



37TH ANNUAL REPORT 2018-19

CHEA CENTRAL HIMALAYAN ENVIRONMENT ASSOCIATION



Central Himalayan Environment Association



Acknowledgement

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.

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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

THEMATIC GROUPS

- Climate Change, with special reference to Mountains and Adaptation Interventions for Mountain Region
- Rural Livelihood Initiatives in Mountain Regions for Reducing Rural Poverty
- Art, Culture and Handicrafts Promotion in Mountains
- Research and Documentation on the Mountains and the Regional Best Practices

OUR MISSION

Our mission is to integrate rural livelihoods and sustainable conservation practices to reduce the environmental, economic, and social vulnerabilities of the mountain people. In cooperation with regional and international partners, and working with the communities, we aim to develop and provide integrated and innovative solutions that guide policy change and inspire action to directly benefit the mountain people and their environments. The Himalayas are the principal home of glaciers and the source of water for over 1 billion people living in connected river basins. They are also extremely vulnerable to climate change. Thus, there is a critical need to guide development that incorporates and is compatible with the threat of a changing climate.

MANAGEMENT & MEMBERSHIP

CHEA stands with twelve members in the Council along with One Hundred and Fourteen Life Members and two Institutional Members.

CHAIR'S MESSAGE



Timberline and Altitudinal Gradient Ecology of Himalayas, and Human Use Sustenance in a Warming Climate"

I am pleased to share with you the 37th Annual Report of the Central Himalayan Environment Association (CHEA) relating to the financial year 2018-19. Besides giving an account of the activities and interventions of the Association during the year, the report also reflects on the journey of the organization since its inception in 1981.

During the year a new council of CHEA took charge of office for three years following the Memorandum of Constitution. I also take the opportunity to pay obeisance to the outgoing Chair Prof. S.P. Singh for his constant encouragement and long service to CHEA. To keep pace with emerging challenges for environment and development due to climate change and gradual transformation in the development sector, CHEA focused on an action plan for the coming years. Establishment of a Unit of CHEA in Dehradun is one of the steps in this direction. In the course of development intervention CHEA has been working at various levels i.e., action research, policy advocacy and livelihoods initiatives etc.

The multi-partner multi-institutional project "Timberline and Altitudinal Gradient Ecology of Himalayas, and Human Use Sustenance in a Warming Climate" is designed to create synergy between research and livelihood components. Villagers of Makku and Sari have initiated protected cultivation, mushroom cultivation and floriculture to enhance their income under the project through village level institutions. Various stockholders of Tungnath shrine had been brought on the common platform for establishing eco-friendly facilities for nature lovers and pilgrims. The endeavour of generating livelihood options for the rural community successfully turned local Amaranthus crop into Prasad in Jageshwar Dham Temple through collaboration with Women Self Help Groups in order to empower them. CHEA is continuously working through its various projects on climate resilient sustainable livelihoods for the rural communities residing in the hills of Uttarakhand. Strengthening the bio resource based interventions and Access Benefit Sharing has been piloted successfully which has immense scope for extension.

In the end, I would like to express my gratitude on behalf of the CHEA Council and its members to all the funding organizations, well wishers of CHEA and the village communities for their kind support which enables us to take up action-oriented activities in the field and also to make attempts to transform the learning for required policy interventions.

Best Wishes
P.P. Dhyani

A NOTE BY THE SECRETARY



Strengthening of ABS mechanism through development of Value Chain of Bio resources"

The year 2018-19 will be remembered for CHEA expanding in the state by establishing a new Unit at Dehradun to achieve the mandates of CHEA and to achieve more visibility in the context of outreaching among the diverse stakeholders. During the year CHEA was able to expand the field based action oriented community development programme in Tehri. The first ever project i.e. TIME-LEARN from DST has been initiated in two of the districts. This year the council elected for the next three years took office following the process outlined in CHEA's constitution.

In the year 2018-19, the concept of "Access Benefit Sharing (ABS)" has been initiated in practical terms through "Strengthening of ABS mechanism through development of Value Chain of Bio resources". The project villages and the associated bio-resources in Pithoragarh and Almora districts were selected and Biodiversity Management Committees (BMC) were formed. This has resulted in developing a positive environment for documenting the "Peoples' Biodiversity Register".

The flagship multi partner and multi institutional research project on "Timberline and Altitudinal Gradient Ecology of Himalayas, and Human Use Sustenance in a Warming Climate" supported by the Ministry of Environment, Forest & Climate Change (MoEFCC), GoI, under its National Mission of Himalayan Studies (NMHS) is progressing well. The special edition dedicated to research papers from Indian Himalayan Timberline Project has been published by the International Society for Tropical Ecology.

Study on Ecological Implications of Forest Fire Regime on Chir-Pine and Oak Pine mixed forests in Uttarakhand is under progress. CHEA is also a partner for the Erasmus+ Capacity Building in the Field of Higher Education project i.e. Capacity Building in Higher Education: Sustainable Natural Resource Use in Arctic and High Mountainous Areas (SUNRAISE), a new dimension to facilitate universities in curriculum development in the Himalayas.

CHEA has been able to attain these heights due to the continuous encouragement and support of the funding agencies, hill rural community, council members, life members, and its office bearers. I take this opportunity to thank the supporters and the entire CHEA family for their strong sense of commitment towards the organization and hope that in the future, too, CHEA will continue to benefit by their long standing experience.

Subrat Sharma
Hony. Secretary, CHEA



CLIMATE CHANGE

(WITH SPECIAL REFERENCE TO THE MOUNTAINS
AND ADAPTATION INTERVENTIONS FOR THE
MOUNTAIN REGION)

According to NASA's Goddard institute for Space Studies (GISS), New York, 2018 is the fourth warmest year in continued warming trend. It was 0.83 degrees Celsius warmer than the 1951 to 1980 mean. Since 1880s the average global surface temperature has risen about 1 degree Celsius. According to the Director of GISS Gavin Schmidt, the main driver of the warming is increased emissions of carbon dioxide and other greenhouse gases into the atmosphere which is basically caused by human activities. The UN's Intergovernmental Panel on Climate Change (IPCC) report released in October 2018 warned that global warming is occurring faster than anticipated earlier, and India will be among the worst hit countries. The floods in India, typhoon in the Philippines and fire events in Europe are associated

with climate change.

Wildfires are also associated with changing climate; however, warming is not single handedly responsible for any wildfire events but it is one of those drivers which are creating ideal conditions for frequent and more destructive wide-spread fire events. Forest fires in Uttarakhand are now more common and spreading to

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new areas as compared to earlier. The Eastern suburbs of Athens (Greece) had observed one of the most deadly wildfires in 2018, spreading to towns so fast that people were trapped in thick smoke; it ultimately claimed 91 lives. In Portugal and Spain also 66 people died due to wildfires.

The governments of the world are initiating various steps to cut down emission of carbon dioxide and greenhouses gases into the atmosphere and encouraging people to adopt green technologies. CHEA is also involved in preparing rural communities to mitigate the impact of climate change and to adopt appropriate technologies for minimising the impact of climate change in their lives. "Climate Change with special reference to the Mountain and Adaptation Interventions for the Mountain Region" is one of CHEA's Thematic Action Group under which various efforts for mitigation and adaptation, water conservation and harvesting technologies, demonstration and expansion, promotion of appropriate technologies have been initiated with the support of various organizations and funding agencies.

Himalayas are more vulnerable to this climate warming and the impact is now visible in most of the Himalayan region. In 2016, CHEA initiated a multi partners and multi institutes coordinated project "Timberline and Altitudinal Gradient Ecology of the Himalayas and Human use Sustenance in a Warming Climate" under the National Mission for Himalayan Studies of Ministry of Environment, Forest and Climate Change, GoI. The project is initiated with the objective to understand the impact of climate change on Himalayan ecology and on the communities residing in the region.

Forest fires are impacting both the environment and livelihood of the people residing in Uttarakhand state. Every year the number of fire incidents is increasing in various parts of the State and it is becoming more and more devastating in comparison to previous years. Considering the importance of the subject, in 2017 CHEA undertook a project to study the fire adaptational features of tree species as well as to strengthen community participation in preventing forest fires in the Himalayas, particularly in the Kumaun division of Uttarakhand state. The project is funded by the G.B.



**Increasing vegetation
can be a tool to mitigate
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of CO₂**

Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD), Kosi-Katarmal (Almora) under its Integrated Environment Research Programme (IERP). While the main objective of the project is to study the general morphological features to identify the adaptive features of the Himalayan species, it is also helping village communities and village forest councils in strengthening their capacities by creating awareness to prevent forest fires.



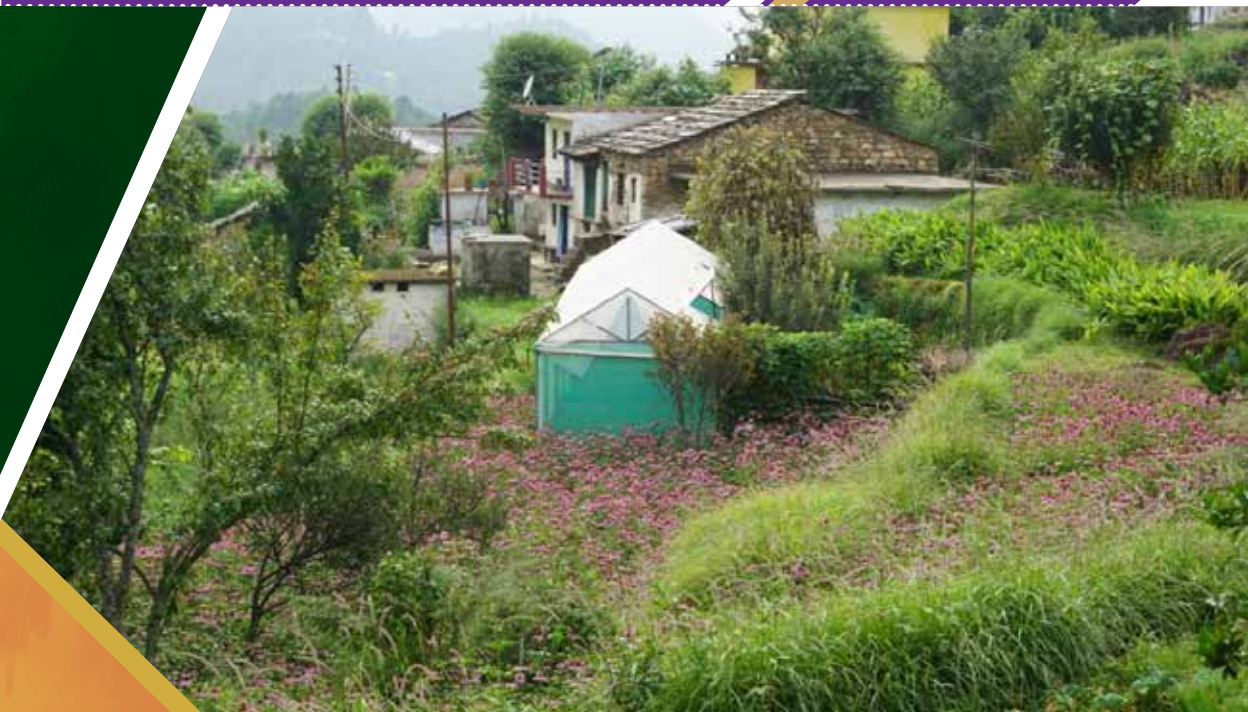
Mitigation Measures

An anthropogenic intervention to reduce the source or enhance the sinks of greenhouse gasses (IPCC 2001a) is the best way to counter climate change. Increasing vegetation can be a tool to mitigate climate change in the long run, and broad-leaved species are one of the best sequesters of CO₂. The project “Restoration of Himalayan Oak” has been initiated with the support of VNV Advisory, Bangalore. The project has been submitted for 500 ha of direct oak acorn sowing under the Gold Standard certification. However, the process of certification is in the final stage but as demonstration of DSS the area of 50 ha area has been covered in three Van Panchayats of Almora and Pithoragarh district with active participation of village women SHGs and Village Forest Council.

Water Conservation & Harvesting

According to the report of NITI Aayog, the situation is alarming and groundwater of twenty one Indian cities will completely run out by 2020, which will affect around 100 million people. The report further asserts that 40% of population of India will have no access to drinking water by 2030. In recently published Composite Water Index by the NITI Aayog, Uttarakhand got

second lowest index score after Meghalaya. This low performance involves low scores across almost all seven indicator themes. For reviving groundwater and checking run off rain water lots of integrated effort is, indeed, required, but any initiative at the local level also has its own significance. With the help of Department of Science and Technology, Ministry of Science and Technology, (GoI), CHEA has initiated the project which is basically for enhancing sustainable livelihood through livestock management, along with water conservation, by creating and reviving traditional Khal (micro reservoirs) and Khanti (contour trenches). In 11 Van Panchayats of Lamgara (Almora) and Dhari (Nainital) development blocks, about 215 micro reservoirs and 4265 contour trenches have been created which are covering around 4 ha of area. Since its creation, overall 2300 kl water has been harvested which will be valuable in recharging 39 springs and 124 naulas in the coming years and retention of moisture in and around these Khals and Khantis. This activity will benefit around 270 households by giving them easy access to water during dry stress. In addition, the maintenance of earlier created Khal and Khantis has been ensured in different areas. ■



RURAL LIVELIHOOD

INITIATIVES FOR REDUCING POVERTY IN THE MOUNTAIN REGIONS

The year 2030 is set as the deadline for achieving Sustainable Development Goals (SDGs); it is now almost three years since the United Nation flagship programme SDGs was launched. India is also committed to the agenda which covers all the economic, environmental and social aspects which deal with the wellbeing of society. Overall 17 goals are set which cover various aspects. By achieving these goals the world can be a harmonious place for living. No Poverty; Zero Hunger; Affordable and Clean Energy; Clean Water and Sanitation; Sustainable Consumption and Production, Life on Land are among the 17 Goal set under the SDG. Under its Thematic Action Group “Rural Livelihood Initiatives in Mountain Regions for Reducing Rural Poverty”, CHEA also addresses similar issues and is implementing

various projects for scaling up the livelihood opportunities of rural communities residing in the Indian Central Himalayan region in general and Uttarakhand in particular.

Sustainable use of the natural resources is the key for the communities residing in the hills of Uttarakhand as their daily life depends on the available natural resources. The whole course of uplifting of rural community depends on the synergy between people and nature and opportunity for adopting sustainable development model.

Chyura – A Kalpavriksha

The villages of Pancheshwar valley in Pithoragarh are also dependent on Chyura (*Diploknema butyracea*) tree as it provides them support for their daily needs and



Under its Thematic Action Group

“Rural Livelihood Initiatives in Mountain Regions for Reducing Rural Poverty”

also contributes to their livelihood. In this landscape, around 100 villages are involved in Chyura based livelihood activities since generations. The tree is also known as *Kalpavriksha* as it is a source of many useful substances and products i.e. seeds for oil, flower nectar for honey, minor timber, fuel wood, fodder for cattle and some of its parts are also known to be used for treatment and in pest control. In the villages of Pancheshwar Valley this tree is prominent in the rural economy and it is continuously becoming an asset to rural livelihood as several new uses of Chyura are being developed and explored for the future. In 2012 CHEA initiated exploring new uses of Chyura by developing a value chain of Chyura under “Kailash Sacred Landscape Conservation and Development Initiative (KSL-CDI)” project. Various initiatives have been undertaken since then and new partners are collaborating towards strengthening Chyura based activities and making it an asset for the villagers residing in the region. Chyura handmade soap has come up as one of the potential by-products which have

enormous potential to become an income-generating activity for the villagers. Pancheshwar Ghati Self Reliant Cooperative is involved in producing handmade soap under Kailash brand on demand from various customers, most prominent whom are Global Kingship Enterprise, New Delhi; Aajeevika and Souvenir shop of GBPNHESD. Mono floral honey of Chyura is also being promoted and publicised to gain premium price.

After considering the potential of Chyura and its significance in rural livelihoods, the district administration formed the Chyura Federation of Kumaun which is being facilitated by CHEA. Further, the Chief Development Officer of Pithoragarh in collaboration with CHEA took the initiative to register Chyura as a Geographical Indicator. The certification process has been initiated by the Chyura Federation of Kumaun, being lead by Chief Development Officer, Pithoragarh and NABARD.

CHEA is also associated with GIZ and Uttarakhand Biodiversity Board for developing Chyura as Access Benefit Sharing (ABS) potential bio resource under the project titled “Strengthening of ABS mechanism through development of Value Chain of Bio resources in identified districts of Kumaun (Almora, Pithoragarh), Uttarakhand”. Under the project, two Biodiversity Management Committees (BMC) have been formed (Jamrari and Bera) and one BMC (Khitoli) has been reconstituted. The capacities of these BMCs have been strengthened to work in close association with the villagers, local institutions that exist in villages to manage biodiversity as well as for analysing the potential of biodiversity for ABS. For availing benefits under the ABS, work has been initiated in all the BMCs for the preparation of Public Biodiversity Register (PBR). Now these BMCs are also thinking of taking up Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) with Pancheshwar Ghati Self Reliant Cooperative under the guidance of UBB.

Livestock Management

Livestock is an integral component of the rural sector in the mountain region of Uttarakhand and it provides livelihood for rural people. More than 70% households in Uttarakhand are engaged in animal husbandry. But the existing method of livestock management

is still traditional and cattle are indigenous and unproductive. The availability of quality fodders is inadequate, forcing local people to collect tree leaves for fodder. Being of low quality, tree leaves inhibit livestock growth and their collection increases the drudgery of women. Considering all the facts a project "Livelihood Improvement & Drudgery Reduction through Appropriate Livestock Technologies and Biomass Enhancement in Kumaun Himalayas" has

During the initial phase of the project, vaccination has been conducted among 1950 cattle along with 240 Artificial Inseminations to have improved cross breeds

been undertaken with support of the Department of Science and Technology, Ministry of Science and Technology, Govt. The project is going on in 20 villages of Dhari (Nainital) and Lamgara (Almora) development blocks. The overall objective of the project is to develop the grass and legume based fodder and in situ soil- water conservation system in community forests (Van Panchayats) and private lands for quality fodder production. Encouraging and demonstrating the appropriate management techniques for reducing fodder wastage is also being carried out among the selected households.

To fulfil the objectives of the project, emphasis has been given to promote nutritious fodder grasses by successful direct seed sowing in the vicinity of the trenches with 80% germination and 55% of survival. Improved fodder grass is the key to the promotion of livestock for commercial gains and also to supplement natural resource management in the area. Therefore, a reverse approach i.e. from forests to home was taken. 10 ha area has been covered in VPs and private lands by sowing of Rai (*Lolium perenne*) and Broom (*Bromus*



inermis) fodder. In addition SHGs member have also participated actively in protection and maintenance of the sites. 2 ha area at household level has been covered with African Tall Maize Variety and Jai (*Avena sativa*) as recommended by experts. Furthermore, to enhance milk production, promotion of feeding the cattle sprouted nutritious fodder among the selected beneficiaries has been demonstrated. Nine mangers have been constructed while six are under progress. Community members are now using the mangers regularly for feeding the cattle along with chaffing, soaking and mixing of fodder grasses. The activity has shown positive results in reducing the requirement of fodder to control wastage.

During the initial phase of the project, vaccination has been conducted among 1950 cattle along with 240 Artificial Inseminations (AI) to have improved cross breeds. The facility of vaccination was availed through veterinary department. BAIF is providing services towards AI in the area. However, the results of milk production from cross breeds is yet to be come but it has positively changed the mindset of community to follow the concept of lesser the cattle and lesser the drudgery. The success of AI (65%) is an indicator of acceptance of the concept among the community. The purpose is to ensure additional income from the dairy sector in future for diversifying the option of income and to have better livelihood.

Farm-based Livelihoods

Off season vegetable cultivation has enormous potential to boost the rural economy of Uttarakhand

**Various government and
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vegetables in the
hills of Uttarakhand**







188 revenue villages under 87 Gram Panchayats in Dhauladevi development block of Almora district were selected for the Integrated Watershed Development project

state. Various government and non government organization are making an endeavour in this direction to increase the area under off season vegetables in the hills of Uttarakhand. Acknowledging the importance of generating livelihood opportunities in the higher Himalayan region the component of livelihood as sub project has been also included in the NMHS supported multi partner multi intuitional coordinate project. In Makku and Sari villages of Rudraprayag district, 44 cost effective polyhouses have been installed. Beside 6.5 ha area has been converted into high value crop cultivation for enhancing the income of 175 families.

80 families in Makku and Sari in Rudraprayag under NMHS project and in Jageshwar cluster of Dhauladevi, Almora under GRAMYA II project are involved in Marigold cultivation in an area of 3.7 ha for ensuring additional income in local market from this initiative. During the last two years, about INR 7.5 lakhs has been earned by the villagers by selling these flowers in nearby temples and markets. The purpose of initiating floriculture with Marigold is that it is easy to cultivate with little technical knowhow and the farmers can be easily convinced for adopting it. Besides the crop has more shelf life and is hardy with the potential to grow almost throughout the year. This activity also provides an opportunity for local communities/FIGs to have direct income by adopting the intervention.

Off Farm Livelihoods

In the Jageshwar Dham temple area, the common

Prasad available was being procured from Mandis and other markets that are common in almost every temple complex in the state and even in the country. The District Administration took initiative for developing the *Prasad* using local commodities as a pilot through the Temple Committee. The idea was further taken up by CHEA under GRAMYA II to expand the concept through FIGs. *Amaranthus* (Ramdana) *Prasad* was launched in July 2018 and since then in 9 months the women group involved in the *Prasad* production has net profit of 64,000/- thus fetching additional income to the group and also popularising the local product in temple complex as well as developing the capacities of women group to lead in this sector.

Mushroom cultivation has been promoted in Makku and Sari villages and in village Jajruli of Pithoragarh district as a pilot with encouraging results and acceptance by the community. Since introduction a total of 180 kgs of mushroom have been harvested and generated about INR 45,000/- by sale in the nearby market. It is also important to mention that the Oyster mushroom has been introduced as it fetches a better price and can be sold after dehydration.

Promotion of Agribusiness

In 2017, with the support of Watershed Management Directorate, Dehradun, CHEA initiated technical support for value addition and marketing of agriculture products. CHEA has been entrusted as Agribusiness Support Organization (ABSO) under GRAMYA II in Almora

division.

188 revenue villages (RV) under 87 Gram Panchayats (GP) in Dhauladevi development block of Almora district were selected for the Integrated Watershed Development project. While selecting the revenue villages it has been ensured that the villages should have equal representation from the entire Almora division. Out of these selected 188 revenue villages, 100 revenue villages under 50 gram panchayats were taken on priority for agribusiness programme.

Since then, 121 Farmer Interest Groups (FIGs) has been formed which have 1645 members with 30% women. These FIGs are operational and actively involved in various activities with special focus on agro based interventions for enhancing the productivity and quality, and its aggregation for collective marketing. In addition, the FNGO is involved in strengthening of 66 Vulnerable Groups (390 members) by specifically facilitating value addition and nonfarm activities. Two cooperatives have been registered under Self Reliant Cooperative Act, 2003 as umbrella institutes to support the village level institutions i.e., FIGs. The groups are linked with banks and have saving of INR 22,80,483/- by FIGs and INR 2,34,155/- by the cooperatives, respectively, leading to hopes of sustainability in the coming years.

For promoting the value chains, to enhance the quality and quantity of different products, Value addition, Processing, Branding, Packaging, Marketing as well for skill development, the construction of a multi facility centre i.e., Agribusiness Growth Centre (ABGC) has been under progress in Dhauladevi development block.

Certified Seed Production

For promoting climate resilient crops and to take advantage of traditional farming in the rainfed area, a programme for seed production of millets, pulses and grains has been initiated under GRAMYA II in selected villages of Almora. At present around 295.28 qtls of certified seed of Finger millet, Barnyard millet, Amaranthus, Horse gram, Paddy, Wheat, Mustard and Lentil have been produced by 39 farmers. Initial results are encouraging and indicate a bright prospect for the FIGs and cooperatives to create a sustainable marketing system. At present the certified seed is

being expanded to different divisions of GRAMYA II, ILSP and to an extent in the Agriculture Department. However, continuous support from technical agencies, buyers and government agencies is required for producers so as to strengthen their capacities for handholding and to have assured markets in future. Continuous efforts are being made to create infrastructural facilities and improvising the certification process and encouraging the cooperative members to create a sustainable model of certified seed production by farmers and to link with state agriculture department for assured market Gramyashree brand.

Institutional Building

Collective participation of the community is one of the keys for the success of any programme and project implemented at the grass root level. If it is in the form of any grass root level institution such as Self Help Group (SHG), Farmer Interest Group (FIG), Cooperative, etc., then the sustainability of such programme or project can be increased many fold. 33 SHGs, 55 JLG, 121 FIGs, 4 Cooperatives (farmer federations) have been formed and strengthened to ensure the sustainability of the various projects implemented by CHEA.

However, only forming these institutions cannot serve the purpose as these grass root level institutions require lots of efforts to strengthen their capacities for decision making, project execution and for channelizing effective backward and forward linkages. It can be ensured by achieving altitudinal change among the communities towards their livelihood option, transfer of appropriate technologies, etc. Considering this fact regular meetings and monitoring has been made mandatory for all community groups. A number of training programmes for capacity and confidence building have been conducted. For such training programmes demand driven approach by conducting Training Need Assessment has been followed. The capacity building programmes have been organized to provide an insight about the opportunities of livelihood in and around their village, skill upgradation, etc. All the village level institutions are well functional and also willing to contribute in establishing efficient backward and forward linkages. ■



ART, CULTURE AND HANDICRAFTS

PROMOTION IN THE MOUNTAINS

Nature Based Agro & Cultural Heritage Tourism Development

The contribution of service sector, including tourism industry, in GSDP of Uttarakhand was just over 50% during Financial Year 2012. The contribution of tourism sector in overall economy is significant. Various schemes and policies have been launched by the Uttarakhand Government to encourage tourism in the state. Village or heritage tourism is one of the schemes and policies which, if tapped efficiently to its utmost potential, will change the economy of the hill regions of Uttarakhand significantly.

Nature based Agro, Cultural and Natural Heritage Tourism (responsible tourism with focus on agro based diversity) has been identified as an important option with ample potential to become a sustainable model

of livelihood by creating opportunities for youths on the one hand and to reduce the negative impact on biodiversity of the region. For piloting the concept, under GRMAYA II, in Almora and in Pithoragarh with support of NMHS-SBB under a project titled "Mainstreaming landscape approach for biodiversity conservation, improved livelihoods and ecosystem health in Kailash Sacred Landscape part of India" has been taken. Under

**The villages are rich
in terms of diverse and niche agro
crops, natural, cultural, spiritual
and sacred values**

the initiative three villages i.e., Jageshwar, Kunjagunth and Dhaspad in Jageshwar Dham complex (Almora), three in Gangolihaat i.e., Rawalgaon, Uprara and Jajut and one village Baram in Dharchula have been identified for developing village stay because of the heritage and natural values they offer.

It is proposed to develop home stays in these villages for piloting and also attempting to create new avenue of income generation based on village potential of agro based activities, nature trails and cultural uniqueness. The villages are rich in terms of diverse and niche agro crops, natural, cultural, spiritual and sacred values. This provides significant opportunities for communities to get involved in Nature Based Agro and Cultural Heritage Tourism industry. The pilot villages, offer a variety of the opportunities for tourism development like nature based tourism, agro based village tourism and heritage tourism. Nature based tourism has been identified as the most suitable segment in order to generate livelihood to the local community as these villages have a unique scenic beauty and enormous agro and natural diversity. Efforts are also being made from the beginning to link the initiatives with the tourism department of the respective districts.



Bamboo Handicrafts of Uttarakhand

Bamboo and ringal are gifts to artisans of the Himalayan region to compliment their livelihood. Generally the artisans associated with bamboo craft of Uttarakhand state belongs to socially and economically deprived backward communities. The art is gradually declining as the younger generation of artisans are not interested in the craft due to the hardships involved in the craft and poor returns, as well as depletion in raw material availability. However, CHEA is encouraging artisans to adopt new technologies and appropriate sustainable model by conducting training and marketing linkages to revive the craft under its various projects. During 2018 under the GRMAYA II project in Dhauladevi development block of Almora, artisans of village Dauligar have been trained to create small and decorative items such as flower vases, lamps, dustbins, jewellery boxes, etc. For the marketing of these items one Memorandum of Understanding (MoU) has been signed between Jageshwar Dham temple committee and Artisan Group for purchase of items up to 1 lakhs annually. The response from the temple committee was positive which encouraged artisans to open an outlet in the roadhead of the village. During 2018 the overall sale value of the bamboo items was INR 1,94,835 /-. Apart from this, under NMHS supported Indian Himalayan Timberline Project, an artisan group of 5 members from Makku village have developed their skills through regular training and are now creating diverse crafts. In all income of INR 76,000 has been generated by the group and they are now more confident about gaining better returns from the activity in future. ■





RESEARCH AND DOCUMENTATION

ON THE MOUNTAINS AND THE BEST REGIONAL PRACTICES

Timberline and Altitudinal Gradient Ecology of Himalayas and Human Use Sustenance in a Warming Climate

In October 2015 Ministry of Environment, Forest and Climate Change, Government of India launched the ambitious programme i.e. National Mission for Himalayan Studies to address the key issues relating to conservation and sustainable management of natural resources of the Indian Himalayan Region. Under the mission, in 2016 CHEA was chosen for coordinating a multi site and multi institutional project "Timberline and Altitudinal Gradient Ecology of Himalayas and Human Use Sustenance in a Warming Climate". The project has 10 experts as Principal Investigators (PIs) from six institutes/organisations i.e. G.B Pant National Institute of Himalayan Environment and Sustainable Development

(GBPNIHESD), University of Kashmir, Kumaun University, Wildlife Institute of India (WII), Birbal Sahni Institute of Paleobotany (BSIP) and Central Himalayan Environment Association (CHEA).

The main objectives of the project are (i) to characterize and map timberline zones in the Indian Himalayan Region (IHR) using satellite and ground based observations including smart phone applications, (ii) to determine the temperature lapse rate and pattern of precipitation along altitudinal gradients in different precipitation regimes across the IHR, (iii) to study plant diversity, community structure, tree diameter changes and natural recruitment patterns along the three principal sites in the IHR, (iv) to understand tree phenological responses, nutrient conservation strategies and tree-water relations in response to

warming climate, (v) to study the relationship between tree ring growth and past climatic changes in different climate regimes across IHR, (vi) to understand the impact of depletion of snow-melt water on growth of tree seedlings, grasslands species composition and selected functional processes, and (vii) to promote participatory action research (Citizen Science) on innovative intervention to improve livelihoods, women participation in conservation and management of timberline resources.

The project consists of 6 components i.e., (i) Timberline Mapping, (ii) Temperature Lapse Rate (TLR) and Precipitation Gradient, (iii) Vegetation and species diversity along elevational gradient, (iv) Phenology, (v) Tree Water Relations, and (vi) Livelihood Intervention.

During the period of three years, 21 research scholars under 10 PIs worked hard to fulfil the

objectives of the project. The data collected was shared through poster presentations of each component and several presentations were made at different platforms to share the findings. A special issue of Tropical Ecology is being devoted to the studies conducted under this project and 14 research papers were published and further shared for wider dissemination.

This necessitates holding more workshops to share information and develop synthesis; accordingly the various research groups met on International Mountain Day at INSA, New Delhi and in a specific event at Sikkim. These meetings were focused on poster and oral presentations taking more inputs from research scholars who collected data from fields and understanding comparative similarities and references among the study sites along the Himalayan arc.

In most of the components the targets have not only been achieved, but exceeded. One of the major limitations of this project is that the field work time was very short, even though the project team tried to prolong it by trying to collect samples in early spring and autumn in difficult situations. For sharing the learnings and research output and to benefit the diverse stakeholders an interpretation centre has been established at Dehradun. Considering the fact, the extension proposal has been submitted for further two years to explore further the research and development possibilities. .

A special issue of Tropical Ecology is being devoted to the studies conducted under this project and 14 research papers were published and further shared for wider dissemination

Fire Adaptation Features of Important Tree Species of Himalayas and Strengthening Community Participation in Preventing Forest Fire

Recognizing fire as an important factor in shaping land based ecosystems and regulating the species composition of vegetation, the study targeted the understanding of forest vegetation patterns along with the adaptive traits adopted by plant species to adapt themselves against fire, in a representative altitudinal range of 1000-2300 m asl in Nainital, Uttarakhand.

The project sites for research are located in Nainital district of Kumaun Himalayas and lie between 1000-1800 m elevations. The sites were thoroughly surveyed and selected in three different forest types *Pinus roxburghii-Quercus leucotrichophora* (Pine-oak); *Pinus roxburghii* Sarg (Pure-pine) and *Shorea robusta-Pinus*





To understand the impact of fire on under storey vegetation, vegetation analysis of under storey vegetation was done in pre-fire and post fire seasons

roxburghii (Sal-pine) forests on the basis of the fire history of the sites. Mostly the south and south west aspects experienced the fire situation in the selected sites while the northern slopes were less affected by fires during the summers.

To understand the impact of fire on under storey vegetation, vegetation analysis of under storey vegetation was done in pre-fire and post fire seasons. This vegetation data was quantitatively analysed for density and frequency. Detailed studies and field visits have been conducted to document and analyze the



adaptive traits of major tree species in different studied forest types. Research is in midstream and based on the analysis of some adaptive traits such as bark thickness, self-pruning, etc. from field data generated sets it is revealed that *P. roxburghii*, and *S. robusta* have adaptational features against fire.

Strengthening of ABS mechanism through development of Value Chain of Bio resources

The Biological Diversity Act, 2002, an Act for preservation of biological diversity in India, provides mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge. The Act was enacted to meet the obligations under Convention on Biological Diversity (CBD), to which India is a party.

Strengthening the implementation of policy, legislative and administrative measures for biodiversity conservation and management is part of the National Biodiversity Action Plan. But so far, very few of the Access Benefit Sharing (ABS) agreements have resulted in benefit sharing with local communities. For the ABS to meet the biodiversity conservation

objectives, fair and equitable sharing of benefits need to incentivize local stewardship for biodiversity conservation.

Considering ABS as an important issue, the Gol and GIZ has jointly launched a project dedicated to conservation and sustainable use of bio-resources in India under the Indo German Biodiversity Programme. The overall goal of the project is to form the Biodiversity Management Committees (BMCs) and strengthen the capacities of BMCs in the selected villages of two district of Kumaun, and user groups for the effective implementation of ABS mechanism under the Biological Diversity Act 2002 and Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014, in keeping with India's commitments under the Nagoya Protocol on ABS.

The project area is located in two districts namely Almora and Pithoragarh in Kumaun Division of

Considering ABS as an important issue, the Gol and GIZ has jointly launched a project dedicated to conservation and sustainable use of bio-resources in India under the

Indo German Biodiversity Programme



Uttarakhand. In all 3 Gram Panchayats in Pithoragarh district i.e. Khotoli, Jamrari and Bera has been selected for formation and strengthening of BMC and piloting of potential Chyura, Amla and Reetha based Value Chain and Gram Panchayat Dhaspad and Doram have been selected in Almora for piloting of potential Tulsi, *Eachnecea perpurea*, Comfrey and Tejpatra Value Chain along with formation and strengthening of BMC.

In all 5 BMCs have been formed and linked with banks by opening bank accounts. Detail value chain of selected bio resources was conducted in all 5 villages. Developing People's Biodiversity Register (PBR) is one of the major works of BMC. It is also essential to get benefits under Access Benefit and Sharing (ABS). Therefore, the process of developing PBR has been initiated in the project villages. The formation of PBR will lead to the establishment of Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) between the various companies, industries and traders that are involved or interested in particular bio resources.

2019 Environment Awareness Campaign -Swachhta Pakhwada

The activities were focused in Nainital with the objective to sustain the cleanliness mission in the Lake City for keeping it clean and green. To encourage the various efforts in and around Nainital a group of youths "EK Pahal Ek Soch" was facilitated by providing them basic cleaning utilities such as gloves, masks, sanitizers, sticks, bags etc. during





celebrating Swachhta Pakhwada in May 2018.

During the Swachhta Pakhwada various programmes of cleanliness and awareness have been organised in project villages of CHEA.

Capacity Building in Higher Education: Sustainable Natural Resource Use in Arctic and High Mountainous Areas (SUNRAISE)

The project aims to promote sustainable management of Arctic and high mountainous ecosystems in Bhutan, India and Russia through enhanced tertiary education linked to labour markets and wider stakeholder circles. This project is initiated by Erasmus+ Capacity Building in the Field of Higher Education project with the objective to revise and upgrade higher education programs (Under Graduation, Post Graduation and Doctorate) to make them end-user-oriented & policy-relevant, and enhance opportunities for lifelong learning (LLL) education. The project has 11 partners represented by 9 Universities and 2 NGOs from Europe and Asia. In India CHEA is one of the partners along with Jawaharlal Nehru University, Delhi and Kumaun University, Nainital. The

major activity entrusted to CHEA is to work in close association with Universities for developing the new curriculum with focus on hot topics that have direct connection with the communities in the mountains. Capacity development and sustainability is also an integral part of the project along with dissemination of learning and outcomes.

During this period a number of workshops were organized to create better understanding among the academicians and practitioners with focus on field based facts discussion and views of diverse experts in the context of mountains and their sustainable development through incorporation in studies and training manuals. In addition, 16 consultation workshops have been organized in a cluster of villages in 4 districts of Uttarakhand with various communities, in order to acquire in-depth information about the studies required and support needed from the researchers and students in different sectors i.e. Agriculture, Climate Change, Natural Resource Management, Water resources, Wild life damage, Technologies for reducing labour cost, Organic farming, Marketing of niche products, institution building, etc. ■

PROJECT 2018-19

Project	Funder/Partner	State/District	Development Block
Fire Adaptation Features of Important Tree Species of Himalayas and Strengthening Community Participation in Preventing Forest Fire	GB Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD), Kosi-Katarmal, Almora under its Integrated Eco-development Research Programme (IERP)	Uttarakhand	-
Kailash Sacred Landscape Conservation and Development Initiative Phase II	International Centre for Integrated Mountain Development (ICIMOD)	Pithoragarh	Bin
Livelihood Improvement & Drudgery Reduction through Appropriate Livestock Technologies and Biomass Enhancement in Kumaun Himalayas	Department of Science and Technology (Seed Division), Ministry of Science & Technology, GoI	Almora	Lamgara
		Nainital	Dhari
Mainstreaming landscape approach for Biodiversity Conservation, Improved Livelihoods and Ecosystem Health in Indian part of Kailash Sacred Landscape)	NMHS-SBB Coordinated project State Bio-diversity Board	Pithoragarh	Dharchula, Gangolihat, Bin
Restoration of Himalayan Oak	VNV Advisory, Bangalore	Almora,	Lamgara
		Pithoragarh	Bin
Strengthening of ABS mechanism through development of Value Chain of Bio resources	The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)	Almora, Pithoragarh	-
SUNRAISE - Sustainable Natural Resource Use in Arctic and High Mountainous Areas.	University of Bremen, Germany and Erasmus+ programme of the European Union	Indian Himalayan Region	-
Timberline and Altitudinal Gradient Ecology of Himalayas, and Human Use Sustainance in a Warming Climate	GBPNIHESD under National Mission for Himalayan Studies (MoEFFCC)	Pan Himalaya	-
Uttarakhand Decentralized Watershed Development Project (GRAMYA – II)	Watershed Management Directorate, Dehradun	Almora	Dhauladevi
		Nainital	Dhari
Uttarakhand Forest Resource Management Project (UFRMP)	Uttarakhand Forest Department under JICA	Tehri Garhwal	Bhilangana, Jakhnidhar

Note: The aforesaid list of projects during 2018-19 is in alphabetical order and does not represent any preference.

FINANCIAL SUMMARY 2018-19

INDEPENDENT AUDITOR'S REPORT

To Governing Council of Central Himalayan Environment Association

Opinion

We have audited the Balance sheet, Income and Expenditure Account, and Receipts and Payment Account of , Central Himalayan Environment Association for the year ended on 31 March 2019

In our opinion, the accompanying said financial statement give a true and fair view of the financial position and the financial performance for the year then ended in accordance with the Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI).

Basis for Opinion

We conducted our audit in accordance with the Standards on Auditing (SAs) issued by ICAI. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the entity in accordance with the Code of Ethics issued by ICAI and we have fulfilled our other ethical responsibilities in accordance with the Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance and cash flows of the entity in accordance with the accounting principles generally accepted in India. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error. In preparing the financial statements, management is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so. Those charged with governance are responsible for overseeing the entity's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about the entity's presentation and fair representation of the financial statements and that the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements the entity's presentation and fair representation of the financial statements

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and

appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances..
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion.

Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit. We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

For Manish Khanna& Co.

Chartered Accountants

Firm Registration Number : 008584C

Manish Khanna, FCA. DISA(ICA)

Partner Membership Nos 077858

Place: Nainital

Dated:

BALANCE SHEET AS ON 31ST MARCH 2019

Accounts

Central Himalayan Environment Association

Balance Sheet as on 31st March 2019

Liabilities	Current Year (RS)	Previous Year (RS)
Corpus Fund	1,36,12,819	1,36,00,268
Reserve Fund	77,72,033	2,15,91,348
Capital Reserves (assets funded by donor agencies)	51,55,582	45,77,933
Unspent grants	1,33,09,936	1,60,31,634
Sundry Creditors	4,24,902	6,01,731
Accumulated Depreciation	2,53,55,641	95,41,594
Total	6,56,30,913	6,59,44,507

Assets

Fixed Assets - Acquired from own funds	2,53,55,714	95,41,664
Fixed Assets - Acquired from funds of donor agencies	51,55,737	45,78,064

(Note : Assets are stated at cost. Please refer significant accounting policy on accounting of fixed assets)

Current Assets ,Loans and Advances

Grant Receivable	275208	333800
Deposits with banks	2,11,59,608	3,48,09,628
Interest receivable	22,55,285	35,93,060
Advances including income tax recoverable	1,13,79,361	1,30,28,292
Security Deposit (endorsed in favour of Government Authorities)	50,000	60,000
	6,56,30,913	6,59,44,507

Signed on Behalf of CHEA

Chairman :

Secretary:

Executive Director :

Manager Accounts and Administration :

CENTRAL HIMALAYAN ENVIORNMENT ASSOCIATION (CHEA)

RECEIPTS AND PAYMENTS ACCOUNTS FOR THE YEAR ENDED AS ON 31ST MARCH 2019

Recipts

Opening balance in bank 63,66,224.19

Income

Received

Interest 37,03,238.00

Implementation charges for executing grant 4,62,139.00

Other income 4,098.00

Total 41,69,475.00

Project Funding

Foreign Contribution Grants 23,97,958.59

Government Grants 1,90,60,359.74

Other Non foreign Contribution & Non government Grants 70,000.00

Total 2,15,28,318.33

Operational Receipts

1,50,83,439.5

Grand Total

4,71,47,457.02

Payments

Expenses met from Specific Reserves 1,58,12,250.00

Investment in short term fixed deposit with banks -

Advances made -

Security Paid -

Income tax deducted at source 6,83,074.00

Total 1,64,95,324.00

Project Funding

Foreign Contribution Grants 19,48,748.00

Government Grants 2,23,86,494.44

Other Non foreign Contribution & Non government Grants 70,000.00

Expenditure 8,26,240.60

Total 2,52,31,483.04

Closing balance

Cash in bank 54,57,638.98

Grand Total

4,71,84,446.02

CENTRAL HIMALAYAN ENVIRONMENT ASSOCIATION, NAINITAL

SCHEDULE NO. 4: ANNEXURE TO BALANCE SHEET - UNSPENT GRANT -IN -AID FOR THE YEAR ENDED 31 MARCH 2019

S#	Name of grant	Opening Balance 01.04.2018	Amount received during current year	Amount spent during current year	Closing Balance 31.3.2019
Preservation of environment (including watershed and Forest)					
1	Fire adaptation features of important tress species of Himalayans and strengthening community participation in preventing forest fire funded by IERP, GBPNIHESD	1,02,521.00	3,16,275.00	3,98,134.00	20,662.00
2	"Improving livelihood of bamboo dependent communities in the mountains through promotion of bamboo plantation and appropriate techniques" by UGVs-ILSP	57,685.00	-	57,685.00	-
3	Sustainable Natural Resource use in Arctic and high Mountainous area by SUNRAISE	(46,096.30)	10,96,950.59	4,47,707.00	6,03,147.29
4	Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI) funded by ICIMOD	3,67,501.03	12,878.00	-	3,80,379.03
5	Strengthening of ABS mechanism through development of Value Chain of Bio resources in identified Districts of Kumaon (Almora, Pithoragarh) Uttarakhand by GIZ	-	6,38,130.00	8,51,041.00	(2,12,911.00)
6	Conservation of natural resources through policy dialogues and trans-boundary agreements in the Hindu Kush Himalaya by GBPNIHESD	-	6,50,000.00	6,50,000.00	-
7	Mainstreaming Landscape approach for Biodiversity Conservation, Improved Livelihoods and ecosystem health in Indian part of Kailash Sacred Landscape funded SBB-NMHS	-	10,24,354.00	8,63,941.00	1,60,413.00
8	Description of Area for Oak Acorn Sowing by VNV	-	70,000.00	70,000.00	-
9	Patterns of changes in forest vegetation along environmental gradients in the Himalayas. By INSA	-	4,60,000.00	4,60,000.00	-

CENTRAL HIMALAYAN ENVIRONMENT ASSOCIATION, NAINITAL

SCHEDULE NO. 4: ANNEXURE TO BALANCE SHEET - UNSPENT GRANT -IN -AID FOR THE YEAR ENDED 31 MARCH 2019

S#	Name of grant	Opening Balance 01.04.2018	Amount received during current year	Amount spent during current year	Closing Balance 31.3.2019
10	Strengthening Van Panchayats with respect to Biodiversity Conservation and Rural Livelihood Improvement in the Western Himalayas for DMU- Tehri Dam-I, Forest Division, Tehri	-	-	62,297.00	(62,297.00)
11	Timberline and Altitudinal Gradient Ecology of Himalayas, and Human Use Sustenance in Warming Climate by GBPNIHESD	1,43,89,724.42	1,41,52,761.00	1,66,38,958.78	1,19,03,526.64
12	Uttarakhand Decentralized Watershed Development Project by Almora Division funded by UPWDP	21,314.84	30,80,184.74	30,68,098.00	33,401.58
13	Livelihood improvement and drudgery reduction through appropriate livestock technologies and biomass enhancement in Kumoun Himalayas by DST	11,38,984.30	26,785.00	9,57,362.66	2,08,406.64
Total		1,60,31,634.29	2,15,28,318.33	2,45,25,224.44	1,30,34,728.18

ABBREVIATIONS & NOTES

- | | | | |
|---|--|---|---|
| a | GBPNIHESD means G.B. Pant National Institute of Himalayan Environment & Sustainable Development, Kosi Katarmal, Almora | g | VNV means Value Network Venture Advisory services LLP, Bangalore |
| b | UGVS-ILSP Means Uttarakhand Grameen Vikas Samiti- Integrated Livelihood Supportw Project, Uttarakhand | h | INSA means Indian National Science Technology, Bahadur Shah Zafar Marg, New Delhi-110002 |
| c | SUNRAISE, Universität Bremen Bibliothekstr-128359 Bremen | i | Uttarakhand Diversity Watershed Development Project, GRAMYA-II, Karbla, Almora |
| d | ICIMOD is International Centre for Integrated Mountain Development, Nepal | j | DST means Department of Science of Technology, New Delhi |
| e | GIZ Office, New Delhi, B 5/1 Safdarjung Enclave , New, Delhi- 110029 | k | Uttarakhand Forest Resource Management Project (JICA Project), 24, I.T. Park, dehradun , Uttarakhand. |
| f | SBB-NMHS Means State Biodiversity Board, NMHS, Dehradun | l | Excess grant spent Rs.4/- from CHEA SI no. 11 |
| | | m | Interest Included in SI. No 1,4,5,6,7 and 8 |

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 - 39 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 - 31 (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 – 45 published in various peer reviewed journals and accepted in national and international workshops/ seminars
5. Event and workshop reports -15
6. Case Studies on Climate Change Adaptation, rural livelihoods, art handicraft and culture -16

The aforesaid publications are available on request and details of most of them are available on www.cheaindia.org/publication.php

COUNCIL MEMBERS (2018-19)

Chair:

Dr. P. P. Dhyani, Vice Chancellor, SGRR University, Dehradun & Formerly Director, Govind Ballabh Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD), Kosi Katarmal, Almora.

Vice Chair:

Mr. Anup Sah, (Padam Shree) Horticulturist & Nature Photographer, Nainital.

Secretary:

Dr. Subrat Sharma, Scientist, GBPNIHESD, Kosi Katarmal, Almora.

Jt. Secretary:

Prof. Uma Malkania, Professor Environmental Science & Ex-Dean CBSP, G. B. Pant Agri & Tech University, Pantnagar.

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

Councillor:

Mr. Sushil Bahuguna, Output Editor, NDTV, Delhi

Dr. Deepak Bhatt, Registrar, Sri. Dev Suman Uttarakhand Vishwavidyalaya, Badshahithaul, Tehri Garhwal, Uttarakhand.

Prof. S.P.S. Mehta, Professor, Department of Chemistry, Kumaun University.

Dr. B.R. Pant, Associate Professor, Geography Department, MBPG College, Haldwani.

Dr. R.S. Rawal, Director, GBPNIHESD, Kosi-Katarmal, Almora.

Dr. S. P. Sati, Registrar, Uttarakhand University of Horticulture and Forestry, Bharsar, Uttarakhand.

Prof. G.L. Shah, Retired Professor, Department of Geography, DSB Campus, Kumaun University.

RESEARCH ADVISORY BOARD

Chairperson:

Dr. P. P. Dhyani, Vice Chancellor, SGRR University, Dehradun & Formerly Director, GBPNIHESD, Kosi Katarmal, Almora..

Member:

Prof. S.C. Garkoti, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi.

Dr. Harish Karnatak, Scientist/Engineer - SF, Indian Institute of Remote Sensing (IIRS), Dehradun.

Prof. Uma Melkania, Dean, College of Basic Sciences & Humanities, G.B. Pant University of Agriculture & Technology, Pantnagar, (CHEA's council representative).

Prof. Jeet Ram, Head, Department of Forestry & Environmental Science, Kumaun University, Nainital.

Dr. R.S. Rawal, Director, GBPNIHESD, Kosi-Katarmal, Almora.

Dr. Gopal Rawat, Dean of Academics, Wildlife Institute of India (WII), Dehradun.

Advisor:

Dr. Eklabya Sharma, FNA, Director Programme Operations, International Centre for Integrated Mountain Development (ICIMOD), Nepal.

Prof. R.S. Tripathi, FNA, Emeritus Scientist, National Botanical Research Institute (NBRI), Lucknow.

Special Invitee

Prof. S.P. Singh, FNA, Formerly Vice Chancellor, H.N.B. Garhwal University.

CHEA TEAM

- Akansha Joshi
- Amit Mittal, PhD
- Anil Kanwal
- Deepa Upadhyaya
- Devendra Singh
- Dhiraj Joshi
- Dharendra Joshi
- Ganesh Lal
- Girish Chandra Joshi
- Krishna Kumar Tamta
- Kundan Bisht
- Manoj Negi
- Mohan Bhatt
- Mohit Malkani
- Narendra Singh
- Naveen Bisht
- Naveen Joshi
- Neema Rautela
- P. S. Nagarkoti
- Pankaj Tewari, PhD
- Pratap Dhaila, PhD
- Ram Singh
- Ramesh Chandra Pandey
- Ripu Daman Singh
- Satish Joshi
- Surendra Bhandari
- Surabhi Gumber
- Vinita Verma

114 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.

RURAL RESOURCE PERSONS

25 Agro forestry model
and Assistance to
Natural Regeneration
(ANR)

09 Alternative energy
promotion and
infrastructure creation

21 Apiculture

45 Appropriate
technology transfer
(Horticulture)

24 Art and culture

09 Carbon forestry
(Field investigators)

75 Community
leaders

19 Livestock
management

08 Market linkages &
entrepreneurs

07 Nursery
development of
tree species

36 Strengthening of the
Van Panchayats

13 Value addition of
agro product

15 Water
conservation
techniques

08 Off farm
interventions

04 Tourism

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

- Partners Synergy Meeting **“Mainstreaming Landscape Approach for Biodiversity Conservation, Improving Livelihood and Ecosystem Health in KSL Area”** under NMHS. Organized by SBB, Dehradun. April, 2018, SBB Seminar Hall, Dehradun.
- Summit on **“Climate Resilient Mountain Agriculture”**. Organized by Watershed Management Directorate, Uttarakhand in collaboration with ICFRE, Dehradun. 2-4th May, 2018, ICFRE, Dehradun.
- Workshop **“Closing the Gap between Teaching and Ground Realities in High Mountains”**. Organized by Kumaun University, Nainital under SUNRAISE programme. 21st May, 2018, Conference Hall, The Hermitage, Kumaun University, Nainital
- Workshop on **“Gender and Organization Development: Building Enabling Environment for Gender-Responsive Development”**. Organized by ICIMOD, Nepal with support of SIDCA. 30-31st May, 2018, ICIMOD, Kathmandu, Nepal.
- Workshop on **“Review and Planning for Watershed and Agribusiness Promotion”**. Organized by WMD, Dehradun. 11th July, 2018, Conference Hall, WMD, Dehradun.
- Brainstorming Workshop on Policy Forum on **“Indian Himalayan Timberline and Transboundary Landscape Cooperation in the Himalaya”**. Organized by GBPNIHESD, Kosi Katarmal. 9th-11th September, Conference Hall, GBPNIHESD, Kosi-Katarmal, Almora.
- Consultation on **“Agribusiness Promotion and Multi facility Infrastructure Concept”** with Principal Secretary Uttarakhand State. Organized by WMD, Dehradun. 25th October, 2018, Conference Hall, WMD, Dehradun.
- International Consultative Workshop on **“Bridging Boundaries: Strengthening Regional Cooperation across Transboundary Landscapes and River Basins”** Organized by ICIMOD, Nepal. 15th-16th November, 2018, ICIMOD, Kathmandu, Nepal.
- Workshop on **“Group Monitoring Workshop (GMW) of DST's Technology Intervention for Mountain Eco-Systems: Livelihood Enhancement and Action Research through Networking (TIME-LEARN) Program”**. Organized by Himalayan Research Group (HRG), Shimla in collaboration with HESCO & WII. 3rd-4th December, 2018, CPRI, Shimla, HP.
- Workshop cum Brainstorming on **“Himalaya Matters for Ecological & Economic Security”**. Organized by GBPNIHESD, CHEA and IUCN-CEM. 11th-13th December, 2018, INSA, Delhi.
- Expert Consultation Workshop on **“Good Practices of Access and Benefit Sharing”** under ABS Partnership Project of GIZ. Organized by GIZ, Delhi and NBA, Chennai. 7th February, 2019, NBA, Conference Hall, Chennai.
- Workshop on **“Himalayan Timberline and Prospects of Conservation & Development in Sikkim Himalaya”**. Organized by Regional Centre, GBPNIHESD, Sikkim. 18th-20th February, 2019, Gangtok, Sikkim.
- Workshop on **“GEF-UNDP Secure Himalaya”**. Organized by GEF-UNDP. 27th February, 2019, Manthan Hall, Forest Headquarters, Dehradun.

DISCLOSURE

Governance

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

Our Statutory Auditor

Manish Khanna, FCA, DISA (ICA)

Our Legal Status, Accreditation and MoU

Central Himalayan Environment Association (CHEA) is 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, Kumaun University, Nainital for collaborated action research.

CHEA has Memorandum of Understanding with G.B. Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD), MoEFCC, 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.

CHEA is Member of Global Alliance for Climate-Smart Agriculture (Facilitation unit based at FAO).

CHAIR OF CHEA



Late Shri A. D. Moddie
(1982-1988)
Formerly ICS & Founder
Member of ICIMOD



Late Shri D.P. Joshi
(1988-2006)
Formerly PCCF, UP



Prof. A.K. Pant
(2006-2009)
Formerly Director, Birla Institute
of Applied Sciences



Late Dr. R.S. Tolia
(2009-2013)
Formerly Chief Secretary
& Chief Information
Commissioner, Uttarakhand



Late Prof. T.S. Papola
(2013-2015)
Formerly Chairman, 14th
Finance Commission,
Uttarakhand



Prof. S.P. Singh
(2015-2018)
Formerly VC, HNB Garhwal
University, Srinagar



Dr. P.P. Dhyani
(2018- continue)
Vice Chancellor, SGRR
University, Dehradun
& Formerly Director,
GBPNIHESD, Kosi
Katarmal, Almora.



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