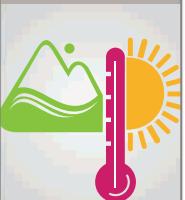
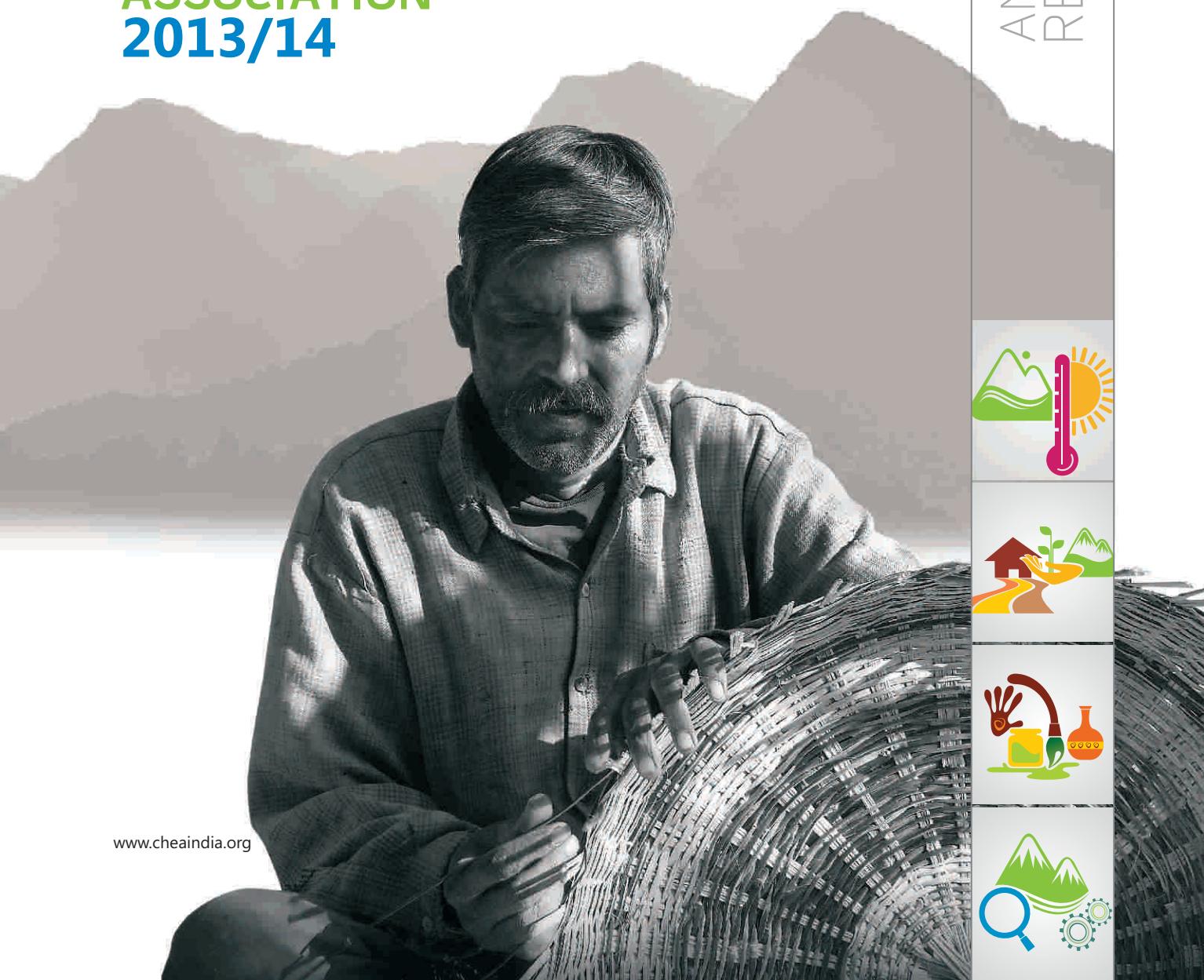


32nd

ANNUAL
REPORT

CENTRAL
HIMALAYAN
ENVIRONMENT
ASSOCIATION
2013/14



.....an efficient year of progress and development

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.

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.





MESSAGE FROM THE CHAIRMAN

I am pleased to share with you the 32nd Annual Report of the Central Himalayan Environment Association (CHEA) relating to the financial year 2013-2014. Besides giving an account of the activities and interventions of the Association during the year, the report also reflects on the journey of the organisation since its inception more than three decades back in 1981.

The June disaster in Uttarakhand in 2013 that brought widespread destruction and misery in the region called for swift actions towards relief and rehabilitation from individuals, organisations and governments. CHEA promptly joined them in this endeavour. Three of the project villages of CHEA located in the far flung areas of Pithroagarh district were badly hit by the disaster. Through support from Acquamall and other agencies, CHEA undertook immediate relief work these areas. As a research and action oriented organisation CHEA collaborated with the regional Economic Development Programme of GIZ to capture lessons from the Uttarakhand disaster for planning and actions in the Indian Himalayan Region. Two publications Himalayan Vulnerability, Uttarakhand 2013 and Analysis of Topographical Diversity of Indian Himalayan States & Land Hazard Zonation in the State of Uttarakhand were brought out through series of stakeholder consultations and experiential learning. Dr. Subrat Sharma, Council Member took keen interest in this endeavour and his commitment and hard work bore fruits in the form of these publications documenting learnings of the 2013 disaster.

The Indian Mountain Initiative, conceptualised and lunched in 2011 by CHEA is steadily moving towards institutionalisation and it is expected to serve the objective of giving voice to the mountain region and its people with increased vigour and strength. In its endeavour to strengthen research and networking across the mountain areas of Himalayan region and beyond, CHEA has decided to launch Journal of Mountain Environment and Development, which is aimed not just to be another journal but to provide a forum that creates an environment to bring academicians and developmental professional on a common platform for generating and sharing of ideas on sustainable development of mountain regions. CHEA's founder member and eminent scientist Prof S. P. Singh along with Dr. Eklavya Sharma of International Centre for Integrated Mountain Development (ICIMOD) and Dr. P. P. Dhyani, Director GBP Institute of Himalayan Environment and Development (GBPIHED) has led this important initiative.

In the course of developmental interventions CHEA has been working at various levels i.e. grassroots to trans-boundary initiatives, action research to policy advocacy. This has been possible by the constant commitment and interest of the Council members, Life Members of the organisation and especially the external agencies who reposed their faith and trust in us and supported our endeavours. A detailed account of activities undertaken during the year is presented in this report and I look forward to your inputs and suggestions to make our efforts more efficient and effective.

I would like to place on record my appreciation and that of my colleagues on the Council for Dr. Pushkin Phartiyal, the Executive Director, for his painstaking efforts and inspiring and reassuring leadership, and the CHEA team, especially the field staff positioned in adverse and challenging conditions, who have been working with commitment and sincerity to meet the organisational objectives.

T. S. Papola

Chair, CHEA

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BY THE EXECUTIVE DIRECTOR

CHEA has continued making its effort towards creating an empowered rural Himalayas, by focusing on its ongoing thematic domains of Sustainable Livelihoods; Adaptation to climate change; Promoting Art Handicraft and culture while continuously capturing learnings through the cross cutting theme of documentation and promoting best regional practices for policy influence.. The initiatives centred on livelihood based management of natural resources have favourably made an impact on the ecology and ecosystems while improving the socio-economic conditions of the forest dependent communities.

To meet our aspirations of expanding our geographical focus and enhancing effectiveness and efficiency in our methods of making developmental interventions, CHEA entered into new partnerships during financial year 2013-14. The organisation was accepted as a member of Mountain Partnership

under the category of 'Major Group Organisations'. The Mountain Partnership is a global voluntary alliance of partners committed to improving lives of mountain people and protecting mountain environments around the world. The Partnership, launched at the World Summit for Sustainable Development in 2002, taps the wealth and diversity of resources, knowledge, and expertise of its members to support collaborative on-ground action that will bring lasting change in the mountains. CHEA is now well positioned to leverage this alliance and has been sharing its learning from the field with the global network through Mountain Partnership.

Another important partnership was formed by signing a Memorandum of Understanding with the GBP Institute of Himalayan Environment and Development (GBPIHED), an autonomous national institute dedicated to Indian Himalayan Region under the Ministry of

Environment and Forests, Government of India. It is heartening to share that such an alliance by GBPIHED with a civil society body is the first ever partnership agreement in the institute's 25 years of history. This prestigious partnership brings a great sense of responsibility to us and provides a unique opportunity to become precursors to scaling up of interventions to the Indian Himalayan Region.

The voluntary sector in the country is enthusiastic with the recent regulation which mandates the corporate sector to contribute towards developmental efforts as their social responsibility. A new avenue of partnership and collective action has emerged through the Corporate Social Responsibility (CSR) rules in the Companies Act, 2013 which will forever change the way CSR is conducted in India. From the start of April 2014, large and medium-sized companies will be required to spend 2% of their net

profits for charitable causes. This represents both a challenge and an opportunity for more than 16,000 registered companies that will be affected by the law. Leveraging upon this opportunity, during financial year 2013-14 CHEA entered in its first CSR project with Aquamall Company. We look forward to make a compelling process of social development by multiplying such partnerships which we see as a win for all three- community, civil society and corporates.

CHEA also believes that convergence and co-functioning among different sectors is essential in the developmental world. In 2013 CHEA became a part of a consortium having a private firm, INRM- IIT, Delhi and Indian Institute of Science as members, on developing methodology for vulnerability assessment to climate change for Uttarakhand indicates our willingness to partner with diverse entities.

As we go forward, CHEA will continue to focus on emerging needs of the mountain regions and its people. Based on the ground realities I comprehend that Water and Rural Livelihoods requires immediate attention and actions. Challenges posed by climate change slowly look more real now and surely have intensified the hardships being faced by communities CHEA works with in the Indian Himalayan Region in general and Uttarakhand in particular.

The year 2014 marks 33 years (CHEA was founded in 1981 and soon after registered in 1982) of vibrant existence of the organisation and also becomes a significant moment for me by serving CHEA for last 10 years. The accomplishments that CHEA has achieved till date have been possible through the unconditional support and trust expressed by CHEA constituents – the Council, life members and our partners and supporting organisations/ agencies. I take this

opportunity to thank all of them from core of my heart and express gratitude for entrusting with the responsibility and confidence to demonstrate collective actions for common and sustainable good!.

Pushkin Phartiyal,

ED, CHEA

ORGANIZATION



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.

Since the Rio Earth Summit in 1992 with the inclusion of Chapter 13- 'Managing Fragile Ecosystems : 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.

Prominence

- Environment
- Human Resources Development
- Livelihood and Sustainable Development
- Infrastructure Development
- Social Development
- Research and Development

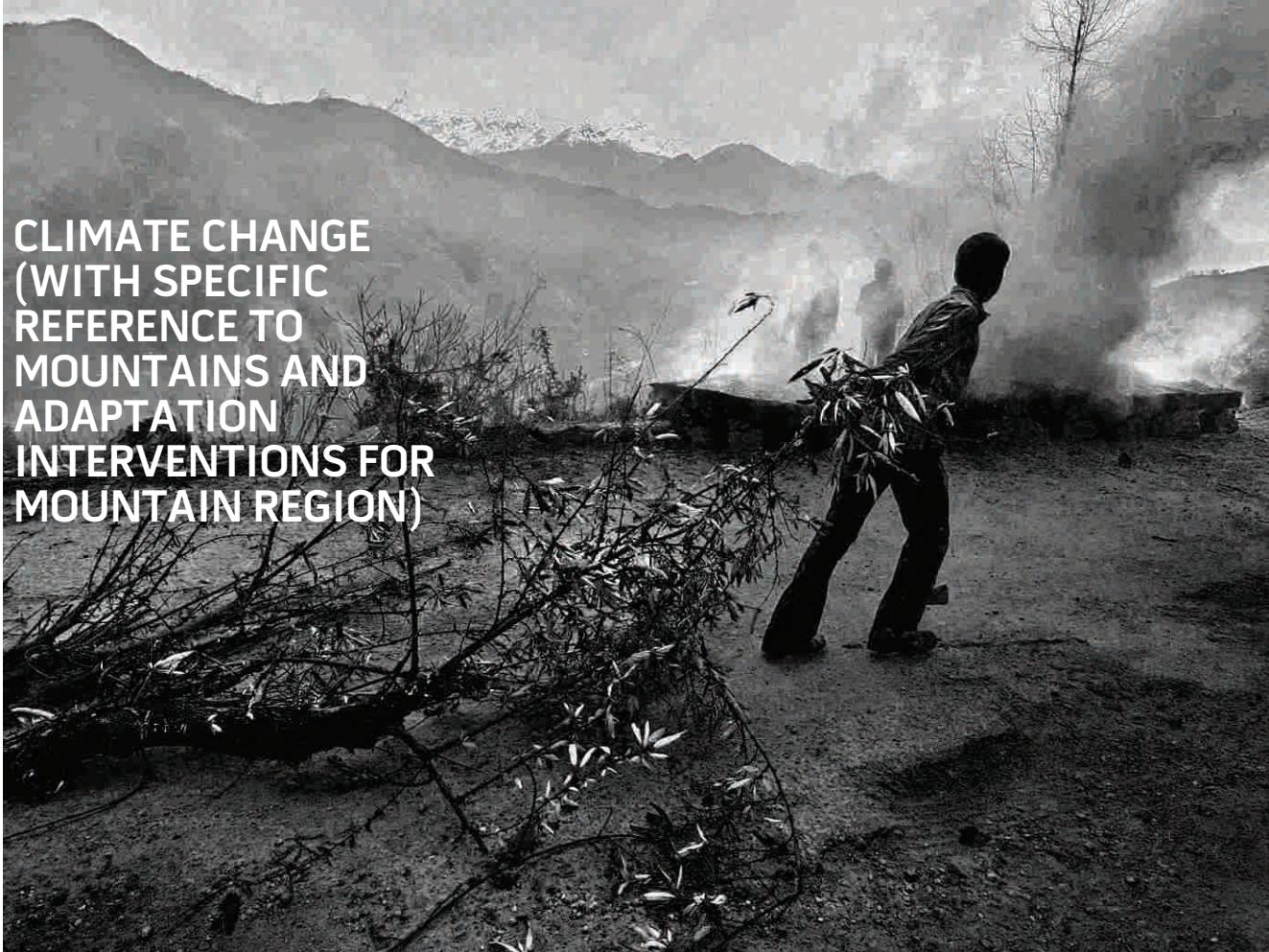
Management and membership

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

Thematic Groups

<p>Climate Change, with specific Reference to Mountains and Adaptation Interventions for Mountain Region</p>	
<p>Rural Livelihood Initiatives in Mountain Regions for reducing Rural Poverty</p>	
<p>Art, Culture and Handicrafts Promotion in Mountains</p>	
<p>Research and Documentation on the Mountains and the Regional Best Practices</p>	

CLIMATE CHANGE (WITH SPECIFIC REFERENCE TO MOUNTAINS AND ADAPTATION INTERVENTIONS FOR MOUNTAIN REGION)



Year 2013 witnessed one of the worst climatic disasters ever recorded in the history of the Indian Himalayan Region. "Himalayan Tsunami" was the term given to the disaster which is self explanatory and reflects the magnitude of the catastrophe. Based on data collected by different sources, the Research Bureau of PHD Chamber of Commerce and Industry concluded in its August 2013 report that the Tourism industry alone incurred a loss of approximately INR 12,000.00 crore in the fiscal year 2013-14. Nearly, 14000 small industrial units were damaged and an estimated loss incurred by PWD and department of hydro electricity was about INR 800 crore. Over all 11% of the Gross State Domestic Product (GSDP) was literally 'washed out' during the unfortunate incident.

Thousands of pilgrims, tourists, local hockers, etc. were stranded in Rudraprayag, Chamoli, Uttarkashi and Pithoragarh districts of Uttarakhand. According to the State Disaster Mitigation and Management Centre, Uttarakhand, about 3,567 death certificates were issued by the Government of Uttarakhand (<http://dmmc.uk.gov.in/pages/view/87-death-certificate-issued-state-wise>).

Outside the polar caps the Himalayas have the largest concentration of glaciers and cover an area of 33,000 square kms (M.K. Kaul, 1999). The Himalayas provide approximately 86,000,000 cubic meters of water annually (Prakash Rao, et al.) which feed rivers like Ganga, Brahmaputra, Yellow (Huang He), etc. Significance of these rivers in influencing the metrological conditions of the Indian subcontinent has been studied and acknowledged widely. Due to the global warming, average temperature rise is impacting glaciers which are manifested in terms of increased rate of retreat and run off. India's annual temperature has increased by 0.05°C in every 10 years from 1901 to 2003 and in recent three decades it has increased at the rate of 0.22°C in every 10 years. But the condition in the northwest of Indian Himalayan region is more critical and the annual temperature has risen at a higher rate than the global average (M.R. Bhutinya et al., 2007).

Rainfall pattern in hills of Uttarakhand has also been

affected and evident by prolong dry stress and erratic rains. The more interesting fact being that during the year 2006, 2007 and 2008 the monsoon rains started a few days earlier than the normal. This unpredictable situation is a clear indication of major shift in the climatic conditions (V. Shiva, 2013).

The recent Himalayan disaster may be the result of the impact of climatic change and global warming. According to the preliminary studies conducted by many agencies the disaster happened due to the collapse of the natural dam of the lake "Chorabari" which was located above the Kedarnath valley- an area typically characterized by loosely packed glacial sediments. The unguarded water flow from the damaged dam suddenly flooded the entire area downstream of the valley. An expert commented that the accident was waiting to happen and similar accidents will recur as the region gets warmer. According to ICIMOD, this rising temperature due to global warming is creating thousands of glacial lakes across the region. The growing volume of meltwater is dangerously increasing the risk of sudden Glacial Lake Outburst Floods (GLOF).

Extreme environment events are the threat and cause of concern all over the world. During the recent past, a large number of people have been affected by climatic disorders such as droughts, flash floods, storms, unprecedented

snowfall, etc. It is very likely that these extreme events are climate induced.

Impact of these extreme climatic events is visible in the entire Himalayan region and is more visibly manifested in Uttarakhand particularly. For instance, frequency of cloud bursts has increased and flash floods are damaging both natural and human resources. Many steps have been taken up by various countries to combat the Climate Change impacts, one of these being enforcement of climate friendly policies. Different organisations big or small are making efforts to integrating green policies in development plans and policies at the grass root level.

CHEA in Uttarakhand is also making efforts to fight against slowly occurring climatic variability and support vulnerable communities cope with damaging impacts. Hill communities, particularly those residing in the Indian Central Himalayas are more vulnerable to climate change and people have now started experiencing the change which is affecting them both economically and environmentally. Adaptation and Mitigation strategies of climate change are the only ways to protect environment and rural community dwelling in fragile pockets of this region. Local communities and institutions have better understanding of both the environmental and economical conditions. These hill communities and institutions have significant bearing on forest



conversation and their sustainable usage. Rural Community Managed Natural Resource Institutions like Van Panchayats (VPs) in Uttarakhand, Self Help Groups, etc., are instrumental in promoting sustainable forest based livelihood activities.



Monitoring and Estimation of Carbon Sequestration

Annual collection of biomass data is a key event by rural educated youth who are trained on how to maintain a database. In Lamgarah (District Almora, Uttarakhand), village community particularly youth known as field investigators are using GPS to identify the VP boundary and plots to collect biomass data. Every year biomass data of 15 VPs is collected by field investigators and analysed by putting them in the pre defined allometric equation for different tree species. The data collected from the VPs suggest that the VP forests have been accumulating CO₂ at the rate of 2.79 c t/ha/yr (Fig 1).

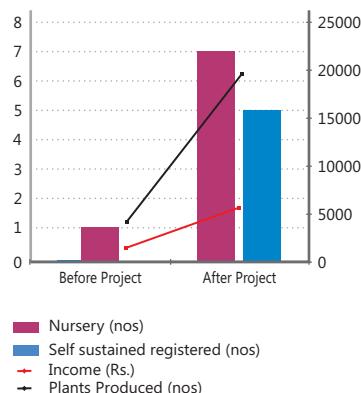


Adaptation & Mitigation measures

According to the United Nation Framework Convention on Climate Change (UNFCCC) there are two ways to defend against climate change i.e., mitigation by introducing interventions for reducing source of greenhouse-gases emissions and enhancing sinks of GHGs; and adaptation to the impact by adjusting in natural or human systems in response to the effect of climate change (IPCC, 2001a). The project supported by Sir Dorabji Tata Trust (SDTT) "Strengthening Rural Community Managed Natural Resource Institutions (Van Panchayats)" is one of the flagship projects by which various steps were introduced and adopted by the rural community which enhanced their adaptive capacities so as to be able to better respond to climate change. Rural community of the Lamgarah development

Fig 2.

Status of natural resource management





block of Almora district in Uttarakhand underwent the process by shouldering the responsibility to demonstrate collective efforts to become climate resilient. Sustainable forestry models were hence developed in different VPs. Forest plant nurseries were established and maintained, which are self sustained and have developed expertise in developing planting stock. The planting stock is readily available of diverse species for plantation.

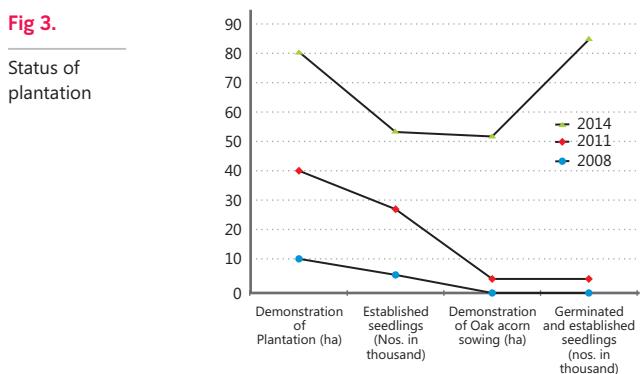
The direct sowing of oak acorn (*Quercus leucotrichophora*) in upper hills along with seed of *Bahunia variegata* in warm valleys has been a huge success. 14 project VPs were undertaken for the activity with active involvement of SHG members and

research students. The intervention is cost effective and less labour intensive to achieve the targets. Besides this, under the project entitled "Improving Livelihood of Bamboo Dependent Communities and Enhancing Forest Conservation through Promotion of Bamboo Plantation

in the Himalaya" in three districts of Uttarakhand, various bamboo species were planted such as *Dendrocalamus strictus*, *Dendrocalamus asper*, *Bambusa balcooa*, *D. hamiltonii*, *Oxenthera parvifolia* and *Arundinaria falcata* (ringal) at both Van Panchayat and at household level.

Fig 3.

Status of plantation





Fodder Promotion

Increasing pressure on the forests to meet the fodder requirement has been attempted to be resolved by introducing nutritious fodder species both in VP forest and village. The idea of promotion of improved fodder varieties in VP land is now widely accepted and adopted by communities, which have a positive and direct impact in terms of reducing the pressure over perennial trees.

The activity turned into a success, as the demonstration of improved fodder grass has completely changed the scenario in 8 VPs over the years. Although, four species of nutritious fodder were introduced, the growth of Napier (*Pennisetum purpureum*) was relatively better and most of the

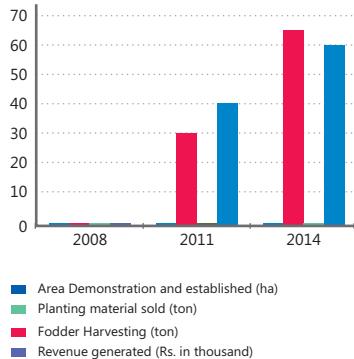
fodder harvested was Napier. The fodder banks are now established in these VPs where harvesting has also started both, for feeding the cattle and to provide sapling for further transplanting. SHGs members are also participating actively in transplanting the fodder and also in protection and maintenance of the sites.

At present, approximately 20-30 tons of green fodder is available for harvesting which has been planned to be carried out in a sustainable manner along with 10-15 tons will be available for further plantations. These demonstrations have established the benefits of such an intervention in terms of reducing pressure on forests, thus now the

focus will be on upkeep and management of these sites so as to ensure quality production in bulk, which is a gradual process.

Fig 4.

Status of fodder promotion



Assistance to Natural Regeneration (ANR)

ANR is an activity by which natural regeneration is promoted in forest degraded areas. The prime objective of ANR is to create conditions that favour the ecosystem's own recovery process. There is an emphasis on this approach due to the high potential in addressing the challenges related to forest rehabilitation. ANR has significantly improvised the growth of over exploited forest areas as well as bushy oak saplings and has also contributed in enhancing the growth of under-storey plants and also to facilitate vertical growth of saplings. This has further succeeded in reducing the focus on sole intervention of 'afforestation', have a long gestation period for visible impacts. Active community participation and protection measures, both physical and social are required to ensure scaling-up of ANR, and these constraints can overcome with increased awareness, commitment, research and trainings. It includes clearing away existing pasture grasses or other exotic weeds which prevent proper germination of seedlings or suppress growth of indigenous plant growth. Practices like live fencing, disturbing the seed bed and the soil surface by lightly scarifying; ripping or grading the soil; and controlled fire also encouraged natural regeneration.

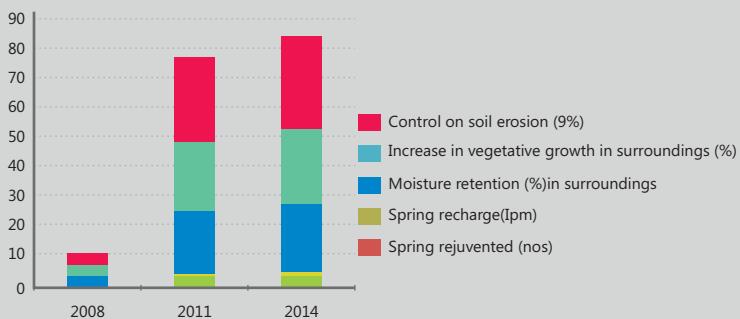
Water Harvesting

In hilly terrain storing and conserving water has always been a one of the major challenges and with erratic rainfall pattern over past few years, the situation is more complex since a large part of rain water disappears due to surface runoff given the undulating and steep topographic conditions of hills.

In all reservoirs and trenches to hold about 17000 cubic meter water have been created in 14 VPs. These structures have also been maintained over the years. Direct seed sowing has been done in exposed top soil available around the trenches. Results of micro reservoirs (MRs) are noticeable and water discharge in 8 natural springs has increased significantly. The reservoirs are also helping in enhancing the grown plants in the surroundings while increased water availability also saves time of community living in down hills. During heavy rains all these reservoirs also act as barrier for reducing the surface runoff of water thus controlling landslides and soil erosion. Maintenance of reservoirs was undertaken by the communities by removing the stones, flooded soil, biomass, etc. without disturbing the bottom layer of reservoirs.

Fig 5.

Impact of micro reservoir in project VPs





Awareness & Capacity Building of Stakeholders

Strengthening capacities of rural community for conservation and management of natural resources will help in building a cadre of trained, sensitized and responsible community citizens for ecosystem restoration who will help disseminate key messages across masses and gradually lead



Alternative Energy Resources

The overall goal of biodiversity conservation has been emphasized as a cross cutting theme of the interventions. Accordingly promotion of alternative energy programmes have been undertaken to fulfil the energy needs of community at minimal cost and with optimum use of available raw material. Addressing community needs and cost effectiveness on one hand and reducing exploitation of forest for fuel wood on the other, bio gas plants have been demonstrated through installing 31 units in various intervention areas.

Biogas has been introduced as a solution to ensure conservation while also addressing the growing energy needs of the villages. The technology has proven useful also in reducing drudgery for women and biotic pressure on the community forests besides helping in reducing carbon emissions in form methane and carbon dioxide from cattle waste.

Fig 6.

Status of alternative energy resources

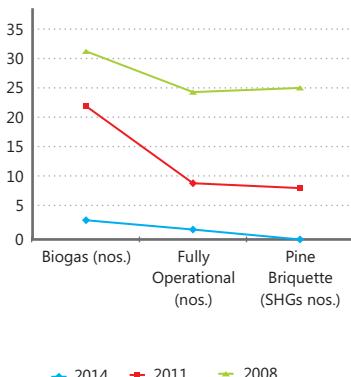
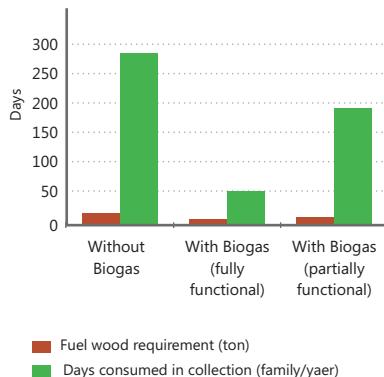


Fig 7.

Impact of alternative energy resources



to sustainable use and development of available natural resources.

In Lamgarah, intervention to strengthen VPs through community participation, village consultations and capacity building programmes were organised to ensure continued management and sustainability of the efforts made. In all, 46 Self Help Groups (SHGs) were formed which are now well aware of inter-loaning and credit linkages with initiation of appropriate record keeping and approaching for different interventions. Rural Resource Persons (RRPs) were

given opportunity to take up the intervention in the cluster for boosting their confidence. Currently, 14 RRP s are able to serve and are recognized for their expertise with 45 additional RRP s assisting the community in the area. The RRP s have generated an income of approximately INR 1,76,000.00 by providing services in VPs and also at the household level under various activities.



Presence of more than 40 community leaders in these villages is creating positive environment of trust towards VPs and various village development interventions being anchored by them. Valuable support from students in restoring the plantation indicates good prospect for future. Now the community leaders are approaching different line departments to generate resources in diverse sectors. Integrated approach and leveraging of opportunities has been followed by the villagers for adopting appropriate technologies.

Supporting Disaster Affected Villages in Pithoragarh, Uttarakhand for Access to Basic Amenities: An Initiative of Shaporji Pallonji Group

The cloudburst—that resulted in devastating floods in Uttarakhand was a disaster waiting to happen. The state's draft action plan on climate change is full of such warnings. The recent disaster in Uttarakhand on June 16, 2013 (6/16) has been an eye opener for the actors and stakeholders who in one way or the other have burdened the resources beyond the carrying capacity of the fragile ecosystem in the State.

While the major attention and focus was on rescue operations as undertaken in Kedarnath valley, the loss of life and property as well as infrastructure was massive in other parts of the state such as Pithoragarh district where Darma valley in Dharchula block and Malla Johar and Madkot region in Munsyari block were severely hit by the torrential rains and swarming rivers.

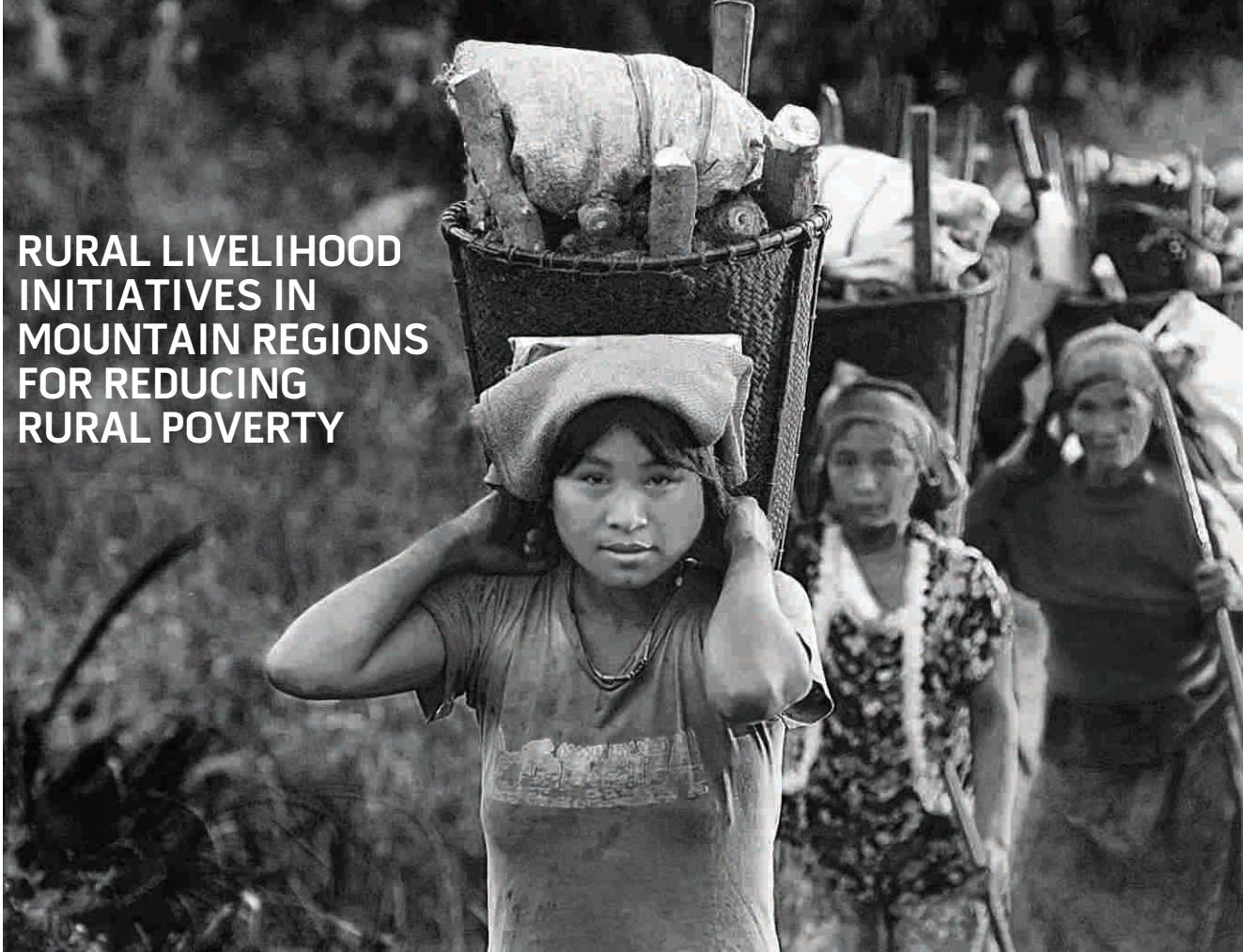
The state government and various voluntary organizations provided necessary relief to affected population in terms of basic needs such as food and clothes. However, major issues which will require long term intervention and support calls for sustainable planning. To provide support to affected families' a series of discussions and meetings were held at different levels such as Commissioner of Kumaon; nodal officer (Sub Divisional Magistrate)

of the Dharchula; public representatives, etc. Based on these consultations where priorities and needs of communities were discussed, following steps were undertaken:

- Solar lanterns were distributed among 560 families. This support was most critical since the entire infrastructure and electric supply was destroyed and it will take a long time to restore village lighting through electricity supply.
- Most of the houses have been damaged and it is long process to rebuild the structures immediately.
- Keeping in view the winters, snowfall and adverse climatic conditions Silpoline Tripal were distributed which provided shelter to pro poor families and protect them from rains and snow.
- Water filtration kits were also provided to ensure safe drinking water. In few areas sanitary toilets have been established to provide safe sanitation facility in the villages.

The distribution of the aforesaid inputs was complemented with technical guidance to beneficiaries on the use, maintenance and upkeep. A leaflet with necessary information about use and contact details of CHEA/ project personnel was made available to the beneficiaries.

RURAL LIVELIHOOD INITIATIVES IN MOUNTAIN REGIONS FOR REDUCING RURAL POVERTY



Forest density is gradually reducing and broad leaved forests are converting into coniferous forest. This change in the forest structure is taking place at a fast rate. The impact of climate change can be witnessed in the region which is causing many environmental problems like increase in man-animal conflict due to the shrinking of natural habitats of wild animals. Food chain is also getting impacted, consequently leading wild animals to enter the inhabited village boundaries in search of food. Wild boar, monkey and porcupines are now more visible in villages and are directly affecting livelihoods of rural hill communities.

According to Ian Scoones (1998), "a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base."

In his report during working on the theme of Sustainable Livelihood as a leading proponent of Institute of Development Studies (IDS) at the University of Sussex, Brighton (UK), he further emphasized on elements of livelihood and management of these elements such as livelihood resources and strategies where each and every component is equally important from which livelihoods are derived and includes natural, human, social and financial resources. Scoones further described that social and institutional framework also have very important place for sustainable livelihood generation. With a similar approach, strengthening organisational structure of community based institutions such as Van Panchayats, Self Help Groups, Farmers Interest Groups, Farmers Federation, Kisan Clubs, etc., has been an integral part of CHEA's work for long. Strengthening of institutions have been taken up to address the need of creating sustainable livelihood mechanisms for the Himalayan community in general and Indian Central Himalayan Region in particular.



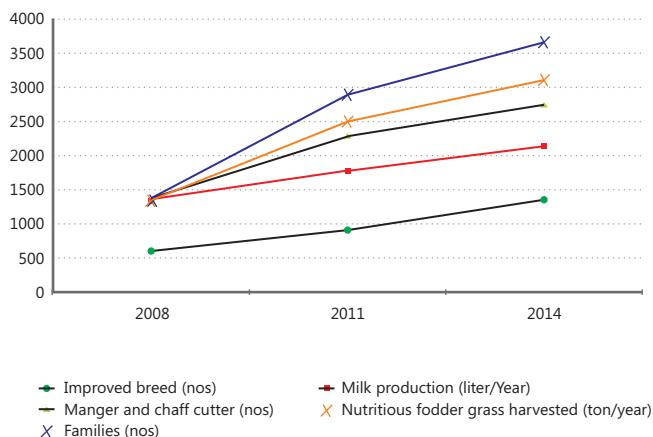
Non-Farm Sector

In the hills of Uttarakhand the landholding per house hold is very small. According to Statistical Year Book 2013 published by Ministry of Statistics and Programme Implementation, GoI 80% of farmers possess less than 1.0 ha land which is not sufficient to produce agro products for sustaining an average sized family. This condition does not permit agriculture to generate employment opportunity itself, therefore, non framing activities have significant role to complement the minimal agriculture based livelihoods in this region. Promotion of non farming activities in Indian Himalayan Region would be an effective sustainable measure for addressing problem of migration, poverty and unemployment. Animal husbandry is one of the activities which can become a major non-farm activity. Since generations local community have a close relationship with animal husbandry but due to inferior milching breeds they never developed it as an option of income generation. Hence improved cattle breed through Artificial Insemination (AI) was introduced which resulted as one of the most acceptable interventions under the CHEA's intervention sites. Number of improved breed of cattles has increased which has also enhanced milk production. Fodder grass harvested from VP forests and from trees planted in the vicinity of houses within the villages, has also contributed in improvement of the livestock health.

After successfully demonstrating the benefits from such interventions, women are being encouraged to take up the concept. Appropriate management of livestock is also supplementing vegetative growth in VPs by controlling open grazing and lopping of trees.

Fig 8.

Livestock and its management





Apiculture is seen as another lucrative non-farming activity as honey is one of the most precious gifts of nature. Rural community of the IHR is well versed to apiculture and its importance as pollinator. Almost 90% of agricultural crops require honey bee for pollination services and especially apple which is solely dependent on honey bees which determine productivity. With support of agencies like National Bank for Agricultural and Rural Development (NABARD) and ICIMOD (Nepal), methods of modern beekeeping have been

promoted in selected villages of Nainital and Pithoragarh districts of Uttarakhand. Impact of the project is visible in terms of increased level of awareness, use of modern methods for beekeeping, increased number of households adopting movable bee hives in lieu of traditional wall hives, adoption of hygienic pre and post harvest methods, etc.

Projects were designed to improve beekeeping status by adopting appropriate technologies and also to enhance bee based livelihood activities. This approach helped

beekeepers to increase honey production as well as other bee products and come up with a quality product which is acceptable to consumers. The project was instrumental in providing basic infrastructure to promote modern beekeeping practices by using movable bee hives and other improvements in the process. To ensure sustainability of the project, a cadre of Rural Resource Persons (RRPs) is developed in different sectors. The project also helped to demonstrate the benefits of beekeeping for horticulture

especially for orchardist through hands-on experience of pollination research in apple orchards. Beekeeping Groups were the centrifugal force of the project through which all project activities were effectively accomplished. These projects were also important to promote *Apis cerana* based beekeeping and underline the necessity and benefits of this indigenous bee in our biosphere.

The community was encouraged to develop bee keeping as a source of additional income by providing various inputs required for modern way of bee keeping. Total 112 ha area was covered under the project and by providing 450 movable hives to 151 families.

The impact of the project is visible in the villages in Dhari development block as the number of beekeeping families have increased (Fig 9), resulting in increase in both movable hives and colonies (Fig 10).

Horticulture

The concept of vegetable cultivation around the household is an old age practice carried out by the villagers. However, it has been targeted to promote and motivate community for cultivating specific high value crops for income generation which will also ensure food security during different seasons. An additional purpose is also to provide opportunities for women to get involved in other productive activities.

Fig 9.

Bee hives in project villages at Dhari (Nainital)

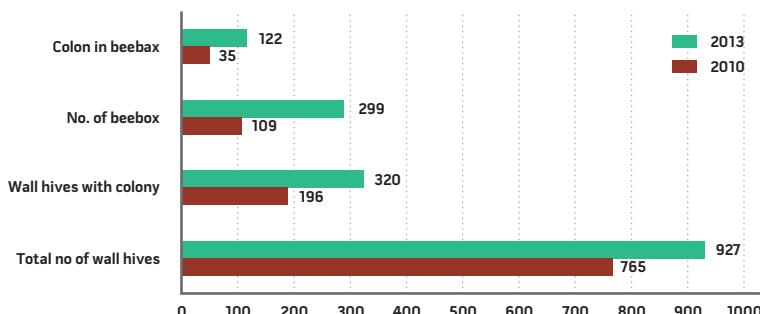


Fig 10.

Beekeepers in the project villages at Dhari (Nainital)

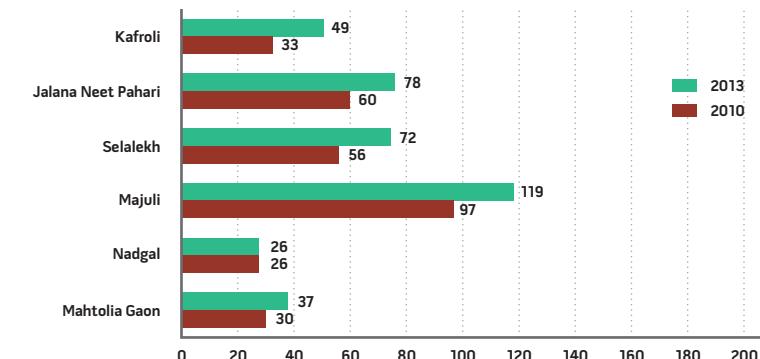
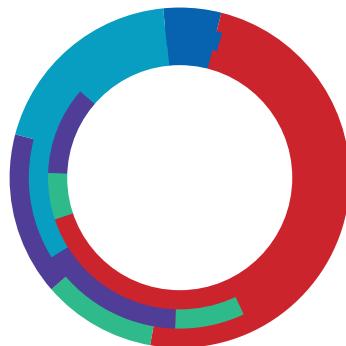


Fig 11.

Comparative horticulture activities



- █ Area covered (ha)
- █ Families (nos.)
- █ Poly house (nos.)
- █ Families/Group sold vegetable (nos.)
- █ Income generated (Rs in thousand)

Promotion of off-season vegetable cultivation has been a vital component of the programme undertaken for sustainable livelihood development. In this regard, in Okhalkanda development block of Nainital district separate project entitled "Infusion of Appropriate Rural Technologies for Enhancing off-Season and Protected Vegetable Cultivation" was implemented with the support of NABARD to promote appropriate technologies and high value crops to enhance per unit area productivity. With the intervention, significant shift has been observed among farmers towards adoption of high value crops such as turmeric, ginger, tomato and capsicum and improved varieties of chilly. Compact area approach has been

promoted with quality composting at household level. At the same time assured water availability with water harvesting structures have resulted in increased productivity and higher incomes of the Farmer Interest Group (FIG) members.



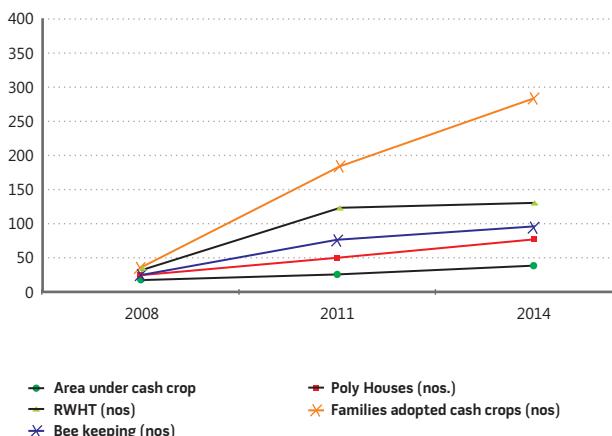
Introduction of poly houses and Medicinal and Aromatic Plants (MAPs) in the area has further diversified the cultivation practices. Financial linkages have also been improved with all FIs now having a separate bank account followed by individual accounts which enables them to approach the bank for credit linkages.

Under the projects 125 ha area has been converted into vegetable cultivation where tomato, capsicum, cabbage, pea, French bean, turmeric, ginger, etc. are cultivated. The support from horticulture department, KVK of GB Pant University of Agriculture and Technology, Pantnagar was also ensured to benefit additional families and area during reporting period.



Fig 12.

Status of allied activities



An income of INR. 1,75,000.00 has been generated during the year through sale of vegetables. With technology transfer and inputs provision around 280 families have taken up cash crop in small areas which has fetched them additional income. Similarly 80 families are now generating benefits from poly houses and also maintaining them for long term gains. Around 90 families (60 for the first time) are practicing bee keeping and have also developed expertise in various aspects of bee keeping.



Organic Farming

Using organic farming inputs during is an ideal available option to protect the environment from harmful impacts of chemical fertilizers and pesticides and to ensure soil fertility. The concept of vermin-composting thus has been widely accepted and further provision has been made under the project. The team organized several village level meetings to spread awareness about the benefit of vermi composting, its method of preparation. Relevant literature in simple vernacular language has also been distributed for reference. The beneficiaries already having units came forward to share their experiences which have motivated others to take this up.

Constructions of composting units

have been continued and in all 550 families were benefited with new units. The positive impact and full usage of composting units is predicted as the knowledge of community members has been built and they are willing to continue the activity by using the produced compost in their agricultural fields especially for vegetables crops. Movable compost units are now more popular and well in use since they come with an additional advantage of shifting when and where required.

Cluster development programme of NABARD is a comprehensive programme aimed at holistic development of the rural clusters through planned interventions to achieve the objective of raising

the income level as well as quality of life of the rural community through various interventions. The cluster development programme project "Off Season Vegetable Cultivation through Organic Interventions" was implemented for three years from 2010 to 2013 in Tarikhel development block of Almora district to promote using of organic inputs for crop cultivation especially vegetables.

The objective of the project is to enhance the soil fertility for raising quality crop with less cost on one hand and enhance income of farmers from the same product on the other. As a key success factor, this requires the right combination of cultural, biological and chemical measures so as to

provide the most cost effective, environmentally sound and socially acceptable method for sustainable production of vegetables. Thus, the demonstration and preparation of organic inputs at field level through locally available material are of utmost importance. Main organic inputs those were prepared at field level includes vermi compost, liquid manure and Natel. Efforts were also made to introduce allied organic pesticides such as *Beauveria bassiana*, Neem

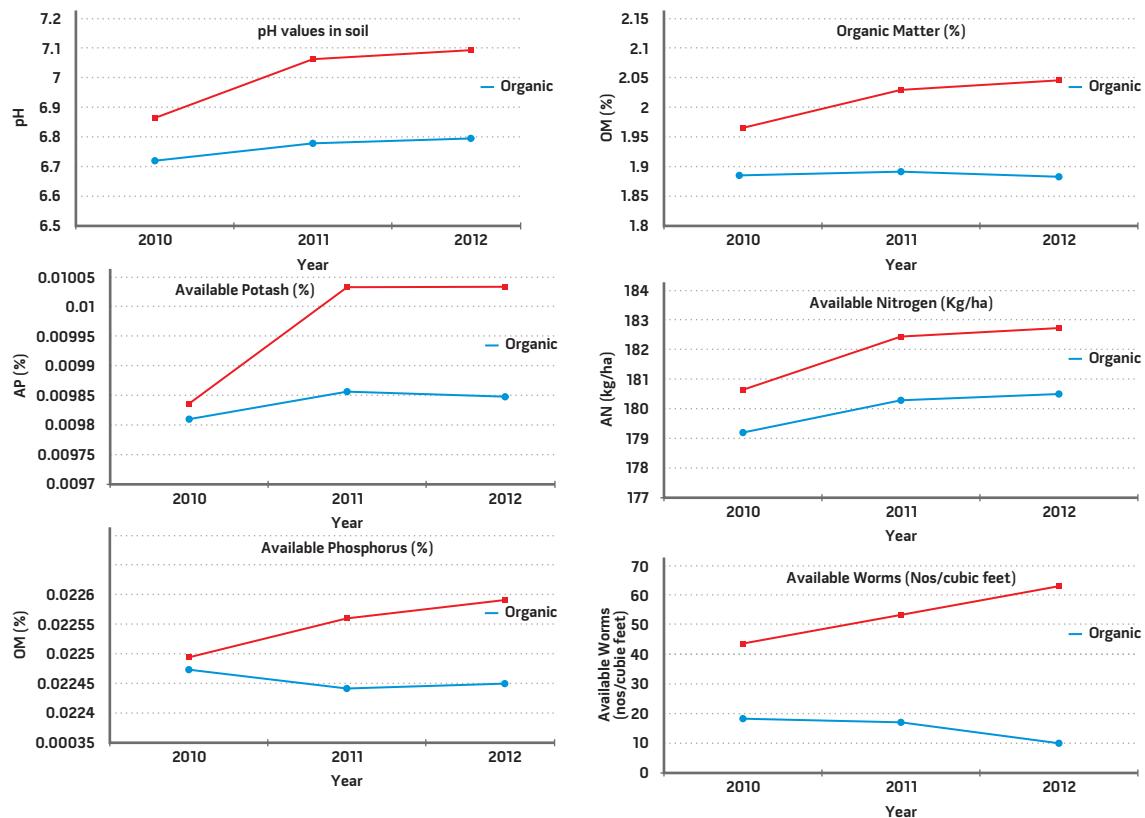
oil and Organic fungicides i.e., *Trichoderma*, *Pseudomonas* to support high yielding varieties of seeds. Other inputs such as pheromone trap, light trap and organic fertilizers were also provided to farmers.

The soil composition is an essential part of farming as growth and production of plants depends upon the soil fertility. Thus, to analyze the current status of soil and impact of organic farming, soil testing is an integral part of farming. Hence an analysis

of a number of soil samples from randomly marked sites was carried out after Kharif season twice during project intervention. Soil samples were tested in laboratory for pH, organic matter, Nitrogen, Phosphorus and Potassium. Testing has been done in the laboratory in consultation with line departments for reliable results. The result indicated that the acidity of soil has slightly reduced while the organic matter and available N, P, K has increased to an extent among all the soil samples (Fig 13.).

Fig 13.

Comparative analysis of condition of soil



In market the produce would be recognized organic only after it fulfils the certification standards and have tag of certification. Therefore the process of obtaining organic certificate was also undertaken and as a result 32 ha area has been certified as organic in 5 villages whereas the process of certification for another 12.5 ha area in 4 villages is ongoing. The major crops certified are Pea, Capsicum, Tomato, Cauliflower and Potato.

The impact of interventions made for converting chemical prone area to organic is now visible and more farmers are coming forward to adopt organic on-farm inputs rather than chemical pesticides and fertilizers (Fig 14 & 15).

Fig 14.

Usages pattern of chemicals

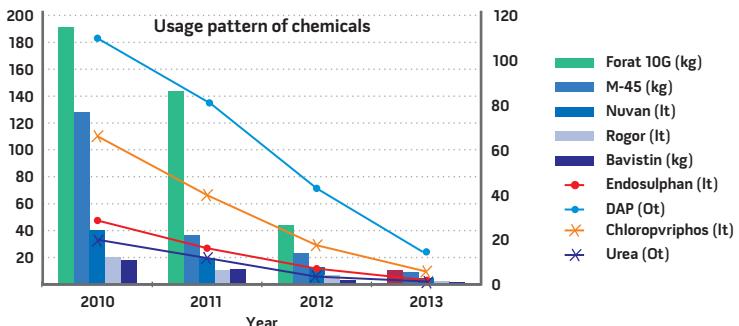
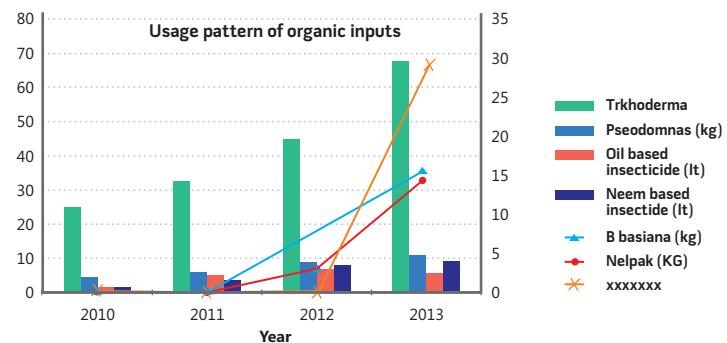


Fig 15.

Usages pattern of Organic inputs





Agri – Horticulture

In October, 2011, project "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, Kanalichina and Dharchula with support of NABARD under its Tribal Development Funds (TDF). The main focus of the project is to improve the living condition of one of the most backward communities of Uttarakhand, the Van Rajis through Agro forestry (wadi) model for sustainable livelihood. Under the project 700 families of 20 villages have benefited with various inputs and trainings.

During two years of project 2.1 ha land has been converted into agri-horti-silvi forestry system (Fig 16.) besides extending various inputs and allied facilities. (Fig 17.). Promotion of hygiene and health is also a major objective of the project as the immunity of Van Rajis is very low and mortality rate is very high. Therefore, awareness generation for use of toilets, regular health checkups through medical camps is also an integral and priority activity taken up under the project. (Fig 18.).

Fig 16.

Conversion into Wadi

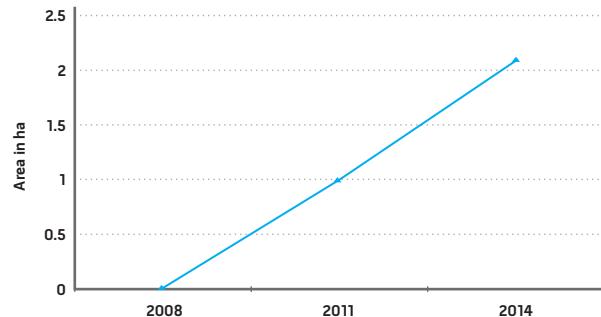


Fig 17.

Allied facilities for sustainable livelihood

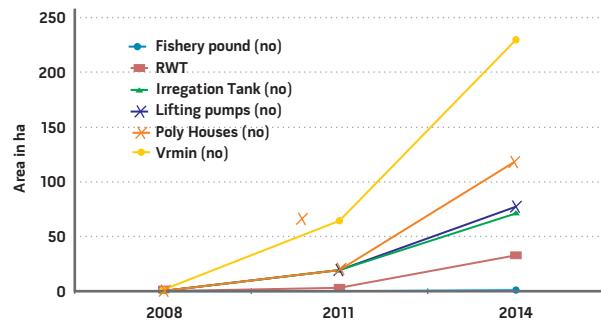


Fig 18.

Promotion of health awareness



Innovation and Adaptation

Providing opportunities by engaging rural community into alternative means of income by sustainable management of natural resources will keep the otherwise fragile ecosystem intact. Innovation and adaption of using methods for available resources is the key to sustainable livelihood.

The International Centre for Integrated Mountain Development (ICIMOD), with financial and technical support from GIZ and DFID has initiated a Trans-boundary project "Kailash Sacred Landscape Conservation and Development Initiative" in India, Nepal and China. In the first phase of the project the initiative is spread over 31,000 km² area around Mount Kailash in the tri-junction of these three neighbourhoods. An implementation plan has been developed by ICIMOD in consultation with the partner institutions within these countries. There are five programme components in the plan, viz., (i) Livelihood Options, (ii) Management of Ecosystems for Sustaining Services; (iii) Access and Benefit Sharing; (iv) Long term Biodiversity Conservation and Monitoring; (v) Regional Cooperation, Enabling Policies and Knowledge Management.

In India CHEA is one of the partners for the initiative entrusted with Component 1 i.e., "Innovative Livelihood Options and Adaptation". Development blocks of Pithoragarh sharing its



boundaries with Nepal and China are the target areas of the project. The focus is to streamline different value chains viz., Chyura products, Honeybees products, Kidney Bean, Heritage/Village tourism, and Bamboo/Ringal based activities. Objective of the

project is to initiate the interventions to create additional income opportunities for the beneficiary community.

Capacity Building

Van Sansadhan Prabhdhan Samiti (VSPS), is an umbrella organisation developed after the hard work of five years as a platform to bring together all the VPs and the community through organising meeting, resulting in development and submission of various proposals to public representatives and government officials. Now SHGs especially women SHGs have a legal platform to undertake developmental programme in their villages, various interventions have been undertaken through SHGs specially promotion of pine briquetting as an option of alternative energy resource, along with other livelihood activities such as poultry, value addition of NTFPs, etc.

Under various projects undertaken by CHEA, 46 SHGs have been adopted/formed including 426 members out of them 260 are women. Total savings of SHGs has been INR 10.85 lacs with Cash Credit Limit (CCL) of INR 9.50 lacs. INR 5.20 lacs been inter loaned for livelihood activities and personal use. Monthly meetings are regularly conducted with active participation of members. SHGs are playing significant role in conducting various activities in VP and also at the village level.

Reconstitution of Village Forest Councils (VFCs) was taken up as per Uttarakhand Panchayat Forest Rules (UPFR, 2005). It was found VPs lack the mandated representation of women and members of weaker section. In



some cases it was found that the required number of members and conditions of meeting the tenure of the Head, as laid down in UPFR 2005 of VP was not adhered to. With the reconstitution exercise undertaken by CHEA, now in each VFC there are 09 members with appropriate representation of women and weaker section members in the council. There are also 4 women headed VFCs which earlier used to be a domain of men only. To strengthen the VPs and help them take up vibrant action, efforts like reconstitution,

trainings and awareness programmes have helped in achieving very positive results. Before project intervention the knowledge on different aspects of VPs was restricted to around 20% of the population which has registered a significant improvement after project intervention by increasing to 70% at present. A marked improvement has also been observed in participation of community members during open village level meetings.

Fig 19.

Comparative description of VFCs

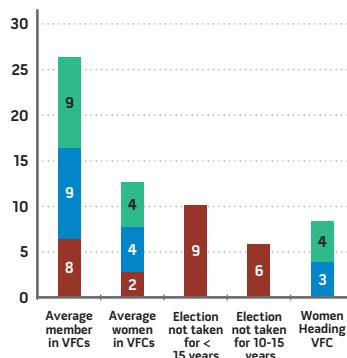
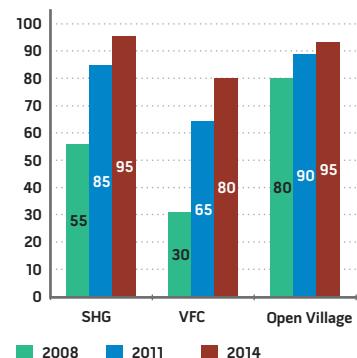


Fig 20.

Comparative participation of community in meetings (%)



ART, CULTURE AND HANDICRAFTS PROMOTION IN MOUNTAINS



Creativity is a positive word in a society constantly aspiring innovation and progress. It is linked to knowledge, talents, industries, civilization and values. This culture-based creativity is linked to the ability of people, notably artist, to think imaginatively.

India's industrialization and participation in the modern world economy is decades old, nevertheless, millions of Indians still depend on indigenous mode of production, traditional skills and techniques to make a living based on homemade products. Craftspeople/ artisans are the backbone of the non-farm rural economy.

A majority of crafts production remains unorganized and informal with full market potential untapped, which moves to urban centers of low, unskilled employment. Harnessing the potential of this sector requires a different kind of investment to preserve traditional crafts, strengthen the sector, and improve the income of artisans. CHEA has thus been working towards getting the recognition due to this sector.

CHEA has made efforts to improve economic, environmental and social conditions of rural communities. These include economic opportunities like employment and income generation to different communities especially home-based women.

Bamboo Handicraft of Kumaon

Natural resource is the major livelihood base for marginal communities in Uttarakhand. Major natural resources are forest (provides fuel wood, timber, fodder, and biomass) and other allied minor forest produces. As bamboo is spread far and wide in the Himalayan region, it provides a good fortune to the craftsmen of the place. Bamboo is an abeyant resource available in different villages and has an intrinsic value since the ancient time. The other blessing of the bamboo plantation is –it helps in soil and water conservation and improves soil fertility.

Nature has given the correct and healthy environment for the existence and the continuous growth of all living beings. Bamboo is a gift to artisans of the Himalayan region to compliment their livelihood. Craftsmen associated with the bamboo craft are poor and mainly belong to backward classes. The art is declining among the youth, as it has low returns and high input cost, as a result displacement of occupation is taking place.

To overcome from the problem and rekindle the traditional art form, CHEA undertook a pilot project (Phase I, May 2012-2013) in Bediya and Hediya villages at Bhimtal supported by SDTT, Mumbai. Participatory approach was used to develop an understanding on socio-economic status, problems and issues of craftsmen. Considering the issues and problems in phase I, 4

bamboo groups were formed, 10.5 ha area was covered with 4-5 species of the Ringal bamboo through scientific techniques. The cultivation consisted of 3100 plants of ringal and in total 7000 plants was planted in VP and private lands.

The craftsmen were trained on various aspects one of these being the wide range of bamboo products (bamboo products increased from 4 traditional products to 12 other products). Earlier 35 households were involved in bamboo based activity after project interventions the number increased to 60. Besides this, 20 youth and women were additionally engaged in the project implementation. With the success of the pilot project the interventions have been upscaled to 30 villages across 3 districts viz Nainital, Almora and Bageshwar for the next 3 years. This project also generated awareness among

the communities, especially the youth. Furthermore it increased the green cover in degraded land and also geared up bamboo handicrafts for enhancing income (from 3000-4500 to 8000-9000 pm) and to craft variety of products. It also took an initiative to ensure better economic return to artisans by creating a credible marketing platform. The sample products were demonstrated in different fairs and haats to initiate market linkages.

Apart from plantation, nurseries of bamboo have also been established in Almora where various bamboo species viz., *Malocanna beccifera*, *Bamboosa tulda*, *D.stricetus*, and *Dolu* bamboo are grown to ensure quality supply of bamboo plants. In addition to this 1800 plants of ringal (*Arundeneria falcata*) species have also been planted in Van Panchayats in 04 villages of Okhalkanda cluster of project area.



Capacity Building

Capacity building is one of the very essential components of the program which aims to improve the knowledge and skills of the artisan community for bamboo promotion, plantation, sustainable harvest, product diversification and marketing. Regular capacity building programs have been organized during the reporting period with the support of various specialists, experts and resource persons. Skill up gradation trainings have been undertaken in Okhalkanda cluster with the support of Uttarakhand Bamboo and Fiber Development Board,

Dehradun for making a wide variety of modern, utility based and fancy bamboo products.

Youth have been trained to develop products such as replica of famous temple of Kedarnath, flower vase, candle stand, pen stand, etc. Exposure visits were conducted to for motivation and showcasing of successful bamboo based enterprises taken up by other communities. During one such visit bamboo artisans visited Nagaland to experience the richness of bamboo craft and explore possibilities of product diversification. One more visit was

conducted to Lawada, Amravati (Maharashtra) to attend Shastri-Mishtri workshop where they learned the bamboo propagation techniques and creation of new crafts. Besides these exposure trips, various experts visited project villages to share their knowledge about bamboo propagation/ plantations through rhizome and bi-nodal cuttings and gave suggestions on setting up and management of bamboo nursery.



Central Himalayan Environment Association



Networking and Marketing

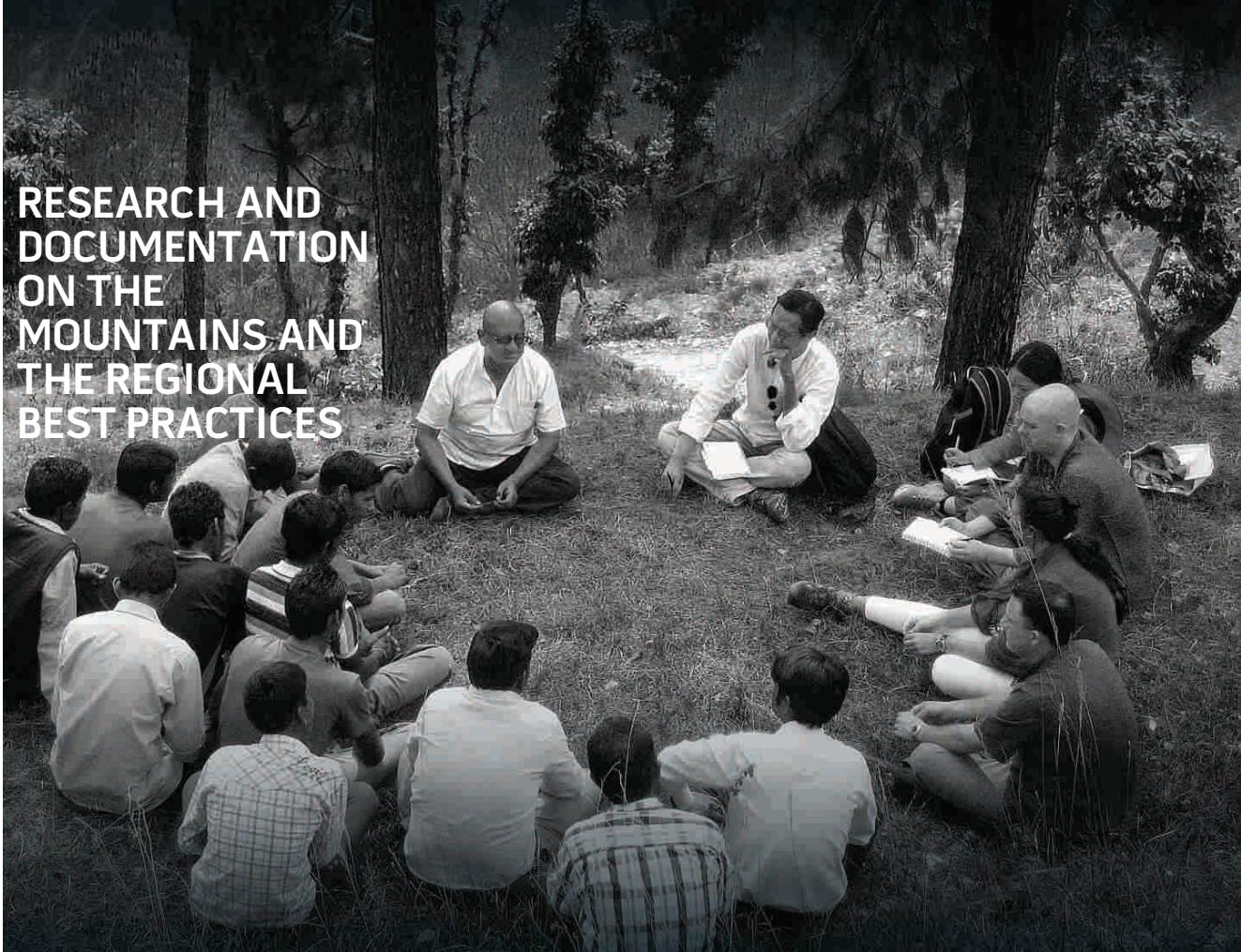
Without a business model in place, no art and craft can sustain, more so when it is the only means of livelihood for any community. Networking and creating market linkages for bamboo crafts is thus one of the important components of the project. Top international executives of HSBC Ltd. in collaboration with LEAD India, visited the pilot villages to develop a marketing strategy and study the potential and customer preferences for the handicrafts. As an outcome of their week long intensive study, brand NaNa

(Natural Nainital) was identified in consultation with all stakeholders and now branding of marketing of bamboo craft is being considered using this brand name.

Artisans exhibited their craft by participating in various exhibitions and fairs viz., "Spirit of Uttarakhand" organised by Uttarakhand Organic Commodity Board, Dehradun at Dilli Haat where all the articles were sold out within a week's time which is an indicator of the high consumer demand for bamboo products.



RESEARCH AND DOCUMENTATION ON THE MOUNTAINS AND THE REGIONAL BEST PRACTICES



Roundtable on Mainstreaming Gender in Uttarakhand State Action Plan for Climate Change

A State level policy roundtable on mainstreaming gender in climate change adaptation planning was organised at Haldwani, Uttarakhand on December 21st 2013. The roundtable was organised jointly by CHEA and Alternative Futures, New Delhi. Members of Legislative Assembly (MLA) and several top level state department officers participated in the consultation. Prof. Jeet Ram, Hon'ble MLA (Tharali) was the chief guest and Dr. Prem Singh Rana, Hon'ble MLA (Nanakmatta) was the Guest of Honour for the event. During the roundtable various issues regarding mainstreaming gender concerns and demands in the Uttarakhand Plan for Climate Change and also for strengthening of Van Panchayats were discussed.

It has been unanimously agreed that both capacity building along with social mobilisation and infrastructure building with inter-departmental coordination is important for empowering women and engage them in decision making process for better self governance. These steps will also gradually increase their land-ownership.

Workshop on 'Uttarakhand Disaster- Lessons for Future Planning in the Indian Himalayan Region'

The national tragedy in the form of Uttarakhand disaster on June 16, 2013 (6/16) has been an eye opener to all stakeholders who in one way or the other have exceeded the carrying capacity of the fragile ecosystem of this state. Experiencing torrential rains in the monsoon is not uncommon for the region. However, the unusual intensity of rainfall on 16th June, 2013 and the subsequent catastrophic land-slides, cloud bursts and flash floods due to accumulation of running streams resulted in a near paralysis in almost all parts of the State.

While Uttarakhand was in the process of gathering its wits and will together to address the damages caused by this tragedy, it was also necessary to examine and understand the magnitude of impact of the 6/16 and analyse and document valuable lessons learned with an aim to facilitate an informed policy. It was envisioned that these lessons shall not only benefit Uttarakhand but will show a way



for better preparedness to 11 Mountain States and two hill districts of West Bengal in the Indian Himalayan Region (IHR).

Hence a consultative process was collaboratively carried out by Regional Economy Development (RED) Programme of GIZ and CHEA to make an in-depth analysis of the disaster, its causation, effects and the learning

for future to ensure better resilience and preparedness. The process began with a daylong multi-stakeholder, cross-sectoral workshop titled, 'Uttarakhand 6/16: Analysis, Lessons and Mitigation Strategies'. Dr. P.P. Bhojveid, Director, Forest Research Institute, Dehradun was the chief guest and in his inaugural address he emphasised on sustainable planning need.

Various consultations carried out through the day, brought together, relevant streams of Science (Geology, Hydrology, Geography, Geo-engineering etc.), Ecology (forestry and other land use practices, etc.) and Socio-Economic dimensions, where a set of recommendations were developed for the local, state and central governments to take up immediately.



Strengthening Cooperative for Sustainable Management of off Season Vegetable and Developing Effective Marketing Strategy

A field visit to Rawai Ghati Fruit and Vegetable Producers Organization, promoted by Himalayan Action Research Centre (HARC) an NGO working with farmers at Naugaon in Uttarkashi was organized under GIZ supported programme for cooperative and FIsGs. The visiting team comprised eight members from Paharpani Utpadak Self

Reliant Co-operative and FIsGs. The visit benefited the participants with the experience of Rawai Ghati Fruit and interactions with Vegetable Producers Organization and sharing various experiences by the members. The success story of the organization as well as challenges faced in smooth running and how were these resolved, was shared with the

visiting team. The members shared useful suggestions on how to extend the support to farmers on various aspects of agricultural practices including distribution and marketing.

Feasibility Survey and Preparation of Detailed Project Report for Establishment of Improved Watermill (IWM) Clusters

Watermills, locally known as Gharats, have been in use in the mountain regions since times immemorial and have now become the most sought-after device, particularly in the far-flung areas. According to rough estimates, there are nearly 500,000 water mills across remote areas of the Himalayan region in India. Off these, about 70,000 water mills are in Uttarakhand alone. These water mills or 'Gharats' are of the vertical shaft type, evolved over thousands of years and are used essentially for grinding wheat, rice and maize and also to extract oil. 'Gharats' can be upgraded to increase avenues for income generation among locals. A watermill can



grind wheat and generate 2-5 KW of electricity. Currently, there are 200,000 watermills in the Himalayan region. In Uttarakhand, water mills (locally known as Gharats) have traditionally also

been used to provide mechanical power, primarily for grinding of food grains. However, as access to these areas improved with better roads and connection to electricity grid the traditional water mills

were being gradually replaced with diesel and electric mills.

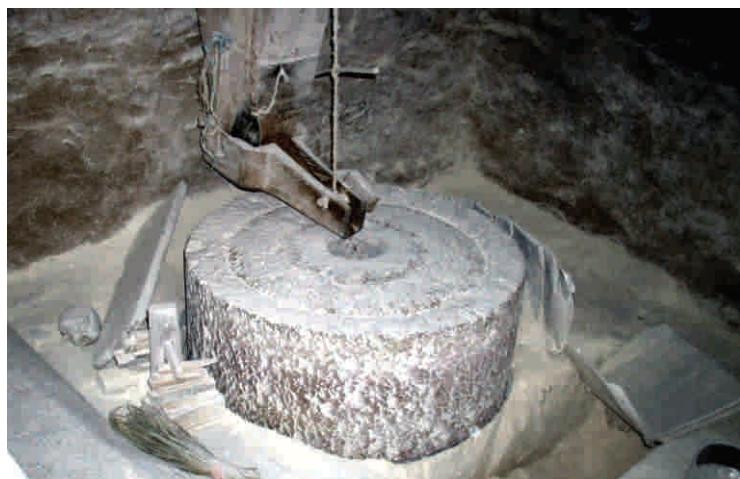
Recognizing the potential benefit of energy from hydro sources in ecologically sensitive hilly regions, there have been efforts since 1996 (primarily arising out of the UNDP-GEF Hilly Hydro Project) to address some of the technical issues that would help improve the efficiency of the watermills and make them more competitive as compared to the diesel and electric mills.

Also, once upgraded, collectively the Gharats could generate 2500 MW of power and will spin five times faster and thus can de-husk the grains five times more than the present amount. Ultimately, this could provide employment to an estimated 15 million people.

The objectives of the assignment undertaken by CHEA were to identify the existing and potential demand and livelihood activities that can utilize the mechanical and/or electrical output available

from IWMs in selected district; assess the feasibility of a cluster of IWMs addressing the demand(s) identified above and develop a detailed project report for proposed intervention model based on the above feasibility studies that link the cluster of IWMs to specific livelihood activities.

To fulfil these, a cluster based, demand centric approach was taken. to carry out activities such as: identification of demand/ livelihood opportunities; and Assessing the feasibility of a cluster; DPR for further implementation of programme.



Scoping and Designing of Vulnerability Assessment for the State of Uttarakhand

Developing countries face huge challenges in development to meet growing demand of their economies and while doing so, addressing growing climate concerns make the challenge more complex. Uttarakhand being a mountainous state is more vulnerable to climate change. The State has also formalized its action plan on climate change (Uttarakhand Action Plan for Climate Change) that describes its current condition, its vulnerability

to climate change based on experienced changes and provides a way-forward for near future. The same document also highlights the fact that a well-defined and all inclusive policy needs to be supported by structured scientific and community based research on what impacts the most, who are vulnerable and how plans/program should be prioritized. Thus a Vulnerability Assessment (VA) methodology study for the entire State was

undertaken in collaboration with Climate and Development Knowledge Network (CDKN) and a consortium of experts. CDKN is a global programme providing technical advice and research to governments to support the design and delivery of climate change policies and plans. In continuity of its support to India it is technically assisting Government of Uttarakhand in planning for climate resilience and supporting VA study in two



phases. Among the experts including ICF International, Indian Institute of Science (IISc) and INRM Consultant Pvt. Ltd. (INRM), CHEA contributed as one of the partners for Phase - I which includes Scoping and Designing of the Framework to conduct VA for the State. The findings and approach established by this study would then be adopted in Phase – II, to further carry out the assessment and identifying areas of policy intervention for adaptation.

This study was initiated with an initial review of literature to identify the several approaches for VA been adopted across India and worldwide, those that are suitable to both biophysical and socioeconomic settings of Uttarakhand. Several rounds of stakeholder discussions were carried out to: a) understand the developmental goals of the State (through interviews with senior officials of the State) and b) how the State would like to incorporate the outcomes of VA into policy decision (mainstreaming). Combining desktop research, stakeholder consultation, and expert opinion collected from premier institutes, the study draws a framework for VA using both top-down and bottom-up approach for sectors those are either climate critical (Water, Agriculture, Forest) and/or contributes heavily to the State's GDP (Tourism, Hydro Power) and some obvious choices like Socioeconomic factors that need to be addressed. Top-down approaches lead to quantitative conclusion of impacts and

changes in the given sectors that depends more on bio-physical elements of environment; such as - Water and Hydro Power, Agriculture, Forest and Socio-Economic Conditions (both rural and urban). However, there are sectors like Tourism which are equally important for the State and require a community based approach or in other words bottom-up approach. Bottom-up approach leads to more qualitative conclusion of impacts and changes and is often best suited to address community requirements. Both approaches are complimentary to each other and therefore one can be used to validate the others conclusions.

Similarly, since the geographical scale of an urban agglomeration is different than that of a district and requires a different approach to address the typical infrastructural and growth needs compared to a rural set-up, the study suggests a separate framework of VA for Urban Agglomerations.

Under top-down approach, as Option 1 – Deriving Composite Vulnerability Index (CVI) at district level, including sectoral indexes - Socio-Economic Conditions (SEI), Water Resources and Hydro-power (WRI), Agriculture (AGI), and Forest (FVI), the study suggests use of climate model(s) and emission scenario(s) to project future climate changes and use of sector based impact models to assess sector performance – say in terms of change in crop yields TAAS-0036, Climate Change Risk & Opportunities in Uttarakhand, India (agriculture), availability of water run-off (hydro-power,

flooding conditions), vegetation maps (forestry and bio-diversity). Choice of climate models and emission scenarios have been suggested based on latest development under climate science and models validation and calibration in context of India.

As bottom-up approach, under Option 2 – Community Based Vulnerability Assessment designed to focus on adaptation across the State, systematically involve stakeholders primarily at the local level to help build the resilience of communities. This option would utilize prepared and tested methods and tools such as the "Climate Vulnerability and Capacity Assessment" (CVCA) based largely on participatory rural appraisal (PRA) methods and discussions in Focus Groups (FGs). Participatory tools are designed to draw out issues which can then be examined further through semi-structured interviews (SSI) discussions and secondary data collections. The results from discussions and analysis of secondary data can be qualitatively drawn into Vulnerability Index at community levels.

The study also suggests operational and institutional framework, analysis of the options and work-plans at the end of the report which can be adopted while executing the assessment.

Thus, this assignment focuses on Scoping and Designing of Vulnerability Assessment for the State of Uttarakhand which addressed some pressing questions that the State has been

grappling with for long. The consortiums gave recommendation on scoping the VA Methodology and design the approach to carry out the assessment including suggesting low cost option to high-end assessment and required institutional arrangements.



Mussoorie: A Case Study For Mountain Cities in Indian Himalayan Region (IHR)

Indian Mountain Initiative (IMI), launched by CHEA in 2011, has been trying to change the paradigm of planning & development for the mountain states both at the national and state level, since its inaugural Sustainable Mountain Development Summit (SMDS-1) was held at Nainital. Subsequently ECOSS, Sikkim & SDFN, Nagaland have joined the process and taken the baton forward by organizing SMDS 2 & 3, respectively and ICIMOD, Swiss Development Cooperation, GIZ and other developmental organisations had supported the IMI events on a continued basis.

Issues related to Urban Scenario in Mountain States were first discussed as a side event in 2012 Gangtok SMDS-2. This event concluded that urbanization has become relevant and important

for the mountain states not only from the point of view of development economics, availability of amenities but also to maintain the ecosystem in the region.

It was resolved by the IMI steering committee to continue the dialogue on the Mountain cities. A study on the mountain city scenario and conference in Mussoorie was organised. This conference aimed to bring out specific suggestions to influence the National and State Urban Development Programmes for a visible change in the provision of Urban Amenities in the mountain states with an objective to create discourse on Sustainable Habitats in the mountain states. The study contributed to highlight some of the key concerns during discussion. The study was shared with all the stakeholders including

various agencies. In this one day event, participants worked towards outlining integrated models for mountain cities with a focus on following major components of urban development planning framework and the proposed study provided a benchmark for various aspects i.e., Planning (City Master Plans; City Aesthetics, Public Space Planning & Management; Building Bye-laws with mountain specificities & disaster management focus), Water & Sanitation Issues (Drinking Water; Drainage, Sewerage & Waste Water management; Solid Waste Management), and Urban Transport.



Workshops on Financial Literacy

According to the World Bank, about 2.5 billion adults do not have a formal bank account and most of them are in developing countries. This lack of access to financial services limits their ability to benefit from economic opportunities, improve their health and education and raise their income levels.

In India, only 35% of adults have an account at a formal financial institution. Account penetration in India is still below in comparison to other developing countries. Only 26% female adults have individual bank accounts as against 44% men. According to World Bank study (2013) only 8% percent of Indian adults borrowed from a formal financial institution in the last year.

A report of World Bank further pointed out that, in developing countries 60% of the adults do not understand a basic financial term such as "interest". As financial literacy is an important factor to bring about financial inclusion,



CHEA undertook a mission to increase the level of financial literacy and encourage financial inclusion in rural hills of Uttarakhand. Thus, a series of training workshops were organised in Nainital district with the support of NABARD and Uttarakhand Gramin Bank. Objective of the workshop was to build awareness amongst rural community about the benefits of financial services. In all 33 such workshops have been organised

across all development blocks of Nainital district. During the workshops information regarding banking system, ongoing government schemes, and benefits of financial services i.e., saving, various loans and insurance schemes were disseminated through experts from banks, financial institutions and departments.

HSBC – Next Generation Development Programme (Bhimtal Challenge)

Under Next Generation Development Programme (Bhimtal Challenge), seventeen members team of Hongkong Shangai Bank Cooperation (HSBC) with support of LEAD-India visited Hediya and Bediya village in the month of May, 2013. The team consisted top executives of the bank from all over the world. The purpose of the visit was to find out marketing potential and to design the marketing strategy for bamboo crafts. During their visit team members interacted with villagers especially women, artisans and youths. Separate session with other stakeholders i.e., forest department, traders and scientists was also organized during the challenge programme.



2013 Environment Awareness and Competition

The response of 2013 Environment Awareness and Competition was overwhelming and a total of 1,168 entries in various competitions received from 21 schools of Nainital. The event was launched on the Earth Day at Pt. G.B. Pant High Altitude Zoo. A series of competitions such as drawing, caption the photographs, story writing, poetry and photography were organised at school level in three categories i.e., Junior (Class I-V), Middle (Class VI-VIII) and Senior (Class IX-XII).

On the occasion of the World Environment Day, winners of various categories were felicitated in presence of Mr. Govind Singh Kunjwal, Hon'able Speaker,



Legislative Assembly, Uttarakhand. Over all school championship trophy was won by M.L.S. Bal Vidya Mandir with 26

wins in various categories, first and second runners ups trophies were won by St' Mary Convent and All Saints' College, respectively.



Prof. S.L. Sah Memorial Lecture and World Environment Day Celebration

Prof. S.L. Sah memorial lecture was organised on the occasion of the World Environment Day. Smt. Sarita Arya, Hon'able Member of Legislative Assembly (Nainital)

and Shri Shyam Narayan, Chairman, Nagar Palika Nainital were the guest of honour. In his address Shir Kunjwal expressed the need of environment

conservation and preparing youths towards the environment issues.

Shri Sachidanand Bharti was the key speaker at the event. During his lecture he emphasised on the role of community in water management by reviving traditional water harvesting and conservation techniques like khal and khantis (micro reservoir and trenches).

At the end of the event the prize distribution ceremony was also conducted for the winners of 2013 Environment Awareness Competition.



PROJECT 2013-14

Project	Funder/Partner	State/ District	Development Block
A Case Study for Mountain Cities in Indian Himalayan Region	ICIMOD, Nepal	Uttarakhand	-
Appropriate Technologies for Strengthening Bee Based Livelihood Activities in Rural Hills -Rural Innovation Fund, NABARD, Dehradun	NABARD	Nainital	Dhari
Cluster Development: Off Season Vegetable Cultivation through Organic Innverations	Cluster Development Fund - NABARD	Almora	Tarikhet
Expending the Natural Resource Base for Easy Access to Water and Green Fodder: Supplementing Marginal Community for Livelihood Promotion	Aquamall, Dehradun	Almora	Tarikhet
Exploring Opportunities of Livelihoods for Marginal Community through Demonstration of Plantation and Utilization of Bamboo	SDTT, Mumbai	Nainital	Bhimtal
Feasibility Survey and Preparation of Detailed Project Report for Establishment of Improved Watermill Clusters	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	Almora	Dhauladevi, Lamgarah
Financial Literacy	NABARD/Uttarakhand Gramin Bank	Nainital	-
Formation of Farmer Club	NABARD	Almora	Tarikhet
Gender and State Climate Change Action Plans in India: Research and Policies to Enable Poor Women and Rural Communities Adapt to Climate Change	Alternative Future, New Delhi	Uttarakhand	
Improving Livelihood of Bamboo Dependent Communities and Enhancing Forest Conservation through Promotion of Bamboo Plantation in the Himalayas	Tata Social Welfare Trust, Mumbai	Nainital	Okhalkanda, Bhimatl
		Almora	Hawlbagh, Tarikhet
		Bageshwar	Garur, Kapot
Infusion of Appropriate Rural Technologies for Enhancing Off -Season and Protected Vegetable Cultivation	Cluster Development Fund - NABARD	Nainital	Okhalkanda
Integrated Watershed Management Programme (IWMP) Survey for DPR preparation	Agriculture Department, Nainital	Nainital	Haldwani, Bhimtal, Dhari

Project	Funder/Partner	State/ District	Development Block
Kailash Sacred Landscape Conservation and Development Initiative	International Centre for Integrated Mountain	Pithoragarh	Bin, Munakot, Kanalichinna
Livelihood Improvement of Tribal Community through Promotion of Appropriate Technologies in Rural Hills of Pithoragarh District - Under Tribal Development Funds	Tribal Development Fund - NABARD	Pithoragarh	Didihat, Kanalichina, Dharchula
SHG Formation and Linkages Programme	NABARD	Almora	Tarikhet
		Nainital	Okhalkanda, Dhari
Strengthening Rural Community Managed Natural Resource Institution (Van Panchayats) for Enhancing Rural Livelihood in Uttarakhand	Sir Dorabji Tata Trust (SDTT), Mumbai	Almora	Lamgarah
Strengthening Cooperative for Sustainable Management of Off Season Vegetable and Developing Effective Marketing Strategy	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	Nainital	Dhari



Note: The aforesaid list of projects during 2013-14 is in alphabetical order and does not represent any preference.

FINANCIAL SUMMARY 2013-14

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, 2014, 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; and
- 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)

Partner

Membership Nos 077858

Dated: 5th May, 2014

Place: Nainital

Balance sheet as at 31 March 2014

	31.3.2014	31.3.2013
Liabilities		
Corpus Fund	12,640,254	12,460,254
Reserve Fund	12,269,449	9,462,924
Accumulated Depreciation	6,893,504	6,959,163
Cost of assets met by donor agencies	1,721,104	1,347,140
Unspent grants	14,876,798	2,830,253
Sundry Creditors	1,643	13,575
	48,402,751	33,073,309
Assets		
Fixed Assets - Acquired from own funds	6,893,544	6,959,202
Fixed Assets - Acquired from own funds of donor agencies	1,721,139	1,347,156
Current Assests, Loans and Advances		
Cash in hand and deposits with banks	39,380,401	23,432,498
Loans and Advances	370,568	1,297,353
Security Deposit (endorsed In favour of Government Authorities)	37,100	37,100
	48,402,751	33,073,309

Signed on Behalf of CHEA

Chairman:

Secretary:

Executive Director:

Manager Accounts and Administration:



Receipts and Payments Accounts for the year ended as on 31st March 2014

Receipts

Balance as on 1st April 2013 2919532.56

Income
Received

Donations	1939309
Interest	2297495
Others	1527143
TDS Received	604987.00
Advances recovered/ adjusted	256836.00

Total **6625770.06**

Project Funding

Foreign Contribution	9353066.40
Trust/ Association's Grants received	13088429.89
Government	5823459.00

Total **28264955.29**

Grand Total **37810257.91**

Payments

Associations' Specific Purpose Reserve	650678.00
Fixed Deposits	4377766.66
Cash in bank	14489667.99

Total **19518112.65**

Project Funding

Foreign Contribution	6115728.00
Trust/ Association's Grants received	6984236.80
Government	3074896.46
Expenditures	2117284.00

Total **18292145.26**

Grand Total **37810257.91**

CHEA'S PARTICIPATION IN TRAINING/SEMINAR/WORKSHOP/MEETING

- International Conference on "Addressing Poverty and Vulnerability", organised by ICIMOD, 2-5 Dec., 2013, Kathmandu, Nepal.
- Workshop on "Consumption of fodder and fuel wood in hill of Uttarakhand" organized by Forest department, Uttarakhand, Feb., 2013, at GBPIHED, Kosi, Almora.
- Workshop on 'South Asian Environmental Leadership Collaboration on Knowledge Sharing among the ELP leaders and Regional Partners from Ganges-Brahmaputra-Meghna River Basin", organised by Environment Leadership Programme, University of California, Berkeley, 12-15 Aug., 2013, Kathmandu, Nepal.
- Synergos Senior Fellows Global Meeting, 22-27 April, 2013, Rio de Janeiro (Brazil).
- "KSLCDI regional Planning Meeting" organised by ICIMOD, Aug., 2013, Kathmandu, Nepal.
- National Workshop on "Himalayan Environment and Development – Issues and the way forward", organised by GBPIHED, Sept., 2013, Almora.
- Experience sharing workshop on "Role of ICT in Rural Empowerment" organised by RML and GIZ, Sept., 2013, India Habitat Centre, New-Delhi.
- Mentorship Programme under Kailash Sacred Landscape Conservation and Development Initiative 2012-2017 Visit to Germany and Neighboring Alpine Countries 17-27 Oct., 2013.
- "Forestry Research in Uttarakhand Vision 2025 - a road map workshop", Jan., 2014, Haldwani.
- Conference on "Revisiting Development Paradigms for Uttarakhand" organised by Indian Institute of Technology (IIT), Roorkee, Feb., 2014, Roorkee.
- "Scoping partnership with LEAD international, United Kingdom", Feb., 2014, New Delhi.
- "Towards Realizing Potential of REDD+ in South Asia", organised by Ministry of Environment and Forests, GoI and TERI, Feb., 2014 , New Delhi.
- "Meeting with Global Philanthropists Circle," organised by Nand & Jeet Khemka Foundation, Feb., 2014, New Delhi.
- "Nexus of biodiversity with food and nutritional security" organized by TERI - Luuis Dreyfus Foundation, 7 Feb., 2014, New Delhi.
- Training on Direct Training Skills, organised by Uttarakhand Academy of Administration, Nainital, Feb., 2014, Nainital.
- Innovations for Forest Resources Management (InFoRM)", USAID, 21 Feb., 2014, New Delhi.
- Workshop on "Role of Youth in Local Politics" organised by Friedrich Ebert Stiftung, New Delhi, March, 2014, Sitla, Nainital.
- "State Level Workshops on Community Radio", organised by Ministry of Information and Broadcasting, GoI and oneworld.net, March, 2014, Dehradun.



VISITORS AT CHEA AND ITS EVENTS/ FIELD OPERATIONS 2013-14

- **Mr. Abhay Gandhe,**
Senior Programme Officer, SDTT, Mumbai.
- **Ms. Adit Kapoor,**
Director, Alternative Futures, Delhi.
- **Mr. Aditi Bishonai and Mr. Anirudh Sah,**
Women Futures Science, New Delhi.
- **Dr. Anjuli Agrawal,**
Incharge, ARS, Majhera, GBP University of Agricultural and Technology, Pantnagar.
- **Ms. Bhawana Luthara,**
Director Programme and Operations, LEAD, India.
- **Ms. Chicu Lokgariwar,**
Content Editor, India Water Portal.
- **Ms Elizabeth Colebourne,**
Project Manager-Asia, CDKN: Climate and Development Knowledge Network.
- **Mr. Eng Seong Lim,**
HSBC Business Sponsor, Malaysia.
- **Dr. Eszter K Kovács,**
Department of Geography, University of Cambridge, UK.
- **Mr. Govind Singh Kunjwal,**
Hon'ble Speaker, Uttarakhand Legislative Assembly.
- **ICIMOD – KSL team,**
ICIMOD, Nepal led by Dr. Gopal S. Rawat, Dr. Rajan Kotru and Dr. Uma Pratap.
- **Ms. Janine Kuriger,**
Director of Cooperation- Climate Change and Development, Embassy of Switzerland.
- **Ms Jebi Rahman,**
Consultant, Corporate Partnerships, Arbores Associate, United Kingdom.
- **Mr. Kabir Seth,**
Friedrich-Ebert-Stiftung, India Office, New Delhi.
- **Mr. Kirtiman Awasthi,**
Team Leader and **Dr. Mustafa Khan,**
Indian Himalayas Climate Adaptation Programme (IHCP), Swiss Development Cooperation, New Delhi.
- **Mr. Manfred Seebauer,**
Chief Technical Advisor (CTA), Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nepal.
- **Mr. Nitin Sharma,**
Registrar, Public Service Tribunal, Uttarakhand.
- **Mr. Puneet and Mr. Zavine,**
Revivefabes Ltd. SP centre, Dehradun.
- **Dr. R.S. Bisht,**
Conservator Research, Forest Department, Government of Uttarakhand.
- **Dr. Rinki Sarkar,**
Inter Disciplinary Economist (Himalayan Studies), New Delhi.
- **Mr. S. Selvaraj,**
Chief General Manager, NABARD, Dehradun.
- **Mr. Subroto Roy,**
Senior Programme Officer, Regional Economic Development Programme, GIZ.
- **Mr. V.B.S. Negi,**
Senior Advocate, Utarakhand High Court.
- **Mr. Trevor Rees,**
Senior Consultant & **Ms Rachel Phillips**
LEAD International, London, UK.

Note: The aforesaid list of visitors to CHEA during 2013-14 is in alphabetical order and does not represent any preference while does not includes local administrative officials and public representatives.

PUBLICATIONS

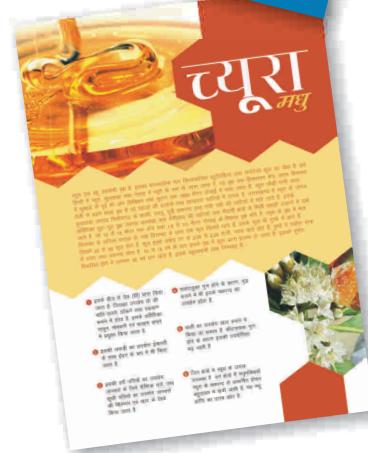


CHEA has undertaken a wide range of publication to capture field lessons, findings of various action researches and training manuals for capacity building of the rural communities.

1. **Books/ Booklets** - 37 The first publication "Environment Regeneration in Himalayas – Concepts and Strategies was made in 1985, edited by Prof. J. S. Singh, eminent ecologists, followed by series of publication on contemporary issues)
2. **Training manual** - 30 (covering various topics of Appropriate Technologies in Horticulture, Water Conservation and Harvesting, Animal Husbandry, Fodder Development, Irrigation Technologies, Pre and Post Harvesting, Beekeeping etc.)
3. **CHEA Bulletin Vol.** - 1 to 11

4. **Research Papers** - 31 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/publication.php



COUNCIL MEMBERS (2012-15)

CHAIRMAN:

Dr. T.S. Papola, Honorary Professor, Institute for Studies in Industrial Development (ISID), New Delhi

VICE CHAIRMAN:

Dr. G.L. Shah, Professor, Department of Geography, Kumaon University, Nainital

HONY. SECRETARY:

Dr. P.D. Pant, Professor Department of Geology, Kumaon University, Nainital

JT. SECRETARY:

Dr. (Ms.) Harshwanti, Principal, S.D.G.P.G. College, Dehradun

Dr. Ashish Tewari, Asst. Professor, Department of Forestry and Environment Science, Kumaon University, Nainital

COUNCILLOR:

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

Dr. P.P. Dhyani, Director, GBPIHED, Kosi-Katarmal (Almora)

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

Mrs. Sonali Bisht, Social Entrepreneur, Uttarakhand

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

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

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

CHEA TEAM

Anil Kanwal

Anil Kumar

Arjun Singh Dhami

Bhawana Joshi

Deepa Upadhyaya

Deewan Singh

Devendra Singh

Dhiraj Joshi

G.C. Joshi

Ganesh Lal

Govind Nagarkoti

Jagdesh Kandpal

Kanahyaya Upadhyaya

Kavindra Singh Bisht

Kundan Bisht

Manoj Adhikari

Mohan Bhatt

Narendra Singh

Naveen Joshi

Neema Rautela

P. S. Nagarkoti

Pallavi Tiwari

Pankaj Tewari, PhD

Pratap Dhaila, PhD

Pushkin Phartiyal, PhD

Rajendra Singh Dhaila

Satish Joshi

Surendra Bhandari

Suresh Badhani

Swati Bisht

Vijay Adhikari

Vikram

Vinita Verma

Yogesh Nagarkoti

RESEARCH ADVISORY COMMITTEE

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

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

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

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

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

Dr. Ashish Tewari, Asst. Professor, Department of Forestry and Environment Science, Kumaon 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

Ms. Bhawana Luthra, Director, Programme & Operation, Lead India, New Delhi

Dr. Rajeev Semwal, National Coordinator, Himalayan Division, MoEF, Gol

118 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

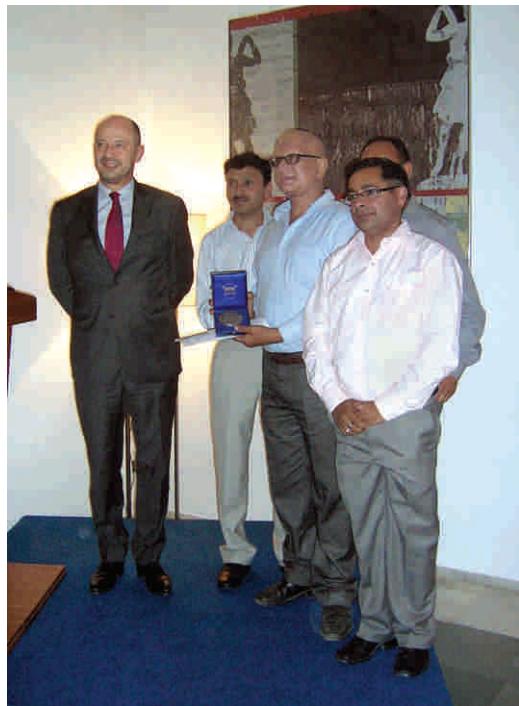
VOLUNTEERS /INTERNS

In all 45 volunteers/interns from following institutes:

Azim Premji University, Bangalore.
 Banaras Hindu University, Varanasi.
 Department of Environment Science, HNB Central University Srinagar, Garhwal.
 Department of Forest and Environment Science, Kumaon University, Nainital.
 Doon University, Dehradun.
 School of Agro International Development (ISTOM), France
 University of Delhi, New Delhi.
 WB National University of Judicial Science, Calcutta.

RURAL RESOURCE PERSONS

Agro forestry model and Assistance to Natural Regeneration (ANR)	19
Alternative energy promotion and infrastructure creation	08
Apiculture	19
Appropriate technology transfer (Horticulture)	40
Art and culture	14
Carbon forestry (Field investigators)	07
Community leaders	50
Livestock management	09
Market linkages & entrepreneurs	08
Nursery development of tree species	05
Strengthening of the Van Panchayats	30
Value addition of agro product	11
Water conservation techniques	10



SPECIAL MENTION OF THE HUMAN RIGHT PRIZE

On 7th June, 2013, Dr. Pushkin Phartiyal, Executive Director along with Dr. P Tewari, Mr. P.S. Nagarkoti and Mr. K.S. Bisht and in the presence of council member Mr. Sushil Ramola, Mr. Amba Jamir and distinguished guests received prize on behalf of CHEA at Embassy of France, New Delhi. In his address Dr. Phartiyal emphasize on the need of enhance capacities of community for using available natural resource in sustainable manner. His Excellency Mr. Richier in his opening remark underline the efforts of CHEA's at Central Himalayan Region. Mr. Naveen Chawla, Former Chief Election Commissioner, India; Mr. Stefan Helming, Country Director, GIZ-India, representatives of DIFD, UNDP, etc. also presented in the occasion and congratulate CHEA.



KEY PARTNERS/ FUNDERS (PAST AND PRESENT)

International

- Ashoka - Innovators for the Public, Arlington, USA
- Centre for International Forestry Research (CIFOR), Bogor, Indonesia
- International Centre for Integrated Mountain Development (ICIMOD), Nepal
- International Institute for Geo-Information Science and Earth Observation, (ITC), Enschede, the Netherlands
- Leadership for Environment and Development (LEAD), New Delhi
- South Asia Regional Initiative (SARI), USAID, New Delhi
- The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)
- The Ford Foundation
- The Synergos Institute, USA
- The Rufford Foundation, United Kingdom
- United Nation Environment Programme, South Korea
- University of Twentee, the Netherlands

National

- Agricultural Department, Govt. of Uttarakhand
- Aquamall Water Solution, Dehradun
- Bharat Ratna G.B. Pant High Altitude Zoo, Nainital
- Birla Institute of Applied Sciences, Nainital
- Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India
- Forest Department, Govt. of Uttarakhand and Uttar Pradesh
- G. B. Pant Institute of Himalayan Environment & Development, Almora
- Horticulture and Food Processing Department, Uttarakhand
- Indian Institute of Management (IIM), Lucknow
- Indian Institute of Technology (IIT), Roorkee, Uttarakhand
- Kumaun University, Nainital, Uttarakhand
- National Bank for Agricultural & Rural Development (NABARD), Uttarakhand
- Office of Development Commissioner Handicraft, Ministry of Textile, Gol, Almora
- Research Centre of Coldwater Fisheries, Nainital
- Shaporji Palonji Group, Mumbai
- Sir Dorabji Tata Trust, Mumbai
- Sir Ratan Tata Trust, Mumbai
- State Beekeeping Centre, Jeolikote, Nainital
- Tussar Research Centre, Nainital
- Uttarakhand Decentralized Watershed Development Programme, Govt. of Uttarakhand
- Uttarakhand Gramin Bank, Nainital
- Uttarakhand Livelihood Improvement Programme for Himalaya (ULIPH), Govt of Uttarakhand
- Uttarakhand Organic Commodity Board (UOCB), Dehradun
- Uttarakhand Renewable Energy Development Authority (UREDA)
- Tata Social Welfare Trust, Mumbai

DISCLOSURE

Governance

- All the members of the Governing Council are unrelated to each other by blood and/or marriage.
- The Executive Director is not related to any member of the Governing Council by blood and/or 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 Statutory Auditor appointed in the Annual General Meeting dated 09th November 2013.

Our Legal Status, Accreditation and MoU

- Central Himalayan Environment Association (CHEA) is a Society registered under the Indian Societies Registration Act of 1860. Registration No. 222/1982-83, dated 2nd October, 1982.
- Central Himalayan Environment Association (CHEA) is authorized to receive foreign contributions as per the 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 Forest and Environment Science, Kumaon University, Nainital for collaborated action research.
- CHEA has Memorandum of Understanding with G.B. Pant Institute of Himalayan Environment and Development, MoEF, Gol, Kosi-Katarmal, Almora for Lab-to-Land approach.
- CHEA is Founder Member of Himalayan River Alliance (HIRA), a South Asian Alliance for working on livelihood and environmental issues of Ganga and Brahmaputra River Basin.
- CHEA is Member of Mountain Partnership, Food and Agriculture Organization (FAO) of the United Nations.





REMEMBRANCE

CHEA suffered a twin blow this year as its first Chairman Shri A. D. Moddie IAS (Retd) passed away in January 2014, preceded by the sad demise of its founder member and second Chairman Shri. D. P. Joshi IFS (Retd) in July 2013. Both had contributed much to the nurturing and growth of CHEA.

Shri A. D. Moddie, after a brilliant academic career, joined the I.A.S in the Bihar cadre. He later moved to Hindustan Lever Ltd. and at the time of his retirement was a Director on its Board. At various point in his life he was Executive Vice President of the Associated Chambers of Commerce and Industry, and Member of the Planning Commission Task Force for Himalayan Eco-development. A noted mountaineer, he served as President of the Himalayan Club. He was a thinker of note, and, in 1981 the founding members of CHEA requested him to become its first Chairman, a duty he performed for a decade till 1991. He made notable contributions to the organisation during his tenure.

Shri D. P. Joshi joined the Indian Forest Service in the Uttar Pradesh cadre, and moved through various posts, eventually becoming the Chief Conservator of Forests (which at that time was the highest post in the U.P Forest Department.) He was born in Khyarda, Almora, he had his early education in the village, matriculation and intermediate from Almora. After that he was graduated and post graduated from Allahabad University. He was also the first Chairman of the U.P Forest Corporation. After "retirement" he remained as busy as a bee, contributing magnificently to innumerable and diverse organisations all of which benefited from his experience, knowledge and meticulous adherence to financial/audit norms. He was a founder member of CHEA, its first Vice –Chairman from 1981-1991, and its second Chairman from 1992-2006. Patience, tolerance, and an ability to work with all, were hallmarks of his personality, and to him CHEA owes the greatest debt of gratitude.





CENTRAL
HIMALAYAN
ENVIRONMENT
ASSOCIATION

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Mallital, Nainital, 263001
Uttarakhand, India

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t./f. 91 – 05942 233099
e. cheaindia@gmail.com
office@cheaindia.org

Design & realisation
Xpressions - 9219552563

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.