldom become trees. Trampling and litter removal, in a long run, deplete soil carbon and damage the root system.

Sustainable afforestation programme in the VP’s can meet the demand of fuel wood and fodder and also restrict the leakage in VP for fuel wood and fodder requirements.
Availability of quality plants in sizeable quantity is vital for developing appropriate sustainable forestry model, to achieve this, ten forest plant nurseries were established out of which seven nurseries have been registered with the forest department. The registration is facilitating nurseries to supply planting material to different agencies and organisations hence also creating an additional source of income for the nursery owners (Fig 2.).

Availability of different varieties of plants has been ensured to fulfil the diverse requirement of community and also to supplement geographical conditions of the VPs.

The response of communities towards interventions related to improved fodder varieties has been overwhelming and the impact too is visible. Transplantation of fodder species i.e., Napier (Pennisetum purpureum), Gucci (Dactyliis glomerata), Doli (Festucion arundinacea) and Rai (Lolium perenne), its protection and maintenance at the village and VP level has been taken up by the local community itself. The fodder banks are now established in seven VPs. This year for the purpose of demonstration to assess the performance, specific variety of Napier has been planted in the beneath the chir-pine forest.

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<tr>
<th>Nursery (nos.)</th>
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<th>Van Panchayat</th>
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<tr>
<td>Village Queral (Bhaunia Variegata)</td>
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<td>Village Oak (Quercus leucotrichophora)</td>
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Direct acorn sowing of banj oak is the initiative undertaken in 35 ha of six VPs, along with 32,000 seeds of Bahunia variegata in eleven VPs. To ensure that scientific methods are followed, students from Department of Forestry and Environment Science, Kumaon University, Nainital were made to participate with community members in the process of seed collection, grading, storage and sowing. The activity resulted in reducing the cost of plantation and better survivial as well growth of germinated seed. Rotation policy to avoid biotic interference is now well established in seven VPs thus the regeneration status has also improved in the protected sites which are supposed to create healthy forest stock in future for providing raw material to local community and also to conserve the biodiversity in the area.

Bamboo due to its fast growing nature has potential to increase the carbon stocks at a faster rate. It also plays a very important role in the livelihood improvement of rural artisan community. Bamboo can be one of the potential species for plantation in degraded and wastelands to act as a carbon sink (Agarwal, 2011). Under the SDTT supported project entitled "Exploring Opportunities of Livelihood for Marginal Community through Demonstration of Plantation and Utilization of Bamboo" over 7,200 seedlings of diverse species of bamboo has been planted in both VP and individual landholdings.

Harvesting water and its management has always been a challenge and with erratic rainfall pattern in last few years, the situation is further turning problematic as most of the rain water runs off as soon as it reaches to hills due to topographic conditions. To combat this problem and to sustain bamboo plantation at Hediy a and Bediy a villages, water conservation and harvesting techniques have been introduced to ensure easy access of water for irrigation as well as moisture retention. In the two VPs of these villages 1,000 cubic meters of trenches and micro reservoires have been created and 32 roof water harvesting tank established at household level.
A vailability of quality plants in sizeable quantity is vital for developing appropriate sustainable forestry model, to achieve this, ten forest plant nurseries were established out of which seven nurseries have been registered with the forest department. The registration is facilitating nurseries to supply planting material to different agencies and organisations hence also creating an additional source of income for the nursery owners (Fig 2.). Availability of different varieties of plants has been ensured to fulfil the diverse requirement of community and also to supplement geographical conditions of the VPs.

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<td>8</td>
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In Lamgarah, 17,000 cubic meters of reservoirs and trenches have been created in VPs. The impact of micro reservoir is visible in form of significant increase of water discharge in seven natural springs those were otherwise almost dry over the period of time. The reservoirs contribute to the undergrowth in the surroundings through retaining moisture and by percolation assist spring recharge on down hills.

During heavy rains these reservoirs act as a barrier to reduce runoff of water thus resulting in controlling land slide and soil erosion. Fodder grass planted on the top soil of reservoirs to keep them intact is growing luxuriantly and provides much needed green fodder for livestock.
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Before Project

After Project

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Strengthening efficiency of resource using of communities is the mantra for achieving target of reducing GHGs emission to the levels of 1990. Communities residing in hills of Uttarakhand are highly dependent on forest particularly VP forest for fodder, firewood, Non Timber Forest Products (NTFPs), manure, etc. and their livelihood depends on the existence of these forest. Building their capacities towards sustainable use of natural resources is both a need and challenge. During 2012-13 various trainings and capacity building programmes were accomplished in consultation with community and its representative institutions i.e., Village Forest Councils (VFCs), Van Sansadhan Prabandhan Samiti (VSPS), Federations and Self Help Groups (SHGs).

The training on plantation techniques and creation of trenches has reflected positively on community and SHG members for quality work with focus on direct seed sowing to have healthy forest stock in future. Involvement of Post Graduate (PG) students from Kumaon University was useful in developing capacities of the project team and communities to promote oak acorn collection, grading and sowing following scientific methods.

Training on biogas construction has upgraded skills of community members for appropriate usage in sustainable manner and maintaining units by considering specific points of precaution.

First VP Niyamawali (Panchayati Forest Rules) came into existence in 1931 and since then a number of amendments were made to strengthen the VP institution. Now

AWAARENESS AND CAPACITY BUILDING OF STAKEHOLDERS

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state government has made the provision of 50% reservation for women in constituting VFCs for ensuring their equal representation. Change in administrative mechanism is not enough strengthening capacities of council members as well as other stakeholders will further ensure development of this age old institution as a model. United Nation Environment Programme (UNEP) Eco Peace Leadership Centre initiated 15 projects in 10 countries of the Asia Pacific region. One such project entitled "Capacity Building of Women or Village Forest Councils for Sustainable Management of Community Carbon Forestry in the Indian Himalayas" to strengthen capacities of women VP council members was initiated for Indian Central Himalayas particularly in Kumaon region of Uttarakhand by CHEA. The project aims to build capacities of women, who are the backbone of forest dependent hill communities by providing training on and creating awareness about community forestry management in the Indian Himalaya. In all 226 women VFCs members participated in workshops carried out at three locations of Uttarakhand state. The training was conducted and facilitated with developed training manual and IEC material for VFCs members. Prior to developing training content and learning reference material, a Training Need Assessment (TNA) was carried out in fifteen different villages of Almora and Nainital district of the state. TNA was of significant value to find out status of knowledge of women especially members from VFCs.

Analysis of the TNA revealed that

15% women were aware about the process of formation of VFC, however,

45% only had knowledge about the resource available in the VPs.

23% of women were well aware about the concept of climate change and its potential impacts, whereas,

04% had a knowledge about carbon forestry and no one was aware of their rights and duties related to VPs (Fig 5).
Following the TNA, manual and awareness materials were developed and training programme conducted. A feedback was also collected from the participants which was analysed to gauge the effectiveness of the training. (Fig 6.)

Participant feedback has been very encouraging as

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
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<tbody>
<tr>
<td>75%</td>
<td>Do you have any knowledge of the subject earlier?</td>
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<tr>
<td>20%</td>
<td>Do you learn anything new in workshop?</td>
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<tr>
<td>96%</td>
<td>It will help you to solve day to day problem of VFC</td>
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<tr>
<td>98%</td>
<td>Do you have any knowledge of the resource available in the VPs?</td>
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<tr>
<td>63%</td>
<td>Do you have any knowledge of the resource available in the VPs?</td>
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<td>2%</td>
<td>Do you have any knowledge of the resource available in the VPs?</td>
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of the participants felt that the workshop and its content was excellent.

Participants suggested to include additional information i.e., livelihood improvement training in the manual.

Participants opined that their knowledge and skills had increased and confirmed that the training inputs will help them in resolving the day to day management problem of VPs.
REFLECTION

The study was commissioned in 6 project VPs out of 15. Project VPs, to evaluate the impact of various interventions being made in Lamgarah Development Block. The study revealed that projects have had a direct impact on almost 500 families residing in these VPs with a total population of 2,976. The data indicated significant difference after project intervention in various sectors with positive response and perception of different stakeholders in the project villages. Before project intervention the number of VFC members was not fixed as per Uttarakhand Panchayati Forest Rules (UPFR), 2005. The representation of women and weaker sections thus remained inadequate and had lack of inclusiveness. Reconstitution of VPs was taken up through elections, following UPFR, 2005 for legal identity and their strengthening. It is analysed that technologies adopted by the community in the proposed area have provided maximum impact on NRM and capacity building.

An improvement in participation of VFC members (Nine members has been observed in accordance to UPFR, 2005) with appropriate representation of women and weaker section members in the council and in village level meetings. The VFC members are also aware about key points of UPFR, 2005. Empowerment of community has also resulted in their participation in all meetings that are related to the development and betterment of the village. Under the project intervention 51 community members have developed their capacities as Rural Resource Persons (RRPs) in diverse sectors and are holding the responsibility to disseminate the information to others in villages. This has created more awareness and transparency at VP level for implementing different programmes and activities. The study further revealed enormous potential for VPs to act as institution and resource base for the local community and also to generate compensation for environmental restoration services. Activities promoted at household level also have had positive impact in conserving the natural forests and improving the status of women by reducing their physical and mental stress.
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CHALLENGES FOR STRENGTHENING OF VPS

- Generating awareness and motivating community members especially women to adopt appropriate technologies through training and capacity building has to be focused.
- Creating opportunity for fund availability under various schemes for appropriate technology transfer.
- Promotion of ICT tools for better understanding of community carbon forestry.
- Inclusiveness in formation of VFC as per UPFR, 2005 and establishing a repute with the Panchayati Raj Institution i.e. Village Panchayat.
- More emphasis livelihood based management of forests/natural resources than target or protection and conservation oriented afforestation.
- R&D to develop cost effective and an operational design for technological interventions such as bio-gas.
Indian Himalayan region (IHR) occupies a special significance in the mountain ecosystem of the world. The estimated total value of forest ecosystem services flowing from Himalayas is about Rs. 943 billion/yr and at Uttarakhand level it is about Rs. 107 billion/yr (Singh, 2007). IHR is important from the standpoint of ecology, it nurtures whole of the Indo-Gangetic plain and also source of water for the large part of Indian subcontinent. It is also a home of rich biodiversity, human communities and cultural diversity. Therefore, it is utmost important that the Himalayan forests are conserved and the development of communities residing within has to be done in a sustainable manner.

Dependence of the growing population on existing resources, shortage of technological intervention for enhanced production to meet surplus demand are further mounting pressure over resources and gradually increasing the vulnerability of marginal farmers in the mountains. In addition, climatic variability in the form of frequency and duration of extreme events has resulted in frequent occurrence of severe natural disasters. These factors cause soil erosion, land degradation, decline in soil fertility and reduced crop yield. To cope with changing natural scenario, adaptation of appropriate technologies is the only way to sustain existence of human community and cultural diversity in the Himalayas which are strategically important for conservation of the ecological system.
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CHEA is closely associated and determined to conserve this age old association of Human and Nature and is working with communities living in far flung areas of Kumaon hills. Consering natural environment and simultaneously uplifting socio-economic status of rural community by disseminating appropriate technological intervention and promoting rural innovation are the focal thematic areas of the organisation.

In the Himalayas, crop cultivation, animal husbandry, forestry, biodiversity and rural economy are integral part of traditional resource management system. However, agriculture is the main occupation of 80% people of western and central Himalayas (Sharma et al., 1999), the land holding of more than 70% farmers is less than 1 ha and average cultivable land available per farmer is only 0.5 ha (Tewari et al., 2003). Considering intrinsic relationship of human and nature in the view of limited resources, the use of appropriate technologies is certainly enhancing the resource use efficiency of the rural communities. In other words the effort of promoting sustainable livelihood is making communities more aware about their rights and duties, it is also improving economic status by way of improved and increased quality production, protecting environment and meantime balancing crop, livestock and agro forestry systems.

NON-FARM SECTOR

Livestock plays essential role in the rural economy of Uttarakhand, therefore, development of this sector has been emphasised under various projects taken up by CHEA, mainly with SDTT in Almora and NABARD’s (National Bank for Agriculture and Rural Development) Tribal Development Fund (TDF) supported project entitled "Livelihood Improvement of Tribal Community through Promotion of Appropriate Technologies in Rural Hills" in Pithoragarh district.

"Fodder - in fact nutritious fodder" is a key for the success of animal husbandry. A number of improved varieties of fodder species have been introduced and embraced by the villagers. Harvesting of raised grass varieties has been taken up by approximately 70% households residing in the project villages of Lamgarh Development Block. In 2008, about 350 households took the initiative and planted improved fodder in their yards and are now extending it further by transplanting the root stock from existing stock.

Approximately 19 ton of fodder was harvested during 2012-13. One of the success indicators of the programme is that the increase in number of families coming forward to raise improved varieties after analysing the benefits gained by fellow villagers due to fodder plantation.

Promotion of improved cattle breed with good health is also important and for this activities like Artificial Insemination (AI) and vaccination were carried out by the project team with the support of BAIF and veterinary department experts. AI...
with 55% to 60% success in cows and the number of cows inseminated is an indicator of the programme success and communities acceptance towards the concept. Productivity of milk in the project area has increased by many folds and is providing additional source of income to villagers.

During the period of 2012-13 with support of State Veterinary Department, Uttarakhand 30 treatment camps have been organised at village level. Door to door technical services were also extended for treating and vaccinating 1,910 cattle in project area. Apart from this medicine kits were distributed to those who are practicing animal husbandry at a commercial level.

Earlier knowledge about cattle health care was almost negligible in project villages. The efforts of project team have resulted in convincing communities for timely vaccination and educating them about other benefits of healthy cattle.

Drudgery for women has reduced considerably due to promotion of fodder management interventions in these villages. Mangers and chaff cutters promotion revealed substantial impact on both people and natural resources. Now 50% households have mangers and about 80% of them use it optimally. Overall 500 mangers and 120 chaff cutters were provided to the beneficiaries.

The activity has immensely reduced the pressure both on the women and on forests. It has also improved the cattle health. The valuable fodder is also saved due to its optimum utilization by the community through appropriate means.

The other benefit of using manger and chaff cutter is that different types of fodder can be mixed together hence helping to make a more nutritious meal for cattle which is also easily munched by them.
Reviving beekeeping has shown positive impact both environmentally and economically in the region. Communities are encouraged to adopt appropriate beekeeping technologies to conserve *Apis cerana*, an indigenous bee which is otherwise at the verge of extinction. Bee-based projects have been undertaken with support from SDTT and NABARD’s Rural Innovation Fund programme entitled "Appropriate Technologies for Strengthening Bee Based Livelihood Activities in Rural Hills".

350 movable hives were installed both in Lamgarah (Almora) and Paharpanti (Nainital) developmental blocks, various bee keeping tools and equipments were distributed to beekeepers. Capacity building of 16 resource persons including 4 carpenters was facilitated for sustainability and further extension of beekeeping in project villages.
Roof Water Harvesting (RWH) is beneficial to combat water scarcity during prolonged dry periods. In the last ten years approximately 400 tanks have been established and now communities are maintaining the tanks to generate benefits in a sustainable manner. This innovation has helped in increasing agro produce productivity and has encouraged farmers for cultivation of cash crops. Various components like poly houses, sprinklers, etc. has also been undertaken for sustainable livelihood.

HORTICULTURE

Sustainable horticulture applies systems and practices which aim to maintain and supplement the health of natural resource base within the constraints of market.

Sustainable horticulture is built on a long standing desire of farmers to keep their land productive in future and ensure safe food and environmental protection. Sustainable horticulture system can be achieved by creating and enabling environment for development and use of appropriate technological interventions. For building best practices management approach various steps were undertaken to ensure sustainable livelihood.
generation for communities using indigenous knowledge which communities have been practicing since ages.

Cash crop cultivation is being carried out by introducing high value crops to deliver maximum benefits to marginal community and also to ensure food security during different seasons.

During this financial year, 16 ha area has been covered under different crops i.e., tomato, pea, French-bean, potato, cabbage and capsicum etc. The total income generated in 2012-13 was approximately Rs. 4.3 lacs through sale of vegetables. Poly houses have been established for income generation round the year. Since project inception, 62 low cost poly houses have been established (Fig 10).

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ORGANIC FARMING

Use of organic inputs in farming surely protects the environment and reduces harmful impact from chemical fertilizers and pesticides and hence ensures soil fertility. Promotion of organic farming programme with support of SDTT at Lamgarah and NABARD under its CDF entitled “Off Season Vegetable Cultivation through Organic Intervention” at Tarkhet in Almora district has shown encouraging results.

Villagers who had adopted vermi composting earlier came forward to share their experiences and benefits to other, resulting in 155 more composting units being installed in project villages. Approximately, amount of Rs. 2,000.00 (Two thousand INR) has been earned by SHG from selling worms and Rs. 18,000.00 (Eighteen thousand INR) by selling 12.0 ton of vermi compost to different agencies.
AGRI - HORTICULTURE

Wadi or orchard has been a popular programme, which originated in tribal areas of South Gujarat in 1980s, today it is recognised as model for tribal development. The success of this model encouraged NABARD to replicate the approach all over India through its TDF programme. Wadi is multi component programme for improving standard of living of marginalized communities. This is a family based programme implemented in geographical clusters. The core component is development of agro forestry in small plots of under-utilised land and designed to provide long term and sustainable livelihood support to families owning the plots.

To promote participatory livelihood and to benefit the tribal and SC community, project entitled "Livelihood Improvement of Tribal Community through Promotion of Appropriate Technologies in Rural Hills of Pithoragarh District" has been initiated in three development blocks i.e., Didihat, Kanalicheena and Dharchula of Pithoragarh district. Focus of the project is on Van Raji community, however, Rang and SC communities are also generating benefits from the project.

Project is being implemented in 20 villages while benefiting 700 families.
According to the World Health Organization (WHO) 80% of population from developing countries rely on traditional medicines, mostly plant drugs for primary health care. Plants have a long history of being used for a variety of purposes especially for medicine and cosmetics. Knowledge of these medicinal and aromatic plants and their potential usages were passed down through generations by oral tradition. Many developing countries in Asia and Africa have assimilated herbal medicine into their primary modality of health care. Herbal medications remain an important component of their medicinal system (Farnsworth et al., 1985). Ayurvedic medicine is still commonly practiced within India with an estimated 85% of Indians using crude plants formulation for the treatment of various diseases and ailments (Kamboj, 2000).

Medicinal and Aromatics Plants (MAP) based livelihood is market driven and is highly lucrative in the international market. Optimum utilization of resources will help in employment generation and economic development of rural hill community. In seven villages of Lamgarah Development Block of Almora district for capturing this opportunity of additional source of income and employment generation, project entitled “Sustaining Rural Livelihoods through the Cultivation of Non Timber Forest Products (NTFPs) and Medicinal and Aromatic Plants (MAPs) in Uttarakhand” has been implemented with support of Himmothan, Dehradun and in twenty-one villages of Nainital district under GRAMYA.

In Lamgarah five nurseries have been established to raise Tejpatta (Cinnamomum tamala) and Ritha (Sapindus trifoliatus) out of these 14 individual farmers from the project area have been registered at Herbal Research and Development Institute (HRDI), Gopeshwar (Fig 12).
Networking for pre and post harvesting facilitation to farmers have huge impact on farm management system in project area. Induction of appropriate technologies in farm sector have proved beneficial to agrarian community in many ways, productivity is boosted per unit of cultivated area, quality enriched and turnover increased in terms of quantity, quality and duration of availability. The backward and forward linkages ensured during 2008-12 under Government of Uttarakhand’s GRAMAYA project as Divisional Support Agency in Dhari and Okhalkanda development blocks of Nainital district continues even after the project period. Through the Farmer Cooperative, communities are supplied quality cash crop seeds as per the agro-climatic situations and trends of market demand to ensure beneficial outflow of produce and inflow of income.

MAPs are also establishing as an income opportunity. Camomile has been marketed at Ramnagar Mandi through providing linkages and agreement to trader. Advance agreement for supply of Tagar is made with various agencies of Uttarakhand. Use of Information Communication Technologies (ICTs) such as Mobile SMS Services to community provided by Reuters Market Light (RML) is common and accordingly community is managing their agriculture practices and systems ranging from field preparation to marketing agricultural produces.
Community development is required to strengthen their capacities to address diverse issues and take advantage of opportunities to find common ground and to balance competing interests (Frank and Smith, 1999). Community capacity is the foundation for sustainable long term development. It is the combined influence of a communities’ commitment, resources and skills that can be developed to build on their collective strength and to address problems and opportunities.

Strengthening capacities of rural community for successful intervention of project is indispensable and thus has been an integral part of all projects activities. Village consultation workshops, trainings, exposure visits are some of the most popular tools to strengthen capacities of individual farmers and community organizations like VFCs, SHGs, Farmers Interest Groups (FIGs), Cooperatives and Progressive Farmer Groups (PFGs). Various programmes were organised to ensure better understanding of area specific needs and to take action towards meeting the needs. The exercise involves building of existing skills, providing opportunities for people to learn through experience and increase community awareness.

NABARD is a pioneer of rural cooperative movement in India.
through capacity building, financial support, etc. with objective to develop agriculture and accelerate integrated rural development. Project on SHG formation and Linkages has continued in Tarikh (Almora), Dhari and Oshakanda (Nainital) development block of the state.

Till date 142 SHGs have been formed under the project out of which 120 are women SHGs. Total members in these SHGs are 1,360 (1,180 female) and the aggregate savings stands at Rs. 21.18 lacs while the cash credit limit (CCL) of 67 SHGs has been enhanced during the period.

In 1982, NABARD has initiated a unique programme called Farmers’ Club to uplift rural economy by collective approach of farmers to develop better relationship with banks, adaptation of appropriate post and pre harvesting technologies, and value addition. Three Farmer Clubs in Tarikh Development Block of Almora formed under the project has shown encouraging results in context of developing backward and forward linkages through collective approach among marginalised farmers.

Women are the backbone of hill economy in general and Utarakhand in particular. Therefore, the need of gender balance and integrating gender concerns was also addressed while organising capacity building and training programmes. Development of RRP’s is the core of sustainable development, thus, in all 243 RRP’s were developed to facilitate rural community. Exposure visit to different institution and agencies have motivated community to enhance their skill for adopting modern technologies and trades.

A majority of rural population is primarily dependent upon subsistence farming, in which livestock forms an integral part and play an important role. A major sub sector of agriculture is animal husbandry, which contributes significantly to the economy. Availability of good quality green fodder especially for milking animals in hilly areas is a major constraint in augmenting milk production. The scarcity of nutritious fodder, problem of inbreeding, lack of veterinary services, lack of investment, lack of farmers’ knowledge/skills and unending drudgery of women has affected the livelihood of the rural community. An initiative to integrate different components for livestock improvement and their promotion under the programme is being supported by SDTT to ensure Natural Resource Management (NRM) and livelihood improvement. This project has been undertaken in 15 VPs in Lamgarah Development Block (Almora).

Mrs. Mohini Devi of Sirosra VP is one...
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Mrs. Mohini Devi of Sirosra VP is one of the beneficiaries of the initiative; she was associated with the project through SHG since 2008. Her livelihood is based on agriculture, labour and allied activities. Till 2008, Mohini Devi and her family were not aware of improved breeds and appropriate technologies for their management. After village consultation workshops and her participation in SHG meetings as well as in the trainings, she came forward to adopt the project intervention and has now become a role model for others.

In 2009, she transplanted Napier (fodder grass) in the terraces of her agricultural fields and also created one unit of manger and established chaff cutter. Afterwards, she purchased two improved cow breeds through bank credits to generate benefits immediately by enhanced milk production. Beside she also took the benefit of AI in local breeds which resulted in two cross breed progenies of cow.

In comparison to 2008 now in 2012, Mrs. Mohini Devi is generating a daily income of around Rs. 200.00 by selling out eight litre of milk to the dairy. She expressed that “the practices adopted has immensely contributed in reducing the workload, thus saving of time which is utilized for taking care of improved breeds of cow. In all I am able to save 4 hours in a week due to availability of partial fodder from terraces and decrease in wastage of fodder by using chaff cutter and manger”. The activities supported by the project has also improvised cattle health and milk yield. She is optimistic from the results and now has established one more manger costing around Rs. 3,400.00 without any financial support from outside. She is now willing to upscale livestock activity for income generation and livelihood improvement.
Art, culture and handicraft reflect the impact of nature and socio-cultural environment on society and thus is an important constituent of any community. Craftsmanship represents a tradition which resides in the imagination of the artist and denotes the flavor of the artisan.

The Himalayan community is known for wealthy traditional performing art forms and crafts, rich cultural diversity of painting, wood crafting, carpet weaving, etc. The craft of Himalayas depicts the usage pattern of locally available resources, climatic condition and hardship of nature.

Post Rio +20, world is looking forward for sustainability in forms of economic, environment and social development. It is also possible that sustainability would be achieved through creativity and innovation and that will be the key to address the current challenges. Keeping this aspect of sustainable and environmentally friendly development of hills society with rich cultural heritage of art and craft various "We must learn to judge a society to its sounds, its art, and its festivals more than its stats."
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"We must learn to judge a society to its sounds, its art, and its festivals more than his stats"
- Jacques Attali
CARPET WEAVING

In 2010, a project entitled as "Cluster Development: Carpet Weaving in Munsiyari" with support of NABARD under CDF has been undertaken to improve the existing socio-economic environment of the region through building trust among different stakeholders and to initiate collective approach. During the project period, 28 SHGs were formed and groomed as carpet enterprise groups. These SHGs are functioning as one unit under an umbrella organisation called "Mitam Glacier Bunkar Mahasangh" which was formed to support weavers with backward and forward linkages and help them increase the total volume of production.

Vibrant River Gori, snow clad peak of Mount Trishul, and traditional craft of carpet weaving identify a small but picturesque Himalayan township of Munsiyari, that lies 118 km from city of Pithoragarh in Kumaon region of Uttarakhand. Total population of Munsiyari is around 9,500 and out of them approximately 900 have traditional knowledge of weaving various articles i.e., carpet, rugs, shawls, etc. these individuals are known as weavers. The Shuka tribe is one of the prominent residing communities having weaving as their principal occupation. They are referred as traditional weaver among the society. In spite of having enormous knowledge and experience of weaving, hard working weavers are not getting enough returns. This is mainly due to absence of collective backward and forward approach, limited access to credit and lack of advance technologies and techniques of weaving.

Common Facilitation Centre (CFC) has been established and is operated by the federation to facilitate weavers by way of providing regular assistance regarding issues ranging from input supply to marketing of final product. The federation is also acting as consortium of weavers to invest and manage the raw material depot. SHG members were trained for strengthening their capacities, to handle different aspects of carpet weaving, operation and maintenance of automated looms, new design, dyeing techniques and effective financial management.

Infrastructure development to create better environment was also ensured by establishing two sub centres in project area. These centres are functional and equipped with traditional and mechanized looms along with demonstration of new designs and equipments. Federation is also using CFC as training and facilitation centre for weaver community. The objective behind establishing CFC and sub centre is to
During the three years of implementation significant milestones have been achieved and several lessons learned. Weavers society has increased from 900 to 986 and out of them 213 are using improved and modern techniques, 20 weavers were developed as master weavers and the increase in income of weavers is about Rs. 8,000-12,000 (Fig 13 & 14). Now weavers are earning much more than they earned before the project intervention.

Weavers are now incorporating new patterns and designs and they are also willing to use natural dyeing and drying techniques. Usually, raw materials i.e., wool, cotton yarn and threads are supplied by local traders on credit basis and buy back of the final products are on reasonably low prices. To avoid this situation and to minimise dependence on traders, a raw material bank is being operated by the federation. Now weavers have an option to procure required raw material from this bank at much less

develop an atmosphere which leads to promotion and popularity of the cooperative approach among the weavers. The weavers are now visiting centre regularly not only to try their hands on the looms for carpet weaving but also to share their problems and accordingly developing strategy with federation members and to equip to cope with upcoming challenges.

Fig 13: Status of carpet weaving cluster

<table>
<thead>
<tr>
<th></th>
<th>Before Project</th>
<th>After Project</th>
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</thead>
<tbody>
<tr>
<td>Total Weavers</td>
<td>909</td>
<td>986</td>
</tr>
<tr>
<td>Using Traditional Techniques</td>
<td>909</td>
<td>986</td>
</tr>
<tr>
<td>Using Improved and Modern Techniques</td>
<td>213</td>
<td>213</td>
</tr>
</tbody>
</table>

Fig 14: Benefit of project activity at project area

<table>
<thead>
<tr>
<th></th>
<th>Before Project</th>
<th>After Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earning (Rs. Per Day)</td>
<td>75</td>
<td>180</td>
</tr>
<tr>
<td>Days Used in Year for Weaving</td>
<td>200</td>
<td>240</td>
</tr>
<tr>
<td>Time Consumed in Producing Carpet (Days)</td>
<td>25</td>
<td>20</td>
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In Uttarakhand livelihood of village community is dependent on naturally available resources. Forests are the main source of these natural resources and provide fuelwood, fodder, manure and minor forest produce. Among them bamboo is one of the potential resource available in different villages and adjoining forests. Bamboo craft has been an integral part of rural community since ancient times and has always created various opportunities for them. Bamboos are distributed throughout the Himalayas, with a variety of...
different genera adapted to different ecological zones, they also help conserve soil and water, and improve soil fertility. India is the second richest country in terms of bamboo genetic diversity after China. In India, hilly state of Uttarakhand has a long tradition of using bamboo and ringal (dwarf bamboo) for making diverse utility products.

Bamboo can be considered as Nature’s gift to supplement the livelihood of craftsmen associated with this art and tradition. Socio-economically bamboo artisans are poor and belong to backward class and caste. In the last few decades the natural bamboo resource has been shrinking due to high exploitation. Indigenous knowledge about the use of bamboo species is declining amongst younger generations because of low profit gain and this being a highly labour-intensive work hence leading many artisans to switch over to other occupation for their sustaining themselves. Therefore, with an urgent need to develop livelihood opportunities through bamboo craft by resolving the scarcity of raw material and also improving the quality of products, a pilot project entitled “Exploring Opportunities of Livelihood for Marginal Community through Demonstration of Plantation and Utilization of Bamboo” was taken up. This pilot project is being supported by SDTT and was launched in two villages i.e., Bediya and Hediy in Bhimtal development block of Nainital district. The purpose of the project is to put forth the model for bamboo plantation in hilly areas to ensure increase in green cover in degraded patches of land and also to gear up bamboo
handicrafts for enhancing income of marginalized communities. The objective is also to develop a model bamboo village for its extension at regional and state level.

Ringal is a livelihood requirement to an inhabitant of the Bediya and Bediya villages, especially to those who are socially backward and known as Rudiyas. In the recent past there has been an increase in requirement of raw material (ringal) thereby increasing the pressure on resources with a risk of permanent depletion in existing patches of ringal. The indiscriminate extraction from natural population coupled with large-scale habitat loss has seriously damaged the genetic resource of species.

Before the project intervention traditional artisans of the project area were facing problems in terms of procurement of raw material, there was lack of bamboo plantation and propagation skill and due to certain myths, the village community were not keen to plant bamboo in their close vicinity.

Continuous efforts of project team towards building trust amongst traditional artisans through motivation and regular consultations, the project has been converted into successful intervention to revive age old tradition of craftsmanship. Various trainings and capacity building programmes for artisans has developed new leaders in the villages who are now facilitating their services as RRP and are also committed to develop their villages as a model.

With the combined efforts of participating village community members and of the project team, the interventions have been converted into successful venture, where new designs for bamboo products have been introduced. Series of trainings on crafting diversified bamboo products has extended handholding support to many youth who were not associated with the crafts earlier. As a result, SDTT recognised the project by replicating it to other parts of Kumaon region and extended their funding to implement the model to 30 villages of Bageshwar, Almora and Nainital districts. During the implementation of second phase a total of 120 ha area of VP forest will be covered by planting various bamboo species and over 1,000 families will also gain benefits through training, access to advance tools, etc. for their skill up gradation.
CASE STUDY-
REVIVAL OF TRADITIONAL
SKILLS OF BAMBOO
DEPENDENT COMMUNITY
AND CONSERVATION OF
RINGAL IN NAINITAL
DISTRICT OF
UTTARAKHAND

In May 2012, a project with objective to improve traditional bamboo based livelihood options through capacity building, skill upgradation and promotion of bamboo resource development in private and VP lands was initiated in villages Hediyia and Bediya. The community responded positively to project activities and the villages are now gradually evolving into model bamboo village.

Project has resulted in reviving their interest in bamboo craft weaving. The community has been organised in to Ringal User Groups and has learned to plant and protect ringal and other bamboo species in their own and in VP lands. Involvement of youths is increasing. About 1,400 bamboo plants have been planted in VP and 800 plants on farm bunds within a year. The project has stimulated interest of the community in ringal plantations. 89 year old artisan Mr. Nand Ram started weaving ringal at the age of 13 and has been living exclusively on ringal resource. His elder son Ratan Lal collects raw material and transports woven products to market in Haldwani. Regarding the bamboo project, Mr. Nand Ram expressed that "at least someone has come up to facilitate and guide us to keep the occupation alive and make the village a model for all those communities which belong to weaker section and are not well versed with latest happenings. I am optimistic that we will be able to make the programme a real success by motivating our younger generation to develop bamboo banks and appropriate usage of raw material for sustainable development and improved livelihood with recognition to our handicrafts".

Learning from the exploratory project SDTT encouraged scaling up of the project interventions and to reach out to more ringal dependent communities in the state.

WAY FURTHER

- There is clear need and huge potential for expansion of bamboo plantations on the farms in Uttarakhand where plenty of unused land is available because of extreme undulations.
- In the fragile ecosystem of Uttarakhand, bamboo plantations could ensure strong positive impact on ecosystem by reducing soil erosion and supporting water conservation and carbon sequestration. Also shifting emphasis from dependency on natural resources to depending on cultivated resource is likely to relieve pressure on dwindling natural resources.
Information communication technologies have a great impact on today's society. Satellite television is streaming in the living room of every household around the world through cable or Direct To Home connections. Internet and mobile phone services are also easily accessible to common people. Today ICTs are no longer remaining mere luxury to the rich; in fact the market is developing new channels to provide cheap and easily accessible communication means, profitable business and effective services. ICTs, within a short span of time turned out to be one of the basic requirements for building modern society. Under the Thematic Action Group "Research and Documentation Centre on the Mountains and the Regional Best Practices" the emphasis is not only on organising workshops, summits, research and documentation of mountains and its concerns, it is also to promote good practices for ensuring sustainable development of mountains in context of social, economic and environmental indicators.

RESEARCH AND DOCUMENTATION ON THE MOUNTAINS AND THE REGIONAL BEST PRACTICES
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In January 2013, total 862.62 million mobile subscriptions (Source: Telecom Regulatory Authority of India (TRAI)) are in India in comparison of 6.4 million in 2002 and the experts believe that the number will exceed 1.2 billion by 2016. Mobile applications not only empower individuals but have important effect on simulating growth, entrepreneurship, and productivity throughout the economy as a whole (World Bank, 2012. Information and Communications for Development: Maximizing Mobile).

Poverty alleviation is possible by increasing agricultural productivity since it will increase income of marginal farmers and for to achieve this, an efficient value chain is required. The major problem faced by the farmers is about the market information and timely information about significant event in the field of agriculture.

Lack of information regarding pre and post farm activities poses a big constraint in enhancing agricultural income, however, now the scenario gradually changing with mobile phones predominantly influencing the rural community.

In 2010, considering it as a potential tool for supporting marginal rural community by overall development of agricultural infrastructure, the efforts to provide information and services by using Reuter Market Light (RML) - Mobile SMS has been initiated. Initially services were provided in 19 selected villages with support of GRAMYA, Nainital Division and later this has extended to 89 villages with RML’s support.

The study "Impact Assessment and Potential of RML Services on Market Intelligence for Farmers through Mobile in Uttarakhand" was conducted in seven districts of Uttarakhand with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Dehradun.
In January 2013, total 862.62 million mobile subscriptions (Source: Telecom Regulatory Authority of India (TRAI)) are in India in comparison of 6.4 million in 2002 and the experts believe that the number will exceed 1.2 billion by 2016. Mobile applications not only empower individuals but have important effect on simulating growth, entrepreneurship, and productivity throughout the economy as a whole (World Bank, 2012. Information and Communications for Development: Maximizing Mobile).

In India agriculture sector plays a significant role in national economy and in hills of Uttarakhand the livelihood of rural community revolves around the agriculture and natural resources. The dependence on agriculture will grow further in future, thus focused interventions are necessary to ensure employment and food security for growing population as well as to meet the challenges posed by climate change and rise in global food prices (Halewood N.J. and Surya P., 2012).

Poverty alleviation is possible by increasing agricultural productivity since it will increase income of marginal farmers and to achieve this, an efficient value chain is required. The major problem faced by the farmers is about the market information and timely information about significant event in the field of agriculture. Lack of information regarding pre and post farm activities poses a big constraint in enhancing agricultural income, however, now the scenario gradually changing with mobile phones predominantly influencing the rural community.

In 2010, considering it as a potential tool for supporting marginal rural community by overall development of agricultural infrastructure, the efforts to provide information and services by using Reuter Market Light (RML) - Mobile SMS has been initiated. Initially services were provided in 19 selected villages with support of GRAMYA, Nainital Division and later this has extended to 89 villages with RML's support.

The main objective of the study was to assess the impact of services in four different categories of information towards improving agriculture status in terms of production, net income and technology adoption. The finding from the study suggests that the weather forecast and information provided by RML is considered as satisfactory by 65% respondents even though only 20% of them incorporated information to their crop planning (Fig 15). The impact of technical information shared through SMS or phone call has increased the level of awareness or 62% of subscribers (Fig 16).
Services provided by RML have also been helpful for farmers, to plan marketing of their produce, so as to avail maximum profit. The rates of two nearest main mandis for two selected crops are streamed daily on subscribers' mobile. During the implementation of services in clusters or group approach was applied to ensure greater outreach of information. The trend depicts that in comparison of marginal farmers, farmers having more 0.2 ha landholding were interested in knowing about mandi rates (Fig 17 & Fig 18). Willingness to pay for service was the big question during the study, only 20% subscribers who own large land holdings and are progressive agreed to pay for a service but they too demanded improvement in both services and tariffs.
Fig. 18: Impact of mandi rates on users.

Fig. 17: Perception on mandi rates based on land holding.

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The second Sustainable Mountain Development Summit (SMD) of the Indian Mountain Initiative (IMI) was organised in Sikkim with Ecotourism and Conservation Society of Sikkim (ECOSS) on the 25th and 26th May, 2012. Delegates from the eleven Himalayan states of India and the hill district of Darjeeling attended the summit.

IMI has been formed with the objective of providing stakeholders from the states of the Indian Himalayan Region (IHR) a platform to come together and discuss issues related to the development of the Himalayan region and communities.

Indian Planning Commission Task Force on hill states and hill areas underline the need for a common platform for the states of the IHR for regular interaction and from therein decided on a common essential plan for the region. CHEA decided to follow up this timely recommendation of the Task Force by conceptualizing and organizing the IMI.

IMI proposes to pioneer a move to SUSTAINABLE MOUNTAIN DEVELOPMENT SUMMIT (SMD) II - GANGTOK, 2012

At the outset I must thank and recognize the following in person Dr. R. S. Tolia for his stellar and unflinching guidance and support. Dr. Pushkin Partiyal and his CHEA team for his keen and unending patience.
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- PD Raj, Convener Sustainable Mountain Development Summit 2 & Hon'ble Member of Parliament (Lok Sabha) Sikkim

Photo by | Anup Shah

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IMI proposes to pioneer a move to
catalyze and sensitize scientists, administrators, civil societies and development practitioners to collectively reflect on, not only, degeneration of the environment but also on its intrinsic relationship with development. IMI has chosen to undertake open and continuous dialogue on mountain concerns through Annual Thematic Summits and by encouraging the establishment of Thematic Networks on various mountain themes and concerns. SMD2 focused mainly on three objectives (i) Examine issues and policies related to the broad themes proposed and suggest key interventions based on field experiences bolstered by academic and intellectual inputs, (ii) Share and disseminate best practices, and (iii) Discuss the direction and from envisaged by the stakeholders for the mountain initiative. The steering committee formed to oversee and guide the preparations for SMD2 and finally summit deliberated on three themes viz., (i) Water, (ii) Mountain Livelihood, and (iii) Communities and Forests and two cross cutting themes were (i) Climate change, and (ii) Innovation. All themes are contemporary and have a direct bearing on the mountain regions and various communities living therein.

The two day summit was inaugurated by Mr. K.T. Gyaltse, Hon'ble Speaker Sikkim Legislative Assembly. In his address Hon'ble Speaker emphasis on the ecosystem services provided by mountains to the millions of people residing downstream and its importance to be considered in local, regional and global terms. Dr. David Molden, Director General, ICIMOD, Nepal delivered the key note address focused on mountain and water. Mr. Karma Gyatso, Chief Secretary, Government of Sikkim and Mr. P.D. Rai, Hon'ble Member of Parliament (Sikkim) and Convener SMD2 also addressed the summit during the inaugural session.

The inaugural session of summit was followed by plenary session. On second day of the summit there were concurrent breakout sessions, one on each theme. Each theme was divided into four sub themes, covered by means of lead paper. The presentations were followed by an open house discussion. The summit also featured various side events such as 2nd Himalayan Photography Competition and Exhibition; Poster Exhibition; Demonstration of Hydroger and Tata Motors electrical vehicles; Legislators' Meet on Climate Change and Need for Legislation; and State Action Plan on Climate Change in the Indian Himalayan States with
IMI-SMDS - II
AT A GLANCE

- Over 254 participants.
- Inaugural address by Mr. K.T. Gyaltsen, Hon’ble Speaker Sikkim Legislative Assembly, Sikkim.
- Keynote address by Dr. David Molden, DG, ICIMOD, Kathmandu, Nepal.
- Three themes
  - Water,
  - Mountain Livelihood, and
  - Communities and Forests
- Two cross cutting themes
  - Climate change
  - Innovation
- 21 papers presented.
- Second Himalayan Photography Competition.
- Followed by the Meet of the Indian Mountain States.
2ND HIMALAYAN PHOTOGRAPHY COMPETITION

The themes of 2nd Himalayan Photography Competition were the same as that of SMDS2 i.e., (i) Water, (ii) Mountain livelihoods, and (iii) Communities and Forest. 198 photographs from 67 entrants were considered for marking in the competition.

1. Photo by | Arif Siddiqui
2. Photo by | Chinlop Lepcha
3. Photo by | Romong Lepcha
4. Photo by | Anup Shah
5. Photo by | Thrish Kapoor
6. Photo by | Pradeep Pandey
7. Photo by | Thrish Kapoor
The themes of 2nd Himalayan Photography Competition were the same as that of SMDS2 i.e., (i) Water, (ii) Mountain livelihoods, and (iii) Communities and Forest. 198 photographs from 67 entrants were considered for marking in the competition.
MEET OF THE INDIAN MOUNTAIN STATES

Following the IMI-SMDS2, the Meet of the Indian Mountain States to release the proceedings and to further discuss the outcome of the SMDS2 was organised at the Indian International Centre, New Delhi on 19th of March, 2013. Mr. Harish C. S. Rawat, Hon’ble Union Minister for Water Resource, GoI was the chief guest and inaugurated the Meet. Mr. Harish C. S. Rawat appreciated the process of mountain states from the Indian Himalayan Regions coming together on a common platform, which are having some arduous challenges to address for achieving integrated mountain development. He mentioned issues related to the Climate Change issues throw challenges as well as is an opportunities for the mountain people. He emphasised that there is an urgent need for the planners and policy makers to focus on specific problems and to derive and suggest solutions with the active participation of people in the mountains.

According to Mr. Rawat the mountain regions are particularly important for water and green cover. Climate change can have adverse impact on glacial melt, river flow from the mountains. He was of the opinion that to tackle the problem of climate change we need to treat the mountain regions as a core area and start planning for the mountain states on priority. He described Himalayas as water ‘reservoir’ for the nation. If climate change has any solutions, they need to begin with the Himalayas. Whether it concerns glaciers, mountain streams, or the developmental strategies of the states, we need to look for solutions considering the Himalayan states as a core area. At a conference, the Governor of Sikkim made an important point and said, “Now is the time, when Himalayan states should not only talk of the ‘green bonus’ but also of the ‘blue bonus’. I feel that our possibilities increase with both of these said the hon’ble Chief Guest.”
The inaugural session was followed by a panel discussion on "India’s Mountain states Crown Jewels or Distant Cousins?". The panel discussion was moderated by Dr. Pratap Bhanu Mehta, President, Centre for Policy Research, New Delhi and the speakers were Dr. Sayida Hameed, Member Planning Commission, Govt.; Mr. Hem Pandey, Addl. Secretary, MoEF, Govt.; Dr. A.K. Shivakumar, Member, National Advisory Council; and Dr. Phil Marker, Counsellor, Energy Climate & Growth Unit, DFID.

Dr. Pratap Bhanu Mehta opened the discussions with his thought on "India’s mountain states - Crown Jewel or Distant cousins?" that, Crown jewels are the ecology, the mountains, and the gods. There are no people. The people still remain distant cousins. He stated that we have to acknowledge that fact. In the imagining of the mountains regions, we have not kept the people and those relationships front and centre. We need to begin with that conversation. There are the mountains, and there are the mountains of the mind which we have created which have made the mountain people our distant cousins.

The panelists Mr. Hem Pandey said that it is clear that mountains are the crown jewels, but clearly to some people these are distant cousins. As representative of the Environment and Forests Ministry he mentioned that - India is unique in many aspects though we compare ourselves with China or Brazil as far as environment is concerned. No other country has the immense biotic pressure that India has. He highlighted the relevance of human-centric environment vis-a-vis ecology.
Dr. Sayida Hameed, touched upon the role of women, who never finds any significant space in any policy making documents. She opined that we all know, regardless of whether it's the women in the eight states of the north east, whether it's the women in Uttarakhand or any of the other mountain states, the role that women play is very well recognised and spoken about in a flow of talks. But when it comes to actually mainstreaming their concerns in policy making, there is a lot left to be desired.

Dr. A. K. Shivakumar shared the problem of people living in a remote forest area, particularly about health facilities and suggested that planning must give centrality to health. When it comes to health, the opportunity the north-east provides is innovation. There is no health care system in the world that has succeeded in providing healthcare to all; India is also grappling with that problem. The 12th plan has provided for universal health coverage.

Dr. Phil Marker confined his talk to the international perspective and some of the things we are doing. His take on 'crown jewels or distant cousins' was that they are a bit of both. Like the crown jewels, for most people the Himalayas are forgotten for most of the year to 'gather dust' except a few days in the summer when they visit for a holiday. For people living in the plains, they are fortunate to enjoy many of the benefits due to the mountains. Raising awareness of the mountains and the issues that mountain people face is extremely important. As climate science globally improves, we are learning more and more about how mountains are a beacon for climate change.
VAN PANCHAYAT (VP) STRENGTHENING WORKSHOPS

In 2010, CHEA initiated the task to strengthen the capacity of VFCs members through organizing various workshops, trainings and seminars and accordingly series of village, development block and district level workshops and trainings were organised. In continuation of this in 2012-13 two district level workshops were organised in Nainital and Bageshwar districts, respectively. These one day workshops were focused on UPFR, 2005 and rights and responsibilities of the VFCs. During these workshops, as a tangible output district coordination committee was also formed to carry out the programme up to another level by developing local teams for appropriate representation in different areas.

GENDER AND ADAPTATION: INTER-DEPARTMENTAL ROUNDTABLE

According to Inter-governmental Panel on Climate Change (IPCC) in its Fourth Assessment Report (2007), women’s vulnerability to climate change differs from men and climate change interventions that are not gender-responsive often result in deepening the existing gender divide (IPCC, 2007). The Uttarakhand Action Plan for Climate Change (UAPCC) recognises the need for mainstreaming gender concerns in climate change interventions. The multi-sectoral UAPCC envisages various Line Departments to integrate gender dimensions into their plans and programmes which address climate change adaptation. The Inter-departmental Roundtable with a focus on ‘gender and adaptation’ is a contributor to this endeavour. The roundtable on mainstreaming gender was organised with support of Alternative Future, a Delhi based development and policy research organization. The event was organized at Centre for Public Policy, Doon University, Dehradun. Representatives from various State departments such as Agriculture, Water Resources, Planning, Finance, Animal Husbandry, Fisheries, Panchayati Raj, Science and Technology, Finance, Rural Development, Environment, Forests, Energy, Tourism and Transport and Health participated in the roundtable.

The Roundtable was inaugurated by Prof. V.K. Jain, Vice-chancellor, Doon University. Prof. Jain in his inaugural remark pointed that, the large number of women have a great bearing on climate-sensitive sectors like energy and water and it is necessary to empower women so that they can play a more meaningful role in these sectors, especially in the rural areas. Mr. Jai Raj, APCCF, UK Forest Department and Dr. R.S. Tolia, Chair, CHEA & CPP also addressed the participating members at the roundtable.

During the roundtable three main presentations viz., Gender and Government Programme; Gender and Adaptation in the field; and
Workshops on Financial Literacy

A series of workshops were organised to strengthen the capacities of rural community for promoting financial awareness, knowledge and skills to make decisions about savings, investments and financial assistance, etc. According to AusAID, Financial Inclusion is about providing access to financial services at affordable cost to marginalised community. It is important for poverty reduction and for achieving Millennium Development Goals.

For sustaining economic growth it is important to ensure participation from all sections of the society in Nation building. But lack of access to finance services for small and marginalised farmers and members from weaker sections of the society has been recognised as a serious threat to economic progress. During 40 years span, India’s development in banking system is significant; in 1969, where there were only 8000 bank branches which have increased up to 100,000 in 2013, each branch serving an average of...

Gender budgeting were presented by Alternative future, CHEA and Centre for Budget and Governance Accountability (CGBA), respectively. These presentations brought together policy, practices and resources for gender and adaptation in the Uttarakhand perspective with concrete proposals for inclusion in the UPACC.

Roundtable at a Glance

- Roundtable was focused on mainstreaming gender into climate change adaptation plans and programme.
- Inaugural address by Prof. V.K. Jain, Vice chancellor, Doon University.
- UAPCC recognizes the need for gender mainstreaming in climate change interventions.
- Three presentations (i) Gender and Government Programmes, (ii) Gender and Adaptation in the Field, and (iii) Gender Budgeting.
- Over 35 participants represented various line departments.
16,000 people. But, according to the studies more than 40% adults still do not have a bank account and in between every 100,000 population only 10.64 branches and 9 ATM are available in India. The success of direct benefit transfer scheme of Government of India, which promises to deliver cash directly to beneficiaries’ bank account to avoid subsidy leakage, will all depend on the network of bank access.

To strengthen the capacity of community for availing financial services, NABARD’s financial inclusion programme emphasizes on strengthening demand for financial services, by extending financial literacy programme to rural communities. During 2012-13 with aim to build awareness amongst rural hill communities about benefits of financial services provided by various financial institution and banks, total 22 one day financial literacy workshops were organised in eight development blocks of Nainital district. To fulfil the objective of the programme three components have been incorporated in IWMP viz., (i) Participatory Watershed Development and Management, (ii) Enhancing Livelihood Opportunities, and (iii) Institutional Strengthening and Promotion of Economical/Livelihood Activities.

Prior to implementation of IWMP, area specific studies have been conducted by Watershed Management Directorate, Uttarakhand in 39 watersheds of the state. Out of these 39 watersheds CHEA studied two watersheds in Nainital district covering Bhakura River, Bhowali Nala, Tadi Gaar and Kanyali Gaar micro watersheds and accordingly, Detailed Project Report (DPR) has been prepared. During the study 125 revenue villages were covered to find out the needs of villages including 5 reserve forest areas.

The main objective of Integrated Watershed Management Programme (IWMP) is to increase productivity and income of rural community in the rain fed micro-watersheds of Uttarakhand State through sustainable management of the Natural Resources. To fulfil the objective of the programme three components have been incorporated in IWMP viz., (i) Participatory Watershed Development and Management, (ii) Enhancing Livelihood Opportunities, and (iii) Institutional Strengthening and Promotion of Economical/Livelihood Activities.

STUDY FOR WATERSHED DEVELOPMENT

The main objective of Integrated Watershed Management Programme (IWMP) is to increase productivity and income of rural community in the rain fed micro-watersheds of Uttarakhand State through sustainable management of the Natural Resources. To fulfil the objective of the programme three components have been incorporated in IWMP viz., (i) Participatory Watershed Development and Management, (ii) Enhancing Livelihood Opportunities, and (iii) Institutional Strengthening and Promotion of Economical/Livelihood Activities.
ACTION RESEARCH ON IMPLICATION OF APPROPRIATE TECHNOLOGIES

The fundamental requirement of any forestry project is to participate in Reducing Emissions from Deforestation and Forest Degradation (REDD) policy so as to demonstrate its reduced levels of degradation and increased carbon sequestration rate. Deforestation and degradation of forests account for approximately 20% of anthropogenic CO2 emissions. Forest management and conservation play a vital role in addressing the issue of climate change. Since 2003 when the first forestry project was commenced in Lamgarah (Almora), impact on community has been immense. To study and evaluate changes that occurred due to adaptation of sustainable and appropriate development techniques, an action research project with support of Uttarakhand Livelihood Programme in Himalayas (ULIPH) was undertaken in Lamgarah project area.

The action research has been undertaken in six project VP’s and one control VP i.e., Usethi to justify the importance of managed forest and role of appropriate technologies in serving the environment. The action research also aims to study the existing management practices that contribute towards forest conservation and for carbon accumulation and scope for trading. During the research baseline study on usage pattern of appropriate technologies and community’s perception towards its adoption was collected. The available data on leakage, extraction and carbon sequestration have been reviewed to have holistic spectrum of climate adaptation and mitigation as well as feasibility for generating financial support to VP’s and community. Activities, both at individual and community level have been assessed separately. The data indicated significant difference after project intervention in various sectors with positive response and perception of different stakeholders. The action research study carried out in a participatory manner revealed enormous potential for VP’s to act as institution and resource base for the local community and also to generate compensation for environmental restoration services. The activities promoted at household level also have positive impact in conserving the natural forests and improving the status of women by cutting down physical and mental stress.

The overall income of families comparatively enhanced for those who have adopted the practices and kept them intact. They are reaping the benefits and joint efforts are well observed among the communities.

The study recommended the need of strengthening and developing all VFC’s with knowledge and skills. It further elaborated that the vision of VFC’s needs to be carried forward towards collective approach and thinking about village development by following the concept of integrated and multiple activities through resource mobilization and convincing donors/development agencies.
their valleys to lower land seasonally, most of the younger generation of the elder years had moved out to bigger cities and metropolitans for studies and eventually got better opportunities and settled there.

To discuss the issues of Johar community’s cultural and social values in this changing world a one day seminar was organised at Tribal Heritage Museum in Munsyari, Pithoragrat. The seminar was focused on Johar community, the changes in their language, changes in cultural and social consuetude, etc. Orators like Dr. R.S. Tolia (Chair, CHEA and Former Chief Secretary), Shri D. S. Pangti (Former Director General, Board Road Organization), Dr. N. S. Pangti, etc. shared the knowledge about how to strategically cope with the current challenges.

CULTURAL VISTA OF JOHAR SOCIETY IN CONTEMPORARY WORLD

Modernity in pretext of development both socially and economically is affecting cultural and social values. Societies belong to any caste and creed not intact with the changes. Central Himalayas in general and hills of Uttarakhand in particular are very vulnerable to such changes.

Retrospection in context of modernity is required to be addressed at a large scale to match it without compromising cultural and social values of respective societies. Communities residing in the valley of Vyas, Darma and Johar have a unique way of living and they enjoy colourful cultural heritage strongly. They however are now struggling to conserve their heritage due to influence of change.

Although, they are a migratory society which used to move from

SEMINAR AT A GLANCE:

- Total 80 participants participated in the seminar.
- Main focus on existence of Johari language, social and ethos, women etc.
1. Action Research on Community forestry (Van Panchayats) and Women Empowerment by Advocating Carbon Trading Opportunities in Uttarakhand - ULIPH, Dehradun.

2. Appropriate Technologies for Strengthening Bee Based Livelihood Activities in Rural Hills - Rural Innovation Fund, NABARD, Dehradun.


9. Developing Compass of Environmental Education Tourism in Community Forests (Van Panchayats): Learning to Sustainability - The Rufford Small Grant Foundation, United Kingdom.

10. Exploring Opportunities of Livelihood for Marginal Communities through Demonstration of Plantation and Utilization of Bamboo - Sir Dorabji Tata Trust, Mumbai.


13. Improving Livelihoods through Knowledge Partnerships and Value Chain of Bee Products and Services in the Himalayas - ICIMOD, Nepal.


15. Livelihood Improvement of Tribal Community through Promotion of Appropriate Technologies in Rural Hills of Pithoragarh District - Under Tribal Development Funds - NABARD, Dehradun.


17. SHG Formation and Linkages Programme - NABARD, Dehradun.

18. Strengthening Rural Community Managed Natural Resource Institution (Van Panchayats) for Enhancing Rural Livelihood in Uttarakhand - Sir Dorabji Tata Trust, Mumbai.

19. Strengthening the Capacities of SHGs/CBOs through Disseminating Information on Financial Issues - NABARD, Dehradun.

20. Sustainable Rural Livelihoods through the Cultivation and Conservation of Non Timber Forest Products (NTFPs) and Medicinal and Aromatic Plants - Himmothan, Dehradun.

Note: The aforesaid list of projects during 2012-13 is in alphabetical order and does not represent any preference.
FINANCIAL SUMMARY 2012-13
INDEPENDENT AUDITOR’S REPORT

TO THE MEMBERS OF CENTRAL HIMALAYAN ENVIRONMENT ASSOCIATION

We have audited the accompanying financial statements of Central Himalayan Environment Association which comprise the Balance Sheet as at March 31, 2013, and the Income and Expenditure Account, Receipt and Payment account for the year then ended, and a summary of significant accounting policies and other explanatory information.

MANAGEMENT’S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

Management is responsible for the preparation of these financial statements. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

AUDITOR’S RESPONSIBILITY

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor’s judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

In making those risk assessments, the auditor considers internal control relevant to the Company’s preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

OPINION

In our opinion and to the best of our information and according to the explanations given to us, the accounts, read together with the Statement on Accounting Policies and Notes to Accounts attached thereto give a true and fair view in conformity with the accounting principles generally accepted in India:

a. in the case of Balance Sheet, of the state of affairs of the entity as at the end of its financial year;

b. in the case of the Income and Expenditure Account, the surplus for its financial year.

c. In the case of receipt and payment account for the receipts and payment reflected therein.

For Manish Khanna & Co.
Chartered Accountants
Firm Registration Number: 008584C

Manish Khanna, FCA. DISA(ICAI)
Proprietor
Membership Nos 077858
Dated: 31 July 2013
Place: Nainital
### Abridged Balance sheet as at 31 March 2013

<table>
<thead>
<tr>
<th>Sources of funds</th>
<th>31.3.2013</th>
<th>31.3.2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Fund</td>
<td>12,460,253.91</td>
<td>12,310,253.91</td>
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<tr>
<td><strong>Reserves</strong></td>
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<td></td>
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<tr>
<td>(a) Association’s objectives</td>
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<td></td>
</tr>
<tr>
<td>General Reserves</td>
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<td>3,685,888.97</td>
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<tr>
<td>(b) Association’s Specific</td>
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<tr>
<td>Purpose Reserves</td>
<td>5,495,187.93</td>
<td>4,371,654.21</td>
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<tr>
<td>(c) Ford Foundation Endowment</td>
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<tr>
<td>Grant Objective Reserves</td>
<td>-</td>
<td>805,212.33</td>
</tr>
<tr>
<td><strong>Total sources of funds</strong></td>
<td>21,923,178.38</td>
<td>21,173,009.42</td>
</tr>
</tbody>
</table>

| Application of funds             |           |           |
| Fixed assets                     |           |           |
| Gross block                      | 8,306,357.70 | 8,273,147.70 |
| Less: Accumulated depreciation/  |           |           |
| adjustments for value of assets,|           |           |
| cost of which is met by donors   |           |           |
| Carrying value of fixed assets   | 55.00     | 54.00     |
| Fixed Deposits in banks - Corpus Grant | 10,791,969.00 | 10,791,969.00 |

| Net Current assets               |           |           |
| Current assets                   |           |           |
| (a) Cash and bank balance        | 12,640,529.06 | 13,205,814.99 |
| (b) Other assets                 | 1,334,453.00 | 1,259,566.00 |
| **Total current assets [a]**     | 13,974,982.06 | 14,465,380.99 |

| Current liabilities              |           |           |
| (a) Unspent grants               | 2,830,252.68 | 3,698,897.57 |
| (b) Other liabilities            | 13,575.00   | 385,497.00  |
| **Total current liabilities [b]**| 2,843,827.68 | 4,084,394.57 |
| **Net current assets [a-b]**     | 11,131,154.38 | 10,380,986.42 |

| **Total application of funds**   | 21,923,178.38 | 21,173,009.42 |

*Note: Gross block of assets amounting to Rs 13,47,156 which have been acquired from grant funds. They are carried in the balance sheet at a notional value of Rs 16.*
## Abridged Income and Expenditure Account for the year ended 31.3.2013

<table>
<thead>
<tr>
<th></th>
<th>31.3.2013</th>
<th>31.3.2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation cost of projects</td>
<td>336,348.00</td>
<td>583,621.12</td>
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<tr>
<td>Interest earned on bank deposits</td>
<td>1,542,635.83</td>
<td>1,970,165.08</td>
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<tr>
<td>Other income</td>
<td>-</td>
<td>4,077.00</td>
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<tr>
<td><strong>Total earnings</strong></td>
<td>1,878,983.83</td>
<td>2,557,863.20</td>
</tr>
<tr>
<td><strong>Expenditure</strong></td>
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<tr>
<td>Depreciation and Write offs</td>
<td>8,209.00</td>
<td>285,931.00</td>
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<tr>
<td>Livelihood and Sustainable Development and Environmental Programmes</td>
<td>147,662.54</td>
<td>104,228.48</td>
</tr>
<tr>
<td>Establishment and other expenses</td>
<td>54,298.00</td>
<td>66,813.00</td>
</tr>
<tr>
<td><strong>Total expenditure</strong></td>
<td>210,169.54</td>
<td>456,972.48</td>
</tr>
<tr>
<td><strong>Surplus for the year</strong></td>
<td>1,668,814.29</td>
<td>2,100,890.72</td>
</tr>
</tbody>
</table>
CHEA'S PARTICIPATION IN TRAINING/SEMINAR/WORKSHOP/MEETING

- Globalizer meet of Ashoka Fellows to scale-up Social Innovations organised at The Graduate Institute by Ashoka, June 2012 Geneva, Switzerland.
- "Learning on REDD+ in South Asia" workshop, 24-27 July, organised by ICIMOD, Kathmandu and Chitvan, Nepal.
- Regional Result Sharing Meeting on "Improving Livelihood through Value Chains from Bee Product and Services in the Himalayas" organised by ICIMOD, August, 2012, Godavari Village Resort, Nepal.
- Synergos Senior Fellows Regional Meeting in Nepal, October 2-5, 2012.
- A presentation on the experiences of the Indian Mountain Initiative (IMI) programme of CHEA was made at Save the Western Ghats: Practitioner’s Conclave, organised by AERF, December 2012, Mahabaleshwar, Maharashtra.
- Participation on eNGO Challenge Summit, Award and Expo (Manthan Award)” organised by Digital Empowerment Foundation, New Delhi, December 2012, India Habitat Centre, New Delhi.
- Workshop on "Strengthening Van Panchayats (VPs) and Sharing Resource Mobilization Concept" organized by State Forest Department, December, 2012, Botanical Garden, Nanital.
- Urban Planning and Waste Management national workshop for HUDCO, organised by LEAD India January, 2013 at Uttarakhand Academy of Administration.
- Uttarakhand State Action Plan on Climate Change and Climate and Development Knowledge Network meeting January 27, 2013 at Dehradun.
- Participation on "Second Meeting of Asia Regional Initiative on Bicultural Community protocol (ARI-BCP)” organised by Natural Justice, February 2013, Shristi School of Art and Culture, Bangalore.
- Workshop on Climate Change and Clean Development Mechanism, February, 2013, Forest Training Institute, Haidwani, Uttarakhand.
VISITORS AT CHEA AND ITS EVENTS/ FIELD OPERATIONS 2012-13

- Dr. A. K. Shivakumar, Member, National Advisory Council, Government of India.
- Mr. Abhay Gandhe, Senior Programme Officer, SDTT, Mumbai.
- Ms. Adit Kapoor, Director, Alternative Futures, Delhi.
- Mr. Ali Tauqueer Sheikh, Chief Executive Officer, Leadership for Environment and Development (LEAD), Pakistan.
- Dr. Anjoo Agrawal, Incharge, ARS, Majhera, GBP University of Agricultural and Technology, Pantnagar.
- Ms. Bhawana Luthara, Director Programme and Operations, LEAD, India.
- Mr. C.D. Suneeh, Bamboo Trainer, Uravu, Wayanad, Kerala.
- Ms. Chicu Lokgariwar, Content Editor, India Water Portal.
- Mr. Chirag Saha, SRTT Mumbai.
- Ms Elizabeth Colebourn, Project Manager, Asia, CDKN: Climate and Development Knowledge Network, New Delhi.
- Mr. Frederic Lhoste, Member of DEFIAA (Developing French and Indian exchanges in Agriculture and Agronomy), France.
- Mr. H.K. Sabiane, AGM, NABARD.
- Mr. Harish C.S. Rawat, Hon’able Union Minister, Ministry of Water Resources, GoI.
- Mr. Hem Pande, Additional Secretary, Ministry of Environment and Forests, GoI.
- ICIMOD - KSL team, ICIMOD, Nepal led by Dr. Rajan Kotru.
- Mr. Jairaj, Additional Principal Conservator of Forests, Uttarakhand Forest Department and Nodal Officer State Action Plan on Climate Change.
- Ms. Kazuyo Nagahama, Earthwatch Institute - Japan, for research on VPs.
- Mr. Michal Kollmar, Consultant GIZ, Germany.
- Dr. P.D. Rai, Hon’able Member of Parliament (Sikkim) and Convener of IMI-SMDS2.
- Dr. Phil Marker, Head, Climate Change and Energy Team, UK High Commission, United Kingdom.
- Dr. Pratap Bhanu Mehta, President, Centre for Policy Research, New Delhi.
- Mr. R. Adhinarayan, Tata Dhaan Academy, Madurai, Tamilnadu.
- Dr. R.S. Bisht, Conservator Research, Forest Department, Government of Uttarakhand.
- Mr. S. Seivaram, Chief General Manager, NABARD, Dehradun.
- Dr. Sayida Hameed, Member, Planning Commission, GoI.
- Mr. Sebastien Tanguy, Member of DEFIAA (Developing French and Indian exchanges in Agriculture and Agronomy), France.
- Mr. Subroto Roy, Senior Programme Officer, Regional Economic Development Programme, GIZ.
- Mr. Trevor Rees, LEAD International, United Kingdom.
- Dr. Uma Pratap, ICIMOD Nepal.

Note: The aforesaid list of visitors to CHEA during 2012-13 is in alphabetical order and does not represent any preference while does not includes local administrative officials and public representatives.
PUBLICATIONS

CHEA has undertaken a wide range of publication to capture field lessons, findings of various action researches and training manuals for capacity building of the rural communities.


3. CHEA Bulletin Vol. - 1 to 11

4. Research Papers - 28 published in various peer reviewed journals and accepted in national and international workshops/seminars

5. Event and workshop reports - 13

6. Case Studies on Climate Change Adaptation, rural livelihoods, art handicraft and culture -15 The aforesaid publications are available on request and details of most of them are available on www.cheaindia.org
COUNCIL MEMBERS (2012-15)

Chairman:
Dr. R.S. Tolia, Former Chief Secretary & Chief Information Commissioner Uttarakhand

Vice Chairman:
Dr. G.L. Shah, Professor, Department of Geography, Kumaun University, Nainital

Hony. Secretary:
Dr. P.D. Pant, Professor, Department of Geology, Kumaun University, Nainital

Jt. Secretary:
Dr. Harshwanti Bisht, Principal, S.D.G.P.G. College, Dehradun

Dr. Ashish Tewari, Associate Professor, Department of Forestry and Environment Science, Kumaun University, Nainital

Councillor:
Dr. S.P. Singh, FNA, Chair of Excellence, Forest Research Institute, Dehradun

Dr. P.P. Dhyani, Scientist 'G'
GBPIHED, Kosi-Katarmal (Almora)

Mr. Sushil Ramola, Social Entrepreneur, Palam Vihar, Gurgaon, Haryana

Mrs. Sonali Bisht, Social Entrepreneur, Uttarakhand

Dr. Subrat Sharma, Scientist 'D'
GBPIHED, Kosi-Katarmal, Almora

Mr. Amba Jamir, Director, The Missing Link, Assam/ Nagaland

Dr. Rajendra S. Koshyari, Himmothan Society, Dehradun, Uttarakhand

RESEARCH ADVISORY COMMITTEE

Prof. S.P. Singh, FNA, Chair of Excellence, Forest Research Institute, Dehradun

Dr. R.P. Singh, Former Head, Department of Forestry, Kumaun University Nainital

Dr. P.P. Dhyani, Scientist 'G', G.B. Pant Institute of Himalayan Environment and Development (GBPIHED), Kosi-Katarmal, Almora

Dr. Jeet Ram, Head & Professor, Department of Forestry and Environment Science, Kumaun University, Nainital

Dr. P.D. Pant, Professor, Geology Department, Kumaun University, Nainital

Dr. Ashish Tewari, Assistant Professor, Department of Forestry and Environment Science, Kumaun University, Nainital

Dr. G.C.S. Negi, Scientist 'E', G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora

Dr. Subrat Sharma, Scientist 'D', G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora
CHEA TEAM

Anil Kanwal
Anil Kumar
Arjun Singh Dhami
Bhawana Joshi
Deepa Upadhyaya
Deepak Joshi
Deewan Singh
Devendra Singh
Dhiraj Joshi
G.C. Joshi
Ganesh Lal
Govinda Nagarkoti
Kanahyaya Upadhyaya
Kavindra Singh Bisht
Kundan Bisht
Laxman Martolia
Manoj Adhikari
Mohan Bhatt
Narendra Singh
Naveen Joshi
Neema Rauteia
P.S. Nagarkoti
Pankaj Tewari, PhD
Pratap Dhailia, PhD
Pushkin Phartiyal, PhD
Rajendra Singh Dhailia
Satish Joshi
Surendra Bhandari
Suresh Badhani
Swati Bisht
Vijay Adhikari
Vikram
Vinita Verma
Yogesh Nagarkoti

120 Life Members of CHEA, representing academia, university, social work and institutions, contributes through extending their voluntary services to CHEA’s programme and interventions on regular basis and forms the core competency of the organisation.

VOLUNTEERS/INTERNS

Amit Mittal, Department of Forestry and Environment Science, Kumaun University, Nainital
Arvind Lasyal, Department of Environment Science, HNBGU, Srinagar
Ciare Tompset, Doctoral Fellow, Bergen University, Norway
Divya Pandey, Uttarakhand Open University, Haldwani
Ikramjeet Mann, Department of Forestry and Environment Science, Kumaun University, Nainital
Laxman Singh, Uttarakhand Open University, Haldwani
Richel Poynor, Department of Social Anthropology, Cambridge University, United Kingdom
Rachael Benson, Department of Social Anthropology, Cambridge University, United Kingdom
Saurabh Pangti, SGRR, Dehradun.
Sanjay Kumar Bhakuni, Department of Environment Science, HNB Central University Srinagar Garhwal,
Snivani Bisht, Department of Forestry and Environment Science, Kumaun University, Nainital
Ysanee Choksey, Development Economics and International Development, Cambridge University, United Kingdom

RURAL RESOURCE PERSONS

Agro forestry model and Assistance to Natural Regeneration (ANR)
16
Alternative energy promotion and infrastructure creation
05
Apiculture
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DISCLOSURE

GOVERNANCE

- All the members of the Governing Council are unrelated to each other by blood and marriage.
- The Executive Director is not related to any member of the Governing Council by blood and marriage.
- Elections to the Governing Council are held as per the rules of the Society and in accordance to the constitution and memorandum of association of the organisation. After three terms each members go for a "cooling off" period.
- No members of the Governing Body received any remuneration during the year.
- The Governing Body met more than thrice in the last year with the requisite quorum.
- Minutes of the meeting were documented, read out and approved in the subsequent meeting and were also circulated in advance.
- The General Body of the Society approved the Annual Report and the audited statement of accounts.

OUR STATUTORY AUDITOR

Manish Khanna, FCA, DISA(ICA)

OUR LEGAL STATUS, ACCREDITATION AND MOU


Central Himalayan Environment Association (CHEA) is authorized to receive foreign contributions as per Foreign Contribution Regulation Act 1976.

CHEA is registered under Sections 12A and 80G of the Income Tax Act, 1961, and is a not for profit entity.

CHEA is accredited as Scientific and Industrial Research Organisation (SIRO), by Department of Scientific and Industrial Research, Government of India.

CHEA has Memorandum of Understanding with Department of Forestry and Environment Science, Kumaon University, Nainital for collaborated action research.
The paper used in printing of this Annual Report is chlorine free. We ensure that the pulp used in the manufacture of paper is derived from environmentally certified forests.