

29th Annual Report

2010-2011



Central Himalayan Environment Association

Acknowledgement

CHEA is grateful to the communities residing in the project areas. Without their support and encouragement the achievements of various projects would not have been possible.

We would also like to evince our deep gratitude to the funding agencies resources organisations, government departments, ministries, partner NGOs and numerous friends who give us generous support and encouragement

Message from the Chairman

Dear Members, Readers and Supporters of CHEA,

I have great pleasure in presenting this **29th Annual Report of CHEA**, for the financial year 2010-11. In my last years Message I have already explained to you the various changes which have been brought about in the presentation of the Annual Report as well as the strategic stance of our organization.

As we approach three decades of our service to this region and its people we have tried to re-orient both the initiatives that we would take and their very directions.

As I write this second Message of mine to you I can not but feel satisfied that on the 21st and 22nd May 2011 we are on the thresh hold of organizing an event which might be a mile stone in times to come; bringing on a Single Development Forum all the Himalayan and Mountain States of India, Regional Mountain entities like the International Centre of Integrated Mountain Development (ICIMOD), The Energy Research Institute (TERI), the Govind Ballabh Pant Institute of Himalayan Environment and Development (GBPHIED), the Uttarakhand Bio-diversity Board, Uttarakhand Council of Science & Technology (UCOST) and various other institutions of excellence related to mountain development. In the history of Mountain Development in India, at least I am not aware of any such convergence of individuals and institutions, who could be almost termed as the Who's Who of the Indian Mountain development.

The Indian Mountain Initiative, the IMI, and the Sustainable Mountain Development (SMD) Summits being conducted therein should warm the heart of any mountain lover, mountain-well wisher worth his salt. By the way, in doing so we are only trying to implement , with our small resources and help of friends, what the Task Force constituted by the Planning Commission of India has already recommended, as it main recommendation. As this Annual Report is also being distributed to all the participants of this historic Summit of Indian Mountain States, let me recapitulate what CHEA has done so far, by way of bringing all 11 Indian Mountain States together, on a single Himalayan Development Forum:

1. It has brought out and distributed widely a Monograph - **The Indian Mountain Initiative, An Indian Initiative bringing Mountain Concerns Centre-stage**, setting out a brief history of Mountain Agenda, as it was set out at the Rio Earth Summit in 1992, Chapter 13 of Agenda 21;
2. A two-days **Sustainable Mountain Development Summit** is being organized at CHEA headquarters, being first in the series, with four well defined Themes related to the Indian Mountains, and

3. It has been resolved by CHEA Council that **a two-fold strategy** is to be followed to accomplish the unfinished charter of the Mountain Agenda by : (i) holding of **Thematic Summits at Naini Tal, on a few selected Themes periodically**, at least once in a year, and (ii) encouraging establishment of various **Thematic Networks** spread all over the 11 Indian Mountain States, on various mountain Themes and Concerns. This two - fold strategy has been adopted with a view that any unduly long time gap between two consecutive all-India Summits should not be allowed to dampen the momentum gained by the Mountain Agenda in India.

The 12th Five Year Plan (2012 - 2017) and Rio +20

In order that CHEA does things differently than any other organization in the region and country would expect it to fix its vision at the macro-level and ensure that the Global Mountain Agenda gets embedded into action in the field, up in the high-lands of the Indian sub-continent. For Thinking Global and Acting Local, an organization will have to have its head and hands full of activities, which activates head and hands in a highly synchronized manner. In a vast country like India, with 11 Mountain States out of a total of 28, to give a practical shape to it will take nothing short of a truly Himalayan dimensions. Is CHEA's Council and staff ready to shoulder such responsibilities ?

The obvious answer lies perhaps in the negative but the response to be positive will have have a strong commitment on the part of its Council and Life Members, along with the staff. As the Charter of CHEA never thought on the scale, as is being presently being discussed in this page, the administrative structure of CHEA will also have to have a major make-over. The present human resource, let us admit it, is not likely to measure up to the task under discussion. However, at least in Uttarakhand, we have human resource, who are more than willing to meet the academic expectations and requirements. The obvious answer lies in out-sourcing and developing a very strong Net-work of individuals and institutions. The second stream of strategy has been kept there, yet to be fully activated, just to address that want. The requirements of preparing suggestions and proposals for the large number of Working Groups which will be set up in various Ministries of the Government of India, and subsequently at the State level of each of the 11 Indian Mountain States, needs to be looked at as an immediate opportunity knocking at the doors of CHEA and other institutions working for one Mountain Theme or the other. Some major institutions working in the Indian Himalayas, e.g. various Universities, R&D institutions and NGOs are attending this Summit. Now, it is for them to seriously look at what needs to be done about it and could be done at the shortest possible time. Government of India, its various Ministries and the 11 Indian Mountain States ought to look at this Summit, and te future Summits, as the mechanism which ought to be strengthened to address the present wants of planning for the Indian Himalayas,

or the Mountain regions. One is sorry to say that while an all out effort was made by CHEA to invite the Ministries of DONER, Science & Technology, Tourism, MoEF and others the response has been less than enthusiastic. As there exists no Mountain Agenda in India, and perhaps no Ministry for Development of the Mountain regions, such efforts as this Sustainable Mountain Development Summits are not taken with the seriousness as any other sectoral Summit would perhaps have received. This is precisely the point the IMI and SMD Summits are going to champion and promote in their all future endeavors. Presently the Mountain Agenda is no one 's Agenda. This is a serious situation.

This brings me to the other event which is just round the corner and immediately connected with all the 11 Indian Mountain States. ICIMOD has pro-actively taken due note of the forthcoming twentieth anniversary of the Rio Earth Summit, the Chapter 13 of the Agenda 21. Council Members and participants must immediately get involved in these preparations and contribute towards the preparations. As Chairman CHEA we have already suggested three Case Studies to ICIMOD for inclusion in the Status Report or Assessment Report which may get prepared, namely on Organic Farming, Medicinal and Aromatic Plants and the Community Forestry. I hope the proceedings of the fourth Theme of this Summit would go towards making of the Case Study on Community Forestry. The other two have also been assigned to two competent individuals, Ms Binita Shah, of UOCB and Dr B.S. Burfal, of UBio-diversity Board, both attending this Summit hosted by CHEA.

Our Annual Report contains all that we have been doing and I hope my Message would be helpful in motivating all Councilors and Members into making CHEA more relevant for the Mountain Agenda.

I look forward to all Councilors and Life Members getting more involved, more productive and more innovative and thank them for the time and efforts they and the staff under Prof PD Pant and Dr Pushkin have put in in providing an Office and various activities.

R. S. Tolia, Ph.D.

Chairperson, CHEA

A Note by the Executive Director

It is a pleasure to share with you the Annual Report for the Financial Year 2010-11 having account of the activities undertaken by Central Himalayan Environment Association.

With three decades years experience in designing and implementing innovative community based sustainable development programmes in the Central region of Kumaun, CHEA now aims to place greater emphasis on action oriented initiatives for conserving the mountain environments and the cultural heritage for improving the livelihood opportunities of mountain people.

There are major threats to biodiversity and environment in the region from various conflicts over resource management and the manner in which development is taking place. Lack of environment-oriented regional planning and appropriate policy instruments to regulate unplanned development and provide incentives for sustainable practices are leading to imbalance in development. CHEA has resolved to concentrate and consolidate its initiatives and interventions under the following four Themes:

- I. Climate Change, with specific reference to Mountains and Adaptation Activities for Mountain regions;
- II. Rural Livelihood Initiatives in mountain regions for mitigating Rural Poverty;
- III. Art, Culture and Handicrafts promotion in mountains; and
- IV. Documentation on the Mountains and the Regional Best Practices

CHEA has pioneered in introducing village level grassroots institutions through its action research. It is a key priority to us to capture lessons from field learning for policy advocacy as well as field test of policies created with specific reference to mountain regions. Accordingly, now there has been a clear focus on the policy advocacy by the recently launched Indian Mountain Initiative (IMI). In May 2011 a major activity of Sustainable Mountain Development Summit under IMI is planned. The response from well wishers of CHEA so far is overwhelming and envisages developing new and efficient partnership with the institutions, organisations and people to extend our networks through this effort.

The field based action research has been in core of our heart and way of functioning. To work on the livelihoods based management of natural resources we are now strengthening our outreach to the Van Panchayats in an efficient

manner. CHEA attempts to empower the communities to link community forestry and carbon sequestration in Indian Himalaya and undertake policy advocacy to ensure strengthening of VPs, empowering local environmental governance, enhance their technical competence to manage forest resources sustainably, keeping in view of changing regional and global conditions, including climate change. The activities undertaken by us so far on mainstreaming the community carbon forestry has confirmed the scope of its up-scaling to a larger geographical area in Uttarakhand state and offering the solution to other states in the Himalayan region. The successful interventions envisaged would yield result for sustainable development and biodiversity conservation of the Himalayan forests regarded as a major ecosystem service provider to more than 500 million people residing downstream.

I look forward for your comments and suggestion. Please feel free to reach us through email to cheaindia@gmail.com, office@cheaindia.org or visiting our new office housed in historic Waldorf Building in the lake city.

I wish to take this opportunity to thank the partner organisation, who have gone beyond from making financial resources available and extended significant support to CHEA. The Sir Dorabji Tata Trust under the guidance of Mr. Abhay Gandhe conducted a comprehensive audit of the organisation, both financial and management practices, followed by extensive field visits during the reporting year. This exercise gave us insight on the need of documentation of management practices and develops our capacities for enhanced efficiency. The GIZ-RED represented by Mr. Subroto Roy, ICIMOD through Dr. Uma Pratap, NABARD through their District Development Managers/AGMs in Nainital, Almora and Pithoragarh districts, Himmothan-SRTT, UDWDP represented by Dr. S. K. Upadhyay and Aajivika (ULIPH) gave their valuable guidance, professional and personal support to our activities and out reach to marginalised communities. With their constant support CHEA was able to achieve its action research in the identified thematic areas. Our thanks are due to all of them and well wishers of CHEA.

Nainital

Pushkin Phartiyal, PhD
Executive Director, CHEA

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1. The Organization

"In the 21st century humankind will increasingly depend on mountain resources such as water, bio-diversity, and recreation." **Arnold Koller**

The Central Himalayan Environment Association, CHEA in short, was founded on October 2, 1981, on a day which has special significance for India, being the birth-day of the Father of the Nation, Mohandas Karamchand Gandhi. The society was registered soon afterwards in May, 1982. Arguably CHEA is one of the earliest societies founded in Northern India which had *'the environment and the livelihood of the people in the Himalayas'* as its core concern.

Much water has flown in the great Himalayan rivers and the Indian Himalayas have since been 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 of increasing pressure on natural resource for rural livelihoods CHEA has developed strategies for strengthening grassroots environmental governance and undertaking action research.

Prominence

A) Environment

- Creating a foundation to help Himalayan village communities to protect and enrich their environment and to contribute to addressing regional and global issues by exploring all positive linkages between environmental conservation and economic growth.
- Identifying the biophysical and socio-economic factors that contribute to ecological deterioration of the Central Himalayan Region, and to help minimise the impact of soil erosion, water runoff, floods, landslides and the loss of natural resources essential for development.

- Undertaking integrated studies of eco-development problems and of natural resource potentials, e.g. water, forests, minerals, wildlife, medicinal plants, aquatic life, soil, etc.

B) Human Resources Development

- Empowering local communities to address their needs and responsibilities emphatically.
- Improving local skills and knowledge to enhance community income generation activities and living standards.
- Training local communities to redress the environment e.g. carbon sequestration for community's profit.
- Providing progressive alternatives for the youth for channelising their energies in productive ways, thereby ensuring an investment in our future.
- Applying participatory methods to restore the self-sustained system by optimum utilization of traditional wisdom and knowledge of village communities of the Central Himalayan Region of India

C) Livelihood and sustainable development

- Addressing basic human needs to support capacity building of communities by economic stability.
- Ensuring an active participation of women in sustainable development and livelihood initiatives.
- Promoting healthy ecosystems and a more sustainable productivity with nutrients, water and energy and for a better quality of life.

D) Infrastructure development

- Extending services with an emphasis on marginalized groups to help communities deliver environmentally sound infrastructure services (e.g. community managed low-cost goods ropeways) and building a local capability for an efficient operation and maintenance of the services.

E) Social development

- Promoting human rights, democratic development and good governance with particular emphasis on the rights of weaker sections of hill society; promoting democracy and better governance by an efficient and strengthened Panchayati Raj System and to strengthen the components of civil society such as a community based organisation.

F) Research and Development

- Land use, demographic planning, biophysical and socio-economic studies for engineering projects and development needs.
- Providing consultancy services for projects related to eco-development and the optimum use of natural resources.
- Establishing a data bank on the Central Himalayan environment, with storage and retrieval systems to support an integrated approach for planning and economic and ecological regeneration.
- Establishing a library specialising on environmental sciences.
- Monitoring of natural hazards.
- Training of workers in environmental interdisciplinary pursuits relevant to the needs of the region by organising refresher and short term courses and seminars to facilitate environmental scientists, planners and decision makers; and conducting Ph. D. courses in environmental sciences.
- To institute and award fellowships, scholarships and studentships in accordance with the rules.

Modus operandi

Collaborative and action oriented studies, project planning and implementation, institution and capacity building, networking, information dissipation and communication, running environmental awareness programmes including training, promotion of dialogues between village communities and developmental agencies including the government.

Vision

Prosperous, self reliant and secure mountain communities committed to peace, equity and environmentally sound sustainable development.

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.

Management and membership

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

2. Thematic Action Group

2.1. Climate change, with special reference to Mountain and Adaptation Activities for Mountain Regions

2.1.1 Biomass inventory (Kyoto: Think Global Act Local Project)

Carbon dioxide is accumulating in the ambient air at an overwhelming rate of 3.5 billion metric tones per year (Singh et. al. 2004) as a consequence of fossil fuel combustion and tropical deforestation. The accumulation of CO₂ and other green houses gases in the atmosphere has already begun to cause some unique changes in climatic conditions.

The local communities depend on forests for their day-to-day needs of fodder, fuel wood and leaf litter. However, because of their poverty, people need more of an economic incentive to become interested in forest conservation. Hills communities of Uttarakhand play pivotal role in the preservation of the forest wealth of the nascent state by their traditional practices and self-imposed rules, under Van Panchayats or Community managed forests. However not all VPs are in a healthy condition. They need the requisite economic incentive to pay attention to forest conservation.

Earlier the multinational project Koyto: Think Global, Act Local undertaken by the CHEA with the financial support of International Center for Integrated Mountain Development (ICIMOD), Nepal, tried to develop a case for the inclusion of community forests under Kyoto Protocol. However, after the completion of the project CHEA has decided to continue the process of generating biomass inventory data for each year after 2009 for all the project's VP forests.

The biomass and carbon data of all the previous studied forest has been presented in the following tables 1 & 2. The mean carbon sequestration rate in the year 2010-11 was close to 1.89 t c ha⁻¹ yr⁻¹ across the studied Van Panchayat forest. However, it varied widely from 0.65 to 4.32 t ha⁻¹ yr⁻¹ in different starata's.

Table 1: Variations in total biomass of trees (above and below ground) across the studied VP's and a private forest. The values are in t ha⁻¹. Yr₁ =Year 1, Yr₂ =Year 2, Yr₃ =Year 3, Yr₄ =Year 4, Yr₅ =Year 5, Yr₆ =Year 6, and Yr₇= Year 7 and Yr₈ = Year 8

* Sites not included in the 1st year of project.

VP and Forest stratum	Total biomass (t ha ⁻¹)							
	Yr ₁	Yr ₂	Yr ₃	Yr ₄	Yr ₅	Yr ₆	Yr ₇	Yr ₈
Dhaili VP forest								
Evenaged banj oak forest	343.95	353.18	359.55	367.00	369.87	376.96	384.8	388.25
Direct mixed banj oak forest	509.00	518.86	527.56	536.21	547.16	557.55	570.2	574.72
Mixed banj oak with chir pine	40.93	43.55	46.40	48.01	50.38	52.52	55.68	57.76
Toli VP forest								
Young banj oak with chir pine forest	313.85	322.53	330.60	337.60	347.35	355.61	365.98	372.24
Chir pine with busy banj oak	121.04	124.10	132.33	134.27	138.15	140.66	142.76	144.36
Young pure chir pine forest	138.44	148.05	156.74	162.71	168.55	174.51	178.86	181.64
Guna VP forest								
Young pure chir pine forest	NA*	20.64	28.10	31.79	35.80	39.57	43.39	45.73
Mixed banj oak forest	NA*	308.10	317.85	326.13	334.97	343.07	352.46	357.2
Private forest								
Mixed kail pine forest	NA*	347.14	356.16	360.22	362.46	367.15	368.86	370.16
Asota Protected forest								
Mixed banj oak forest	NA*	NA*	NA*	NA*	323.01	332.81	340.86	349.51

Table B: Variations in carbon stock in different forest types of studied VPs including a private forest and their mean C-sequestration rates. The values are in t ha⁻¹. Yr₁ =Year 1, Yr₂ =Year 2, Yr₃ =Year 3, Yr₄ =Year 4, Yr₅ =Year 5, Yr₆ = Year 6, and Yr₇= Year 7 and Yr₈ = Year 8

VP and Forest stratum	Carbon mass (t ha ¹)								C-sequestration (Yr ₈ -Yr ₇) tha ¹ yr ¹
	Yr ₁	Yr ₂	Yr ₃	Yr ₄	Yr ₅	Yr ₆	Yr ₇	Yr ₈	
Dhaili VP forest									
Evenaged banj oak forest	171.97	176.59	179.78	183.50	184.94	188.48	192.38	194.12	1.74
Direct mixed banj oak forest	254.69	259.43	263.78	268.11	273.58	278.77	285.10	287.36	2.26
Mixed banj oak with chir pine	20.47	21.77	23.20	24.00	25.19	26.26	27.84	28.88	1.04
Toli VP forest									
Young banj oak with chir pine forest	156.93	161.27	165.30	168.80	173.68	177.81	182.99	186.12	3.13
Chir pine with busy banj oak	60.52	64.05	66.17	67.14	69.07	70.33	71.38	72.18	0.8
Young pure chir pine forest	69.22	74.02	78.37	81.36	84.27	87.26	89.43	90.82	1.39
Guna VP forest									
Young pure chir pine forest	NA*	10.32	14.05	15.89	17.90	19.79	21.69	22.86	1.17
Mixed banj oak forest	NA*	154.05	158.92	163.06	167.48	171.54	176.23	178.60	2.37
Private forest									
Mixed kail pine forest	NA*	173.57	178.08	180.11	181.23	183.57	184.43	185.08	0.65
Asota Protected forest									
Mixed banj oak forest	NA*	NA*	NA*	NA*	161.50	166.40	170.43	174.75	4.32

CHEA GLIMPSES

Projects Activities



Trench digging to control soil erosion in Van Panchayat (VP)



Inspecting growth of plantation in Van Panchayat



Assistance to natural regeneration (ANR): increasing the vegetative cover



Plantation of Lemon grass: promotion of aromatic species in VPs



Student participating in plantation: Environmental Day celebration at Langarah



Technical facilitation by expert before plantation of MAP species

CHEA GLIMPSES

Project Activities



Air layering in Kaphal (*Mynica nagi*) tree: a method of vegetative propagation



Forest plants nursery: ensuring supply of healthy planting stock



Creation of micro reservoirs (MRs) in Van Panchayats: natural method of water restoration



Water stored in MRs: rejuvenating natural spring in down hills



Construction of bio gas plant: alternative source of energy for domestic use



Ferro cement tank: transferring appropriate technology

CHEA has been undertaking the research ahead and way further with the community members being trained during the project period and developed as field investigators and including the activity in its ongoing SDTT funded project "Strengthening Rural Community Managed Natural Resource Institutions (Van Panchayats) for Enhancing Livelihood in Uttarakhand" by including 12 more VPs of the Lamagara development block for biomass and carbon studies.

2.1.2 Training Programme on Environmental Issues

Two days Environmental training programme on Climate Change was organized on 18th and 19th November, 2010 at Hotel Vikram Vintage, Nainital. In all 60 participants from different regions and sectors of the country participated in the programme. Training covered various aspects of environmental concerns i.e. An overview of Himalaya's Relevance for the Region/Country and World and Climate Change and Adaptation. Dr. R.S. Tolia, Chairman CHEA and Former Chief Secretary, Uttarakhand; Prof. S.P. Singh, FNA, Advisor Planning Commission, Uttarakhand government and Prof Ajay Rawat, Prominent Environmentalist were the key speakers for the event. Lectures on environmental issues were followed by conducting tour to Bhimtal to have insight of local flora and fauna.

2.2. Rural Livelihood Initiatives in Mountain Regions for Mitigating Rural Poverty

2.2.1 Strengthening Rural Community Managed Natural Resource Institutions (Van Panchayats) for Enhancing Rural Livelihood in Uttarakhand

Improving marginal community's access to natural resources from VPs to fulfil their basic needs of fodder, fuel and water has been a key challenge in mountainous regions, such as Uttarakhand state. Further sustaining the existing resources is also vital for the sustainability. To respond to these challenges, it is prerequisite to strengthen the community based mechanism of natural resource management with specific attention to women by adopting participatory approaches.

However, the livelihood options of the poor and marginalized farmers are shrinking due to the enforcement of forest conservation laws. Environmental damage caused by water and soil pollution, land degradation, deforestation and desertification affects millions of people. The direct human and economic costs are extremely hard to quantify but it has been established that the degradation of

the environment has a detrimental impact on poverty. This often results into unsustainable exploitation of the natural resources by poor. Further the functioning and efficiency of VPs is not up to mark.

Thus, management of natural resources by the community becomes more evident keeping in mind its utility value and benefits to the communities. Uttarakhand has huge natural resource which could be tapped to eradicate rural poverty at the local level and contribute in mitigating the climate change at regional and global level. Considering the vast potential for linking management of natural resources with livelihood, the project implementation was initiated in 15 VPs of Lamgarah development block of Almora district with the financial support of Sir Dorabji Tata Trust (SDTT), Mumbai.

Purpose of the Project

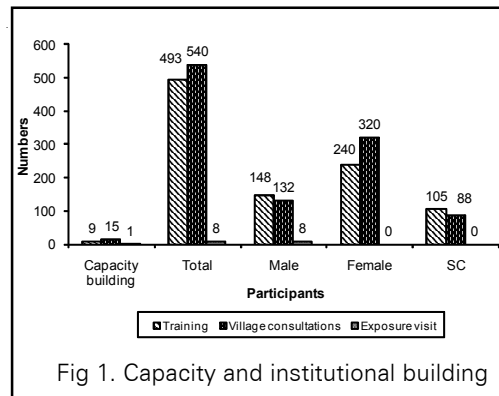
The purpose of the project is to develop replicable models at village level that advocates for a clear linkage between rural livelihood and management of natural resources. This would also contribute in reducing the exploitation of resources in VPs and enhancing active role to perform their duties and responsibilities. Communities are being encouraged towards maintaining a balance among their traditional rights over natural resources, forest conservation and income generation.

Project area

The project is being implemented in fifteen VPs i.e., Adita, Anariyakot, Asota-Silkhora, Bijarkhiya, Dhaili, Dhaura, Dhura-Sangroli, Guna-Chutra, Joshidhura, Kherda, Satyon, Sirsora, That, Toli and Ujjaula representing 13 villages in Lamgara development block of Almora district.

Summary of activities under taken during the period

a. Capacity building: Capacity building through village consultation workshops, trainings and exposure visit are most important component for strengthening the capacities of the rural community especially SHG and VP members. Such programmes were carried out during the reported period for ensuring commitment from community towards adoption of appropriate techniques for income enhancement and livelihood improvement.



- b. Development of sustainable forestry models:** The strengthening of VPs is directly correlated with existing natural resources and their management in VPs. Thus, for enhancing existing tree density and vegetative cover is prime work that would lead to conservation and generate natural resources in future for fulfilling the needs of community and also create opportunities for income generation. Different activities were undertaken to ensure the objective of developing sustainable forestry model i.e. establishment and maintenance of nurseries, demonstration of models for fodder species in VPs and wastelands, vegetative propagation of forest species, plantation of tree species and demonstration of models and assistance to Natural Regeneration.

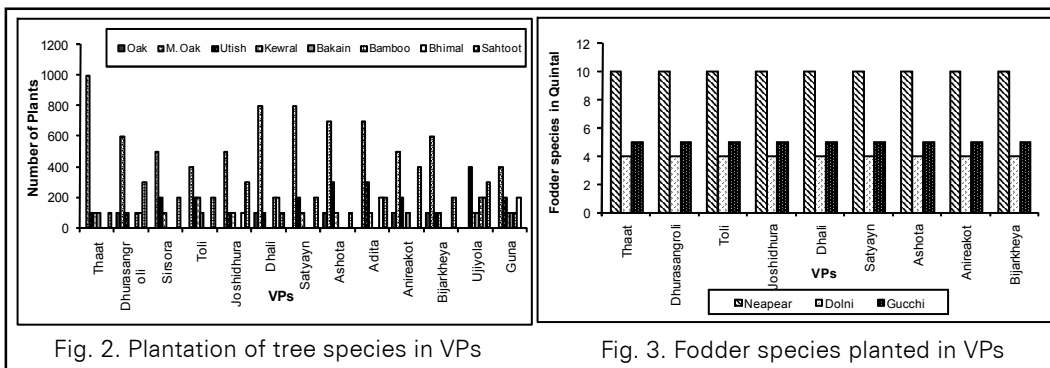


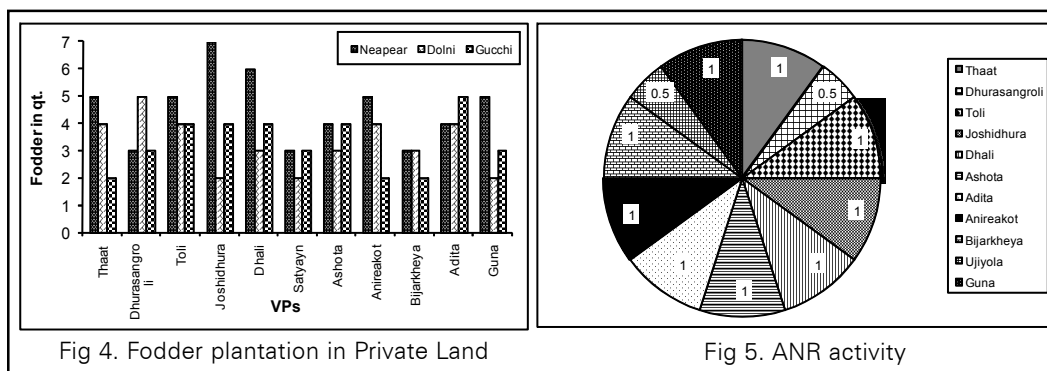
Fig. 2. Plantation of tree species in VPs

Fig. 3. Fodder species planted in VPs

Assistance to natural regeneration (ANR) activity is highly encouraging as undergrowth is excellent and bushy oak seedlings are indicating better growth. Specific focus has been given to *Myrica esculenta* and *Rhododendron arboreum* along with oak and other broad leaved native species those have better regeneration status and are directly linked to livelihood .

- c. Creation and maintenance of micro reservoirs (MRs):** Preparation in hilly terrain storing and conserving water is one of the major constraint as most of the rain water runoff due to topographic conditions and absence of forests. During the reporting period, construction of new reservoirs has been undertaken and in all 5640 cubic meter micro reservoirs work was completed. Results of MRs are noticeable in 05 VPs where water discharge in natural springs and streams has increased after 04 years of micro reservoir creation. Similarly, indication of enhanced water percolation in 03 VPs has also reflected positive response from the community.
- d. Livestock improvement:** For the promotion of the livestock and improvement in fodder stands the project team planting of nutritious fodder grasses at household level was undertaken as a reserve approach from forest

to home to provide the fodder at the doorstep. Approximately 20 ton fodder has been harvested as a result. During the period in all 433 cows and 45 buffaloes were artificially inseminated (AI), the success of AI (60%) in cows and the number of cows inseminated is an indicator of acceptance of the concept among the community.



- e. Horticultural activities:** For the promotion of horticulture activities vegetable cultivation was promoted and convergence with horticulture department and other ongoing project was ensured. During reporting period 18.5 ha area has been covered under vegetables.

Protected cultivation has enough potential in hilly conditions where temperature fluctuation is high and winters are cold, therefore low cost poly houses were established at project area. A total of 25 poly houses of 200 square feet were established during first year of project intervention and 25 progressive farmers of 10 VPs are getting benefits from it. To encourage vegetable cultivation at less labour and water for irrigation 96 units of sprinklers covering 24 nali areas were installed successfully. Contribution by beneficiaries ensured additional installation of 16 units of sprinklers in 04 nali area.

- f. Bee keeping:** The activity was taken up during second year and accordingly 30 movable bee hives were introduced in 07 VPs on contributory basis while 15 were repaired. A visit of experts from state bee keeping centre was also organized to ensure bee keeping at mass scale. The 04 resource persons developed in bee keeping have also transferred 54 healthy colonies of four frames each during March, 2010.
- g. Roof water harvesting (RWH):** During the period 55 tanks were constructed against the target of 50 due as additional contribution to the beneficiaries. In all 4.0 ha area could be irrigated from these tanks and can also be utilized

for domestic purposes. All the infrastructures are being used by the beneficiaries during dry period thus approximately 06 hours per month per family used in bringing water for irrigation and other purposes will be saved after the construction of tanks.

- h. Organic composting:** Usage of organic inputs during farming is the only option to protect the environment from the harmful impacts of chemical fertilizer and pesticide on one hand and ensuring the soil fertility on the other. The concept of vermi-composting has been widely accepted and thus was given emphasis under the project. Approximately 17 ton of compost has been produced and many community members are also creating temporary pits to increase the production and ensure its application in agricultural fields. The production of compost has been recorded from 160 units and being used in vegetable fields.

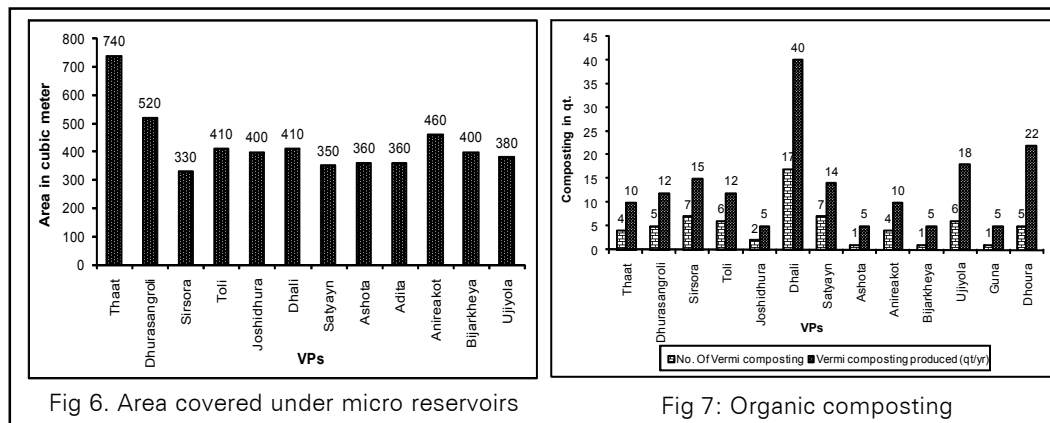


Fig 6. Area covered under micro reservoirs

Fig 7: Organic composting

- i. Bio gas:** Renewable energy programmes are being undertaken in rural areas to fulfill the requirement of community at minimal cost using available resources. Keeping in view the above and to reduce the exploitation of forest vegetation for fuel wood, bio gas promotion has been targeted. The 05 beneficiaries has been identified in three VPs for establishment bio gas production units for demonstration purposes.
- j. Publicity, documentation and research:** Paper abstract was submitted and accepted in National Seminar on Research Methods in Forestry and Climate Change in September, 2010 entitled "Management of Multipurpose Tree Species Plantations through Community Participation to Mitigate Climatic Variation: A Case From Degraded *Van Panchayats* (VPs) OF Uttarakhand".
- k. Estimation of biomass and carbon mass:** The mean carbon sequestration rate in the year 2009-10 was close to 1.74 t c ha⁻¹ yr⁻¹ across the studied *Van*

Panchayat forests the sequestration rate of the mixed young banj oak forest of Dhaili VP was 3.39 t c ha⁻¹ yr⁻¹ which the maximum across the studied VPs. However it varied from 0.44 to 3.39 t ha⁻¹ yr⁻¹ in different strata's.

Impact

The impact of project intervention after project intervention could be summarized as under:

- Increased level of awareness among community for VP conservation and active participation of women in their management.
- Creation of pool of 17 rural resource persons (RRPs) in diverse segments along with 98 community leaders to ensure facilitation in project VPs.
- Development of ownership and collective approach through women SHGs and their financial sustainability to undertake income generating activities.
- Inspirational results from the activities undertaken for ANR to improve new shots from old roots thus reducing the cost of plantation and creating a pool of biomass.
- Convergence of VPs directly with MNREGA programmes to be carried out in VPs.
- Active involvement of community towards fodder grass promotion and breed improvement resulting reduction in drudgery on one hand and livelihood improvement on the other.
- Creating opportunities for fund mobilization to VPs directly by developing specific plans.
- Reduction in pressure over oak trees for fodder requirement resulting in proper growth of oak trees.
- Willingness of community to adopt appropriate modern techniques to reduce the pressure over VP resources and their sustainable utilization.
- Improved communication and understanding between VP council, SHGs and Village council for sustainable management of natural resources.
- Attitudinal shift towards generating resources for VP strengthening and also ensuring marketing through a channelized system.
- Up scaled skills and knowledge about VPs, their role, responsibility and rules in comparison to previous years, thus initiative to strengthen VPs by following the existing rules and also developing effective micro plan.

Beside the experience sharing of members with each other during exposure to Chattisgarh State has enforced VP representatives for adopting collective approach of managing the VPs by developing an action plan and assessing the results at regular interval.

2.2.2 Sustaining Rural Livelihoods through the Cultivation and Conservation of Non Timber Forest Products (NTFPs) and Medicinal and Aromatic Plants

In India over 50 million people are supposed to be directly dependent on NTFPs for their subsistence. They contribute significantly in addressing poverty issues for marginalized, forest-dependent communities i.e., fuel, fodder, medicines, gums, resins and many wild edibles which at times prove to be potent income generating activities for these people. Non-Timber Forest Products (NTFPs) are abundantly available in various ecological domains to serve critical living needs. The multiplicity in using NTFPs and their importance in reaching subsistence as well as income generation necessities have now been increasingly recognized.

Many of the aromatic plants are weeds or plants growing naturally in uncultivated conditions in forests and waste lands. Thus, they have high adaptability and can grow with relatively low crop management inputs. These aromatic plants are of annual, biennial and perennial in nature which can be grown in combinations in order to gain sustained economic returns. Hence, there is a need to consider management and use of NTFPs along with MAP (Medicinal and Aromatic Plants) under community forestry framework. This pilot project on cultivation, standardization and marketing aims to provide sustainable alternative livelihood options in the rural hilly regions of Uttarakhand and also to sustain the community forests *Van Panchayats* was initiated in 7 VPs of Lamgarah Development Block in Almora district with the support of Himmothan, Dehradun.

Project area

The project is being implemented in 7 VPs i.e. Asota (Silkhora), Dhaili, Guna, Joshidhura, Toli and That of Lamgarah Development Block, Almora.

Activities undertaken

- a. Formation/adoption of Self Help Producer Groups (SPGs)/SHGs:** In all 12 existing SHGs in 06 villages were adopted for continuing the programmes after consulting and sharing the project purpose. Beside, on demand and willingness 01 new SPGs were formed in a village. The annual plan of the project was also discussed before initiating the activities.

CHEA GLIMPSES

Project Activities



Organization of health camp in project area



Introducing micro irrigation for reducing manpower and water requirement



Women SHGs involved in seed distribution



DM, Nainital distributing quality seed to farmers under relief programme



Vaccination for ensuring better health of animals



Manger: for reducing fodder wastage and keeping cattle healthy

CHEA GLIMPSES

Project Activities



Technical supervision to promote floriculture under polyhouses



Production of Chrysanthemum: innovation under Gramya programme



Improved looms: ensuring weavers for better returns



Community resource mapping: method of generating authentic information



Members of FIGs at Sorting, Grading and Collection Center at Paharpani



Strengthening SHGs through field level training

- b. Formation and strengthening of SPGs/SHGs:** SPGs are represented by 115 members of which 15 % are from weaker section of the society i.e., SCs. Total saving of SHGs was Rs.2,39,465.00 with cash credit limit (CCL) of Rs. 72,000.00 through bank linkages. Inter loaning was also carried out and details are annexed.
- c. Empowerment of women SPGs/SHGs:** Most of the activities proposed in VPs are been carried out jointly by group members with VP council and VSPS. They are contributing effectively in plantations, their maintenance and protection. The women groups are also assisting in planning and creation of water and soil conservation structures.
- d. Capacity building:** A series of awareness camps were organized in 04 villages. The major issues disseminated during the awareness camps are given under:
- Description of natural resources
 - Method of sustainable usage of available resources
 - What are NTFPs and appropriate methods for extraction of NTFPs
 - Major species those exist in village/VP having potential for NTFPs production
 - Identification of appropriate site in VP for developing model plot
 - Identification of willing farmers to adopt cultivation of MAP crops
 - Motivating community to adopt collective approach for cultivating above those have commercial value

During the reporting period 09 trainings and workshop were accomplished. Village consultation/workshops on three specific subjects have been conducted during the reporting period.

- e. Nursery establishment:** Major constraint in promoting the activity is the unavailability of quality planting material. Further if material is available its quantity is limited and not supplied at appropriate time. To ensure the production of desirable species establishment of nursery was proposed under the project. Accordingly, 02 sites were finally selected after conducting survey and nurseries were established during April, 2010. These two nurseries would ensure the supply of desired quality planting material of different species at accurate time. These nurseries will further facilitate the community members for skill development and also to gear up production of planting material in additional sites. In all 11 species

are available for plantation i.e. Lemon grass, Rosemary, Thyme, Geranium, Satawar, Wild apricot, Reetha, Walnut, Harar, Kilmora and Amla.

- f. **Developing action plan/micro plan:** After formation/adoption of (SPGs)/ SHGs the village level action plan were developed and accordingly activities has been undertaken.

The major issues undertaken while developing action/micro plan are given as under:

- Selection of sites in VP for developing model plot of NTFPs and MAP
- Selection of species in consultation with experts for a village
- Efforts and strategy to conserve the VP area from biotic interference
- Identifying 02 individuals as a resource person to undertake cultural practices for qualitative and quantitative production
- Identification of 02 individuals for entrepreneur promotion to facilitate post harvesting and marketing of different commodities
- Criteria for selection of individual farmers for cultivation of NTFPs and MAP
- Planning for cluster approach in private land than in scattered form

While developing action plan consultation was also made with technical and marketing experts to have an integrated and holistic plan for each village.

- g. **Pre- plantation works on common Land:** The pre plantation works in selected VPs was initiated with layout and digging of trenches. In all 10 ha of That, Guna, Sirsora and Dhaili area was benefited by countour terracing and stone fencing.

2.2.3 Agribusiness Support Agency: Nainital Division under Uttarakhand Decentralized Watershed Development Project (UDWDP)

In Uttarakhand, particularly in the hills locals are dependent on agriculture for its livelihood, therefore, planning involving enhancement of livelihood option must include agriculture sector as well. Keeping in view the geographical condition and following the guidelines of the project it was observed that the area has enormous potential to develop market channels for indigenous products. However, it is a massive challenge to create innovative marketing system due to domination of existing channels and also the fact that most of the fresh vegetables are perishable in nature and have limited viability.

Accordingly, it was planned to create awareness among Farmers Interest Group (FIGs) and farmers during initial phase of the project. Since project intervention the mindset of the community has been positively shifted towards direct marketing of their produce through collective approach. However, still there is a need of untiring and continuous efforts for developing and strengthening the capacities of existing federation (producer group) to undertake the concept at mass scale. At present 271 members of various FIGs are involved in direct marketing of the produce through farmer federation and CHEA.

Project area

The project area is spread over two development blocks i.e. Okhalkanda and Dhari to cover the villages, situated in different micro watersheds. In all 61 revenue villages are selected for project intervention and all the villages fall under 05 micro watersheds i.e. Dolgarh, Pasiyagarh, Khujetigarh, Sunkot and Dantagarh. While identifying the revenue villages it has been ensured that the selected villages should have representation from the entire three units of GRAMYA's Nainital division i.e. Thalari, Bhirapani, and Dholigaon. Out of 61 revenue villages 33 revenue villages of 19 gram panchayat are selected for agribusiness programme.

Activities undertaken

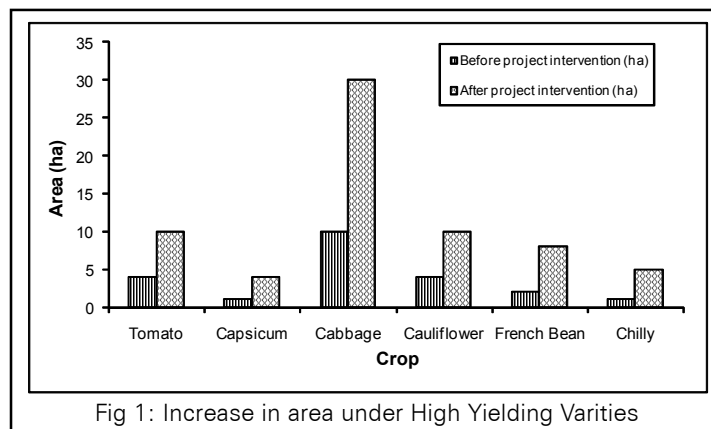
During last year the activities were focused and undertaken to improve marketing of produce along with exploring the markets for better returns. Beside this, technical services are continued at field level. The brief of activities undertaken are given as under:

- a. **Strengthening of Federation:** Farmer federation has been formed to facilitate the FIGs of Bhirapani unit in the initial stage. The registration of cooperative i.e. *Paharpani Utpadak Evam Vipran Self Reliant Cooperative* under self reliance cooperative act has been completed during November, 2010. The federation contain 16 Framers Interest Groups and total number of 271 members (236 male, 35 female) with the total amount of Rs. 27400.00 as a revolving fund. Cooperative is also managing and operating the NABARD supported outlet located at Bhimtal (Nainital). A corpus of Rs. 55,000.00 has been generated by the federation through farmer contribution in lieu of the inputs distributed.
- b. **Formation of progressive group:** Beside cooperative, a group of 04 members has also been formed for initiating commercial production of Chrysenthemum flower under hi-tech poly houses. In all 10000 cuttings

of flower were planted during September, 2010. The income of Rs. 40,000.00 has been generated till date and flower sticks are directly marketed to Delhi by producers. The use of specific carton's and polythene for safe packing and transportation is also been undertaken by the producers.

- c. Management of FIG and federation:** To build an ownership attitude among farmer families it is important to participate in FIGs monthly meetings and cash contribution towards inputs distributed through Federation and provided from Gramya project. A three tier system is followed for transparency and better outcome. The contribution cost of the inputs is decided by the federation and office bearers of the FIGs have to deposit the amount at the time of receiving inputs from the federation. Further the FIGs distribute inputs to their respective members with higher cash contribution then it has paid to the federation.
- d. Distribution of inputs:** During April seed of various vegetables was provided after exhaustive consultation with FIGs, assessment of previous year results and the market demand. To promote organic farming different organic compost, insecticides and pesticides were also distributed to the farmers. In addition various inputs for pre and post harvesting have been also made during the reporting period. Beside this additional inputs such as plastic crates, jute bags, PVC pipes, grading mat (Tirpal), etc are distributed for increasing the production and value addition.
- e. Maximizing the profit from distributed inputs:**The crates are been used for transporting perishable fruits and tomato which were previously transported from field in bags resulting in damage to the produce. The jute bags are also being used by farmers for transporting and marketing of the produce helping them financially as well as to reduce dependency on traders. PVC pipe are useful for irrigating lands and is a time saving method. The HYV seed are being also used to maximum extent and nursery is also raised following appropriate techniques. Applications of weighing scales have also been in practice and are installed at convenient places for maximum use.
- f. Technical services and assistance:** To ensure the quality of produce along with increased production and up skill the present status of the farmers the technical services were continued at village. The specific requirement for usage of bio chemical, fertilizers were provided to farmers and different information were provided through practical methods.

- g. Construction of poly line tanks:** To achieve a high-quality production from HYV seeds, it is necessary to ensure timely irrigation to these crops. Although under project several irrigation facilities i.e. irrigation channel and stone masonry water tank were constructed at farmer's field however for innovation and demand of farmers 10 poly line tanks were also constructed on demonstration basis.



- h. Convergence for developing marketing channels:** To achieve the ultimate goal of the project it is necessary to have tie-ups with some reputed organizations and departments those have excellence in the field of marketing as well as in innovative marketing ideas. For this, GTZ generally known as German Technology Corporation under Regional Development Programme (RED) has come forward to assist FIGs/PG to resolve market related constraint.
- i. Developing marketing plan and breakeven point through federation:** Specific workshop was organized for federation members to develop a marketing plan for ensuring increased net benefit to producers.
- j. Services for market intelligence:** During project implementation it was observed that the rates for different produce are not available to farmers and thus they are not aware about different mandi rates resulting loss on net profit in most of the occasions. To overcome from the problem services from Reuters Marketing Limited (RML) were undertaken and on experimental basis 25 progressive farmers were selected to avail the services to get rates for various crops and mandis through telephonic messages. In addition weather forecasts and various technical information also were received by the farmers.

- h. Monitoring and evaluation:** To monitor the activities and impact of project intervention a team comprising local administration officials i.e. District Magistrate and Chief Development Officer, Nainital officials, official from GTZ-Germany, representative of Sir Dorabji Tata Trust, Mumbai and Chief General Manager of NABARD along with DDMs were visited at project area and evaluated the progress of the project.

2.2.4 Improving Livelihoods through Knowledge Partnerships and Value Chains of Bee Products and Services in the Himalayas

ICIMOD, Nepal has been addressing issues of basic and action research followed by technology development and transfer on bee keeping for poverty alleviation since last 23 years. After assessing the technologies by field tests in specific sites, program was expanded through national extension and development networks in the region. Government of Austria is supporting this program in the HKH region to address the issues of poverty, agricultural productivity and biodiversity conservation.

The ongoing project in collaboration with other ICIMOD programs and partners will address the issues of pro-poor value chains of bee products and services, quality standards through developing national monitoring plans for residues, national beekeeping census for traceability, national honey sample policy and Good Manufacturing Practice (GMP) guidelines.

This process oriented approach will help poor beekeepers to come up with a product which is acceptable to consumers and will help in streamlining trade of bee products in the regional and international markets. Project will also support national vocational institutions to improve their curricula in line with emerging standards and guidelines so that qualified workforce will bring vibrancy to the sector. Besides this networking and support to global and country specific efforts on pollination and pollinators will be provided to share knowledge and information. Increase in the pollinator intensity will enhance productivity of mountain agriculture and conserve biodiversity. In addition to this project will help national up-scaling initiatives through the instrument of technical assistance and backstopping support.

Objectives

- To enhance the resilience of mountain people to manage the effects of global change
- To increase the income of mountain men and women by promoting the value chains of bee products and pollination services through the building of human and institutional capacities and regional cooperation.

Programme components and activities undertaken

Following activities have been carried out under different components of programme during the period:

a. Developing appropriate action plans and operationalize of plans by involving small producers

- **Develop action plans on value chains of honey and beeswax:** During the period an action plan on value chains of honey and beeswax was developed to facilitate small producers. The action plan covers various aspect of value chain e.g. from identification of producers to product development and its marketing.
- **Support small producers in implementing actions plans:** The implementation of the aforesaid action plan is under progress in Lamgarah cluster in collaboration with on going projects of CHEA. As per the action plan a group containing small beekeepers were formed. In all 14 small beekeepers will be assisted to embrace beekeeping as an income generating activity, which will also give an opportunity to capture lessons from field experiences.

Analysis of data on value chains of honey and wax in Uttarakhand

After completion of the survey and data collection analysis based on social, economic and livelihood aspects was carried out. To uncover the role of bee keeping detail analysis of income source of rural community was made.

Following are the outcome of the analysis:

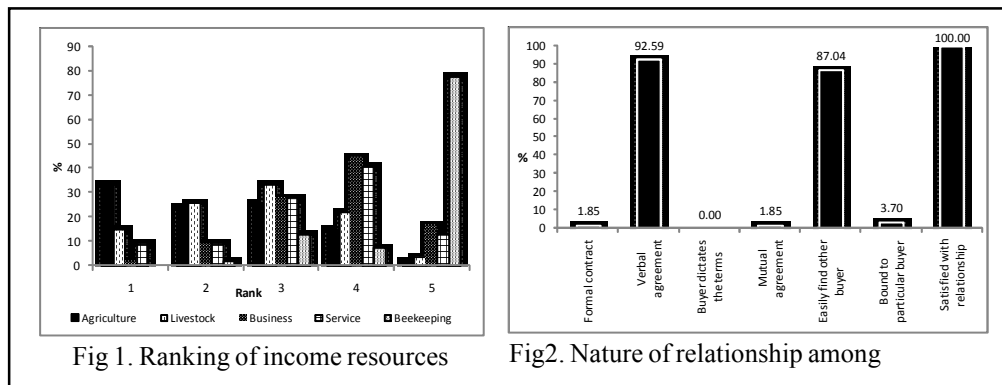
- Agriculture is one of the major sources of income; however, bee keeping is also one of the options of income in surveyed villages.
- None of the entrepreneur ranked the beekeeping as a rank 1 (fig 1).

The survey covered both backyard beekeeping (small beekeepers) and micro enterprises. However, only 13 micro enterprises were found in existence and majority of them were working purely on *Apis mellifera*.

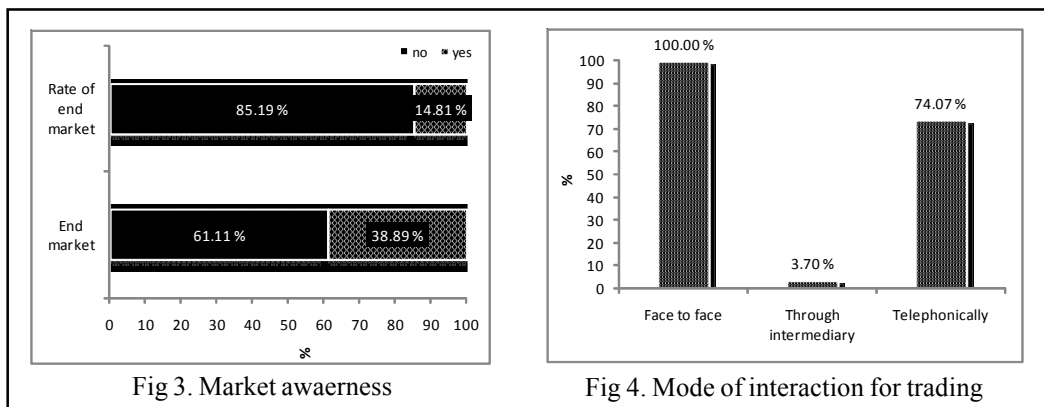
- The relationship of the beekeepers with others stakeholders lies on generally on mutual understanding.
- The annual honey production from the surveyed enterprise is approximately 80.1 ton and about 96% is sold in the market for income generation.
- Practice of grading and quality control is negligible and only 3% of honey filtered before marketing. Majority of the entrepreneurs are using tin as a packaging material for honey and wax.

- The entire business is based on understanding and verbal accord (Fig 2). Further data indicates that entrepreneurs were satisfied with the existing system of marketing and have also not tried other channel for marketing.

Small and marginalized beekeepers practising beekeeping as an additional activity for enhancing the option of income generation were surveyed. In all 344 families residing in 54 different villages of Uttarakhand state were interacted during survey either in group or individually. The analysis made from the data collected revealed that:

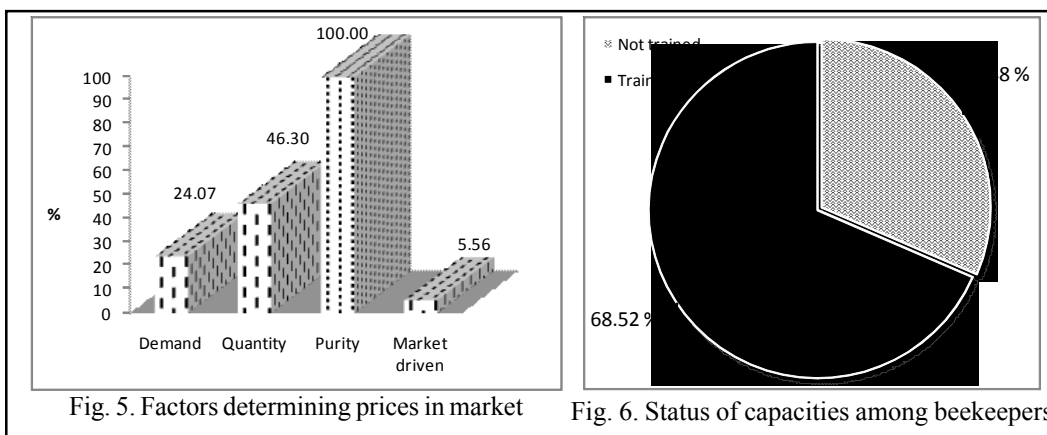


- In surveyed villages 906 families (54% BPL families) are involved in beekeeping activities.
- On an average 3 colonies were occupied by each households which is contributing approximately 12% in their overall household income.
- None of the beekeepers ranked beekeeping as number one activity in terms of income generation. 79% of the beekeepers ranked beekeeping as the fifth most reliable source of income.
- The involvement of women in beekeeping was also found negligible and they are limited to colony management/inspection and honey extraction.
- The data indicates that only 39% of the beekeepers were aware about the end market whereas the rate in the end markets are known by only 15% of surveyed people (Fig 3).
- Face to face business is the most workable model for the beekeepers followed by telephonic conversation. About 4% of the producers also rely on intermediaries (Fig 4).
- According to the beekeepers the purity (quality) of the honey is the utmost price deciding factors followed by the quantity and demand of the produce. Some of the beekeeper expressed that rate is also determined by the market (Fig 5).



- The status of skill among beekeepers was also analysed and it was found that 69% of them are the trained beekeepers (Fig 6).

According to the analysis the actors involved in value chain of honey are Producer and collector, Processors, Middlemen and Trader, Consumers, and Supporting institutes such as State Beekeeping Centre, Jeolikote and their sub centre, Khadi and Gramodyog Board, NABARD for both backward and forward linkages.



b. National Honey Trade Policy

To collect the information different modes of communication were adopted. Various books and literature were reviewed. In addition internet was also accessed for the purpose followed by visit to various line and allied department, organization and institutes. The consultancy services for above are being given by Dr. Y.S. Parmar Horticulture and Forestry University, Solan, H.P as well as the experts from different departments and National Bee Board.

In Indian context the export and import of agricultural and associated products is being mentored by Agricultural and Processed Food Products Export Development Authority (APEDA). The information available with APEDA indicates that India is an exporter and also an importer of natural honey.

In India different controlling bodies are responsible for monitor and control the food chain i.e. Ministry of Agriculture for primary production; Ministry of Food Processing Industries for food production; Ministry of Health and Family welfare for retail sector; Ministry of Commerce for food trade and export and Ministry of Finance for export and import taxes and in state level the control and inspection is taken care by the Food and Drug Authority (FDA). However the honey is mainly taken care by the ministries and department such as Ministry of Health and Family Welfare (Safety and Standardization Agency of India), Ministry of Commerce and Industry, Ministry of Agriculture (Department of food processing), Ministry of Food Processing Industry.

Some of the Legislation and Regulation which defined the quality and preventions of food including honey are Prevention of food adulteration Act, 1954, Export (Quality Control and Inspection) Act, 1963, Food Safety and Standard Act, 2005, General Grading and Marking Rule, 1988, Agriculture product grading and marking Act, 1937 (Honey Grading and Marketing Rules, 2008).

Apart from this India has also embraced the Codex Alimentarius and accordingly having "Codex India" the National Codex Contact Point (NCCP) under the Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India for coordinating and promoting Codex activities in India.

c. Networking for information sharing

Strengthen networks for the promotion of beekeeping and information sharing in the area of operation: Promotion of beekeeping among mass needs extensive refresher over the existing knowledge, awareness of technology as well as developing marketing networks. In order to strengthening the networking information regarding major exporters and trader in the field of bee products has been initiated and accordingly compiled by the project team.

Organize meetings and use other means of communication to strengthen network and exchange knowledge & information: A series of meeting to sensitise/mobilize community indulged in beekeeping and other stakeholders were organised during the reporting period. The main objective of the meeting in the grass root level is to identify the potential beekeeper for the implementation of action plan and to strengthen the network for the promotion of beekeeping and information sharing.

CHEA GLIMPSES

Seminar/Workshop/Meeting



First Prof. S.L. Shah memorial lecture at Challet Hall, Nainital Club, Nainital



Training on Environmental issues at Vikram Vihage, Nainital



Interaction with partners: strategy planning for the future



Workshop on Farmer based Retail marketing at Vikas Bhawan, Pauri



Annual General Meeting of CHEA 2010-11



Encouraging women SHGs to undertake organic interventions for mitigating climatic alterations

CHEA GLIMPSES

Seminar/Workshop/Meeting



Capacity building to empower women folk for MAP activities



Strengthening women SHGs towards sustainable livelihood



Workshop on Agribusiness promotion at Dholgaon, Nainital



Farmer clubs: Cooperative approach to strengthen the marginal farmers



Public representatives sharing views with farmer groups



Celebration of Environment day: sharing and capturing of lessons

Share information with the project, project partners and national network members

CHEA participated and shared the research finding through the paper presentation titled "Impact of Honeybee Pollination in Enhancing the Apple Production Nainital District of Uttarakhand" in the National Symposium on "Perspective and Challenges of Integrated Pest Management for Sustainable Agriculture" organised by the Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan, Himachal Pradesh.

Two beekeepers, including a female beekeeper of Paharpani (Nainital), attended the Participatory Curriculum Development Workshop on Beekeeping for Farmers Training in Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan during the reporting period.

d. Pollination and ecosystem services

To assess the value of pollination services in apple orchards through *Apis cerana indica*, specific study was undertaken in two different orchards in Nainital district of Uttarakhand. The comparative study revealed that the fruit setting was slightly higher in orchard having pollination services from bees than control site where the pollination was dependent on other insects and birds. Thus, it is well established that for enhancing the productivity and improving the quality of apple fruits, pollination services through bees is of significant value on one hand and conserving the biodiversity on the other. Methodology of the ongoing research is given as under:

- Collect and analysis research data
- Identification and sampling of insect pollinators
- Pre-count statement
- Placement of bee colony
- Count of insects immediately after colony placement
- Count of insects at 50% flowering/bloom.
- Observations after fruit setting
- Observations after one month of fruit setting

The two experimental sites clearly depict how the bees influence the production of apple. The sites are identically the same having various species of apple tree in the orchards. The experiment was initiated at the flowering stage of the apple tree and continued till the harvesting.

Result: The trail results revealed that the sites having a colony of *A. cerana* got enhanced apple production in comparison of the controlled sites. Paharpani site having better fruit setting % age as well as the less fruit drop % age shows the effect of bee pollination in apple orchards.

d. Convergence and partnerships:

- Convergence with State Bee Keeping Centre at Jeolikot has been carried out in order to supplement them with technical know how and modern bee boxes.
- Convergence with NABARD (National Bank for Agriculture and Rural Development) is also being carried and has resulted in the strengthening of network and partnerships.

2.2.5 Formation of Farmer Clubs

It has been experienced that due to lack of collective approach and scattered land holdings in rural hills the net income from agriculture produce is a limiting factor. To overcome from the constraint, formation of "Farmers Club" is a unique activity supported by NABARD and has shown positive results in context of developing backward as well as forward linkages through participatory approach.

Objective

The objective of the programme is to develop collective approach; entrepreneurship; sense of ownership and regaining bargaining power back to producers.

Activities undertaken

- **Meet with experts:** Up-gradation of skills for Organic Cultivation Practices and Certification was conducted time to time. In all 180 participants of Malona, Khusalkot and Daurab villages participated in the programme. The meeting with the experts assisted farmers to enhance their knowledge towards organic farming and the process of organic certification. In addition other allied subjects such as beekeeping, alternative energy etc. was also discussed during programme.
- **Orientation workshop:** Four such workshops have being organized at Bajol and in all 195 farmers from all 03 farmer clubs attended the workshop.

2.2.6 Livelihood Improvement Project for the Himalayas, Bageshwar & Almora-Uttarakhand

Technical consultancy services were given to District Management Unit (DMU), Almora and Bageshwar under *Ajeevika* project for creation of water conservations structures. The programme was undertaken in 55 *Villages* those lying in six clusters of Bageshwar district i.e., Bhardrakali, Devaldhar, Dhapoli,

Kanda, Katpuriyachina and Khatigaon and 80 villages in 9 clusters of Almora district i.e. Motiyapathar, Jainti, Bhanoli, Badiyabisht, Garunabanj, Kheti/Danya, Sirsora Chaikhan, Bamanswal, and Jamrari.

Initially in all the villages mobilization meeting was conducted and technical guidance regarding creating of water conservation units was disseminated with layout and estimates. After mobilization meetings, suitable site within their villages are selected through participatory methods.

Technical training regarding creation of rain water harvesting structures i.e., irrigation tank, LDPE tank and roof water harvesting tank, was imparted to the individual beneficiaries of the select villages. During the period in all 129 individual were benefited with LDPE and 161 with Ferro cement tanks apart from this 11 community tanks were also constructed during the reporting period.

2.2.7 SHG Formation and Linkages Programme

A collective approach is the prime need for livelihood improvement of marginalized communities in rural hills. The various projects have been implemented through formation of Self Help Groups (SHGs) to strengthen the capacities of isolated and weaker sections of society and to bring them in the mainstream of development. National Bank for Agriculture and Rural Development (NABARD) has been engaged in the same since the last two decades through capacity building, financial aids as well as various infrastructural supports to SHGs.

Objectives

- Conversion of FIGs into SHGs for sustaining the formed groups;
- SHGs having a sound financial status for promoting livelihood generation activities through savings and inter loaning;
- Institutional building of SHGs for developing linkages with banks and development agencies and entrepreneur and leadership development in a cluster of SHGs for generating additional funds towards developmental activities.

Tarikheth development block, Almora: The project was initiated in May 2007 with a target formation of 30 SHGs. In all 30 SHGs have been formed of which 12 are women SHGs. The total members in these SHGs are 341 (179 Female) and the aggregate savings stands at 4.43 lacs. The cash credit limit (CCL) of 7 SHGs was ensured during the period.

Okhalkanda & Dhari development block, Nainital: Programme was initiated in June, 2010, with the target of 50 SHGs formation in two development block i.e. Okhalkanada and Dhari. In all 20 SHGs has been formed till date and especially focused on women SHGs. The total members in these all women SHGs are 214 and the aggregate savings stands at Rs. 0.5 lacs. Apart from this Pine briquette Machine has also being distributed to all SHGs under the promotion of livelihood activities.

The programme would be continued for the next one year for sustaining the SHGs and linking them with other ongoing projects and financial institutes.

2.2.8 Facilitating Disaster Affected Marginal Farmers to Generate Income through Vegetable Cultivation

The marginal farmers of the hills of Kumaon suffered huge losses due to heavy rains during September, 2010 resulting in apparent shortage of inputs either for fulfilling their daily needs or for crop cultivation. Keeping in view the endemic loss occurred and assessing the clusters those are being benefited by CHEA through different programmes, the need was felt to make available the quality seeds of some desired cash crops through resource mobilization. Accordingly a request was made to Jamsetji Tata Trust for financial support to ensure the supply of seed of specific crops and accordingly a grant was sanctioned in a flash of time. The seeds of Garlic, Pea, French bean, Coriander, Pigeon Pea and Turmeric were procured and distributed among farmer families of Dhari, Okhalkanda and Bhimtal development block of District Nainital and Lamgarah and Tarikhet development block of District Almora. All above crops were selected after consulting with producer groups and horticulture experts.

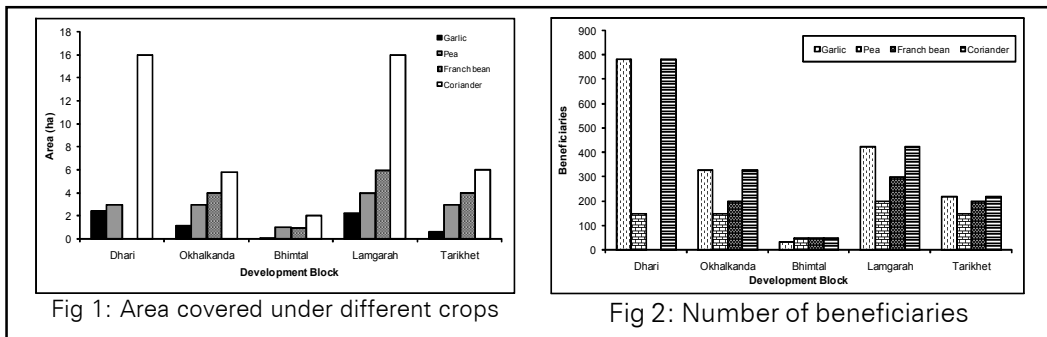
The main objective of the assignment was “to ensure the supply of quality seed at appropriate time for encouraging farmers to continue the horticulture practices for income generation and livelihood improvement”.

Area covered during Rabi season

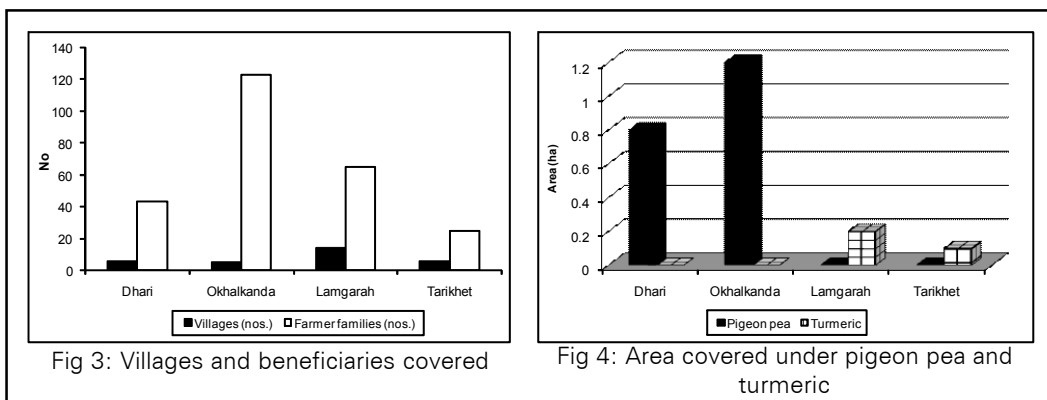
The total area to be covered through the programme is 81.28 ha, however, only 35.48 ha and 45.80 area was covered in first and second phase i.e. October and November 2010.

Area covered during Kharif season

During the month of February and March, 2011 the seed of pigeon pea and turmeric were distributed and in all 256 families were benefited from the seed.



The maximum families have been covered in Okhalkanda development block keeping in view the local condition for the qualitative and quantitative production. The total area of 2.30 ha has been covered under the crops.



Technical services towards maximizing production

During course of village level meetings the beneficiaries were also delivered the information about sowing method of seed using bio agents for its treatment.

2.2.9 Appropriate Technologies for Strengthening Bee Based Livelihood Activities in Rural Hills

Horticulture has a prime importance in the agrarian economy of Uttarakhand state in general and for Nainital district in particular. Horticulture sector promises good economic returns and if bee keeping is integrated with agricultural activities it could further enhance the productivity on one hand and also create job opportunities on the other.

Bees are not the only source of honey they also produce wax, jelly, venom and pollen. Almost 80% of the different species of fruits and crops are depended on bee pollination. Apple are not only depended on bee pollination the yield of production, shape, size and colour all depend on who the bee pollination and pollination season.

In view of the importance of bees in agrarian economy and its role in livelihood generation the project of beekeeping was launched at Paharpani cluster of Dhari development block under the NABARD Rural Innovative Fund in December, 2010.

Project area

In all 04 Gram Panchayats i.e. Mahtoliagaon, Majuli, Silalekh and Jalna-Neelpahari in a cluster have been identified for project intervention comprising of 06 revenue villages.

Objectives

The objectives of the project is to create awareness and upgrade knowledge of marginalized community for promoting appropriate technologies to enhance the production and quality of different bee products and ensure biodiversity conservation.

Activities undertaken during the period

- i. **Database collection and preparation of SREP:** Before initiation of project activities it's necessary to know the ground realities of the project area and accordingly develop a strategic research and extension plan to undertake activities for achieving the objectives.
- ii. **Adoption/formation of groups:** The RIF project would be executed with the help of farmer groups, therefore, either FIG would be adopted or where there are no such groups new FIGs will be formed. During the period one group of Mahtoliagaon was adopted as well as one was formed at village Nadgal.
- iii. **Awareness camp:** To disseminate the information regarding the upcoming project one awareness camp was organized at village Majuli. In all 150 Participants from 6 villages attended the meeting and shown their keen interest to be the part of the honeybee based enterprise. The main objective of the camp was to discuss project, its key points and the benefits of adoption of beekeeping as an income generating activities.

2.2.10 Cluster Development: off season vegetable cultivation through organic Interventions in Tarikhet, Almora

The project is funded by NABARD under their cluster development programme and is being implemented in 14 villages of Tarikhet development block. The objectives of the project is to introduce diverse organic infrastructures demonstration of organic Package of Practices (PoPs) and their validation for policy advocacy further extension of organic horticulture and developing market linkages.

Activities undertaken

- i. **Baseline survey:** Data collection during the base line survey ensured the before and after impact of project intervention. Therefore, the collection of baseline data was done for all 14 identified villages' selected for project interventions.
- ii. **SHG/Farmer club adoption/formation:** Specific focused meetings were organized specially for reconstitution of SHGs in the project villages. In all 30 SHGs have been adopted/formed to benefit maximum beneficiaries in participatory manner.
- iii. **Capacity building:** Numbers of training and other programme were organized for the capacity building of the beneficiaries which are given as under:
 - a. Training on SHG/farmer club functioning and micro financing
 - b. Training on Book keeping
- iv. **Technical training:** Following training were organized during the period:
 - a. Preparation of on farm organic inputs
 - b. Training on Integrated Pest Management
 - c. Training on Organic certification
 - d. Training on Water management and creation of RWHT
- v. **Promotion of High Yielding Varieties (HYV):** It was target to cover all the beneficiaries so the distribution of HYV seeds in selected project villages were done through SHGs office bearers. Seeds of Capsicum, Chilli and Tomato were made available to beneficiaries during the reporting period of the programme.
- vi. **On farm organic inputs:** In all 50 farmer families have been selected to get benefit in this phase. The activity is initiated by procuring some basic organic inputs such as Pheromone trap and *Beaveria Bossiana* and Neem

oil as organic insecticide and pesticide to distribute among beneficiaries.

- vii. **Roof water harvesting tank:** To promote protected cultivation and HYV of vegetables water is necessity and the collection of roof water during rains could be the best practice for the farmers to irrigate the crops in fields and in poly houses. In all 15 units are proposed to be established.

2.2.11 Cluster Development- Infusion of Appropriate Rural Technologies for Enhancing Off- Season and Protected Vegetable Cultivation in Okhalkanda, Nainital

The NABARD funded project is being implemented in 6 villages i.e. Bagaur, Digoli, Kafrauli, Kulon, Malla Kanda and Tall Kanda of Okhalkanda development block of Nainital district by following participatory approach. Initially half of the farmer families those were agreed to contribute and accepted the concept were directly involved in the project activities. Beside this rest of the families has been supported through convergence with other ongoing programmes for extending the activities at mass scale.

Activities undertaken

- i. **Farmers Interest Group (FIG) adoption/ formation:** Cluster development program is been executed with the help of FIG, therefore, in all 08 FIGs have been adopted/formed to benefit maximum beneficiaries in participatory manner.
- ii. **Capacity building:** The capacity building programme undertaken during the period are given as under:
 - a. Training on sensitizing farmers for micro financing
 - b. Training on Book keeping
 - c. Training on Infrastructure creation
 - d. Training on PoPs for skill up gradation
 - e. Exposure visits
- iii. **Promotion of High Yielding Varieties (HYV):** It was target to cover all the beneficiaries so the distribution of seeds in selected project villages were done through FIGs office bearers. The activity was performed through convergence with allied departments and HYV seeds of Capsicum, Cabbage, Cauliflower, Marrow, Chilly, Bottle gourd, Bitter gourd were distributed among farmers through their respective FIGs.
- iv. **Vermin composting:** The activity is initiated in the project villages through training and demonstration to all FIG members. In all 15 units will be established.

CHEA GLIMPSES

Monitoring/Evaluation



District Magistrate of Nainital inspecting GRAMYA intervention at Paharpani, Nainital



Representative from SOTT in project area: feeling the nerve of stakeholders



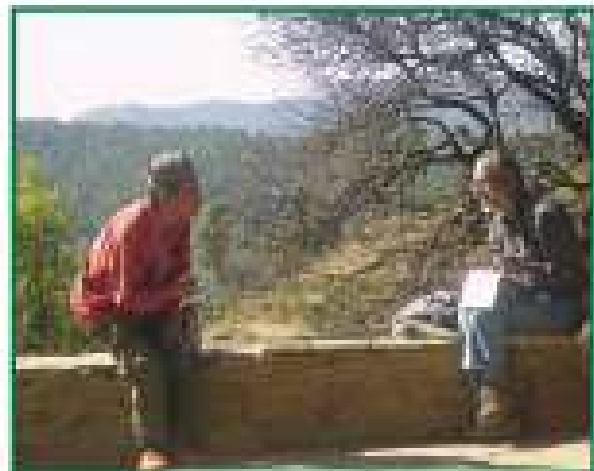
Experience sharing of project intervention: ecologist on the visit



DDM, NABARD sharing views at Sorting, Grading and Collection Center



Advisor Planning Commission, Uttarakhand in project area



External evaluator interacting with Sarpanch: assessing the impact of project

CHEA GLIMPSES

Training/Exposure Visit



Sharing of knowledge in LEAD session, South Africa



Out of state visit: to upgrade skill for resource mobilization



Learning the processing of NTFPs for expanding in project area



CHEA's participation at state level workshop



Exposure visit: to model village Daurab in Turkshet



Training on MAP cultivation: new avenue for livelihood generation

- v. **Roof water harvesting tank:** In all 15 units will be established during first year.
- vi. **Low cost poly house:** The poly house would also ensure the increase in per unit area production and also serve the crop shelter during winters and also fasten the growth of different commercial crops during off season. In all 15 structures will be established.

2.3. Art, Culture and Handicrafts Promotion in Mountains

2.3.1 Cluster Development: Carpet Weaving in Munsyari, Pithoragarh

Handloom cluster of Munsyari is a century old traditional craft practiced by inhabitants of the area. The inhabitants of this location did not have any other options but to take up this weaving as main occupation to earn their livelihood. Cluster area in Munsyari is mostly dominated by Bhutia and Kumauni community whose principal occupation is weaving and they referred as weaver class in the society. Most of the weavers in the cluster area do possess an individual unit of handloom in the common households and the family members support the main weaver in all ancillary weaving activities. The weavers of Munsyari using to weave for own consumption by procuring wool from the domestic animals like sheep and goat. At present the weavers mostly produce products like Loi, Shawl, Carpet, Chutka, Sweater, and caps.

Despite having enormous experience and practical knowledge of weaving, weavers are not fetching enough income due to lack of collective approach as well as advance technologies in the field of weaving. The engagement of weavers in other income generating activities has also adversely affected the carpet weaving sector since last few years.

Project area

The cluster covers 05 villages i.e. Daranti, Ghorpatta, Jainti, Sarmoli and Bunga of Munsyari Development Block of Pithoragarh district.

Activities undertaken during reporting period

- i. **Formation/adoption and reconstitution of SHG's:** Most of the existing SHG's were reconstituted in project villages without modification of SHG office bearers. In all 28 SHGs have been formed/adopted to cover all the beneficiaries and smooth functioning of project concept.

- ii. **Strengthening of SHGs:** The Cluster Development Agency is mobilizing artisans of the area as a carpet enterprise group or self help group (SHG). The group members meet once a month for progress sharing and future plans.
- iii. **Training and capacity building:** Training is the integral part of the ongoing project to build the capacity of the artisans and developed there produce up to the market standard. Following trainings were organized during the period:
 - a. Training on SHG functioning and micro finance
 - b. Training on Book keeping
 - c. Technical training (i) Training on weaving system improvement and (ii) Training on Skill up gradation (Identification and skill design training of artisans)
 - d. Training on quality control
 - e. Building entrepreneur skills among beneficiaries
 - f. Dyeing and advanced drying techniques
- iv. **Availability of raw material supply:** To system and giving the bargaining power back to weaver class the input supply need to be ensured. Raw material such as wool, cotton yarn/threads were procured and supplied to the project area and distributed among beneficiaries.
- v. **Renovation of sub-centers and existing looms:** In all 15 looms were repaired for competing with present market and following the trend demanded by the consumers with less labor and quality assurance.
- vi. **Workshops:** A workshop was organized to give him in depth and holistic concept of the project. SHG office bearers with some active and progressive members were invited to share their views with CGM, NABARD. CGM NABARD.
- vii. **Buyer's sellers meet:** The meeting with Mr. Vijay Thakur former Chairman of Carpet Export Promotion Council (Ministry of Textiles, Government of India) and Managing Director of Cottage Crafts of India was positive and beneficial regarding the objective of the project.
- viii. **Market Survey and tie ups:** Discussions with Jaipur Rugs a Jaipur based one of the biggest carpet manufacturer, supplier and export house are in progress for market linkages of the product. HR-CSR have visited the project area with project team was overwhelmed with having talks to weavers and the pattern they are practicing.

2.4. Library cum Documentation Centre on the Mountains and Mountain Regional best practices

2.4.1 Scope and Mapping of Potential Sites for Producers Managed Retail Outlet in Uttarakhand

The agriculture production in the hills mostly fulfils the subsistence needs of the farmers. However, horticulture practices are much more beneficial in contrast to agriculture in case of hilly region because this sector has vast potential. First, the varied climate of the region makes it an ideal location for growing temperate, subtropical and tropical fruits that fetch a high value in local, regional, national and international markets. In addition to this the area is also suitable for off-season vegetable cultivation which usually receive higher prices in the plains area. Finally, and perhaps most significantly, the consumption pattern of the average Indian is shifting toward fruits and vegetables and hence the demand for these products are going to increase over time. Unfortunately, despite these advantages, the horticultural produce is not providing the farmers with higher incomes, due to the absence of necessary infrastructure, institutions and incentives.

In the face of economic backwardness, generating remunerative livelihoods in hill region of the state will help in development of these hill districts. To change the economic and social backwardness in these hill districts it is important to adopt a strategy based on long-term planning that will take steps to counter all the problems.

The Regional Economic Development (RED) programme, a partnership between Uttarakhand Government and GTZ initiated a field based study to capture the trends and practices, and to assess the scope of retail marketing of horticulture produces to maximize benefits to the farmers.

Study area

The study covers all the potential sites falling in the hilly areas of 11 districts in the state. Nine districts (Almora, Chamoli, Pauri, Tehri, Uttarkashi, Rudraprayag, Pithoragarh, Champawat and Bageshwar) of the state those completely falls in hilly terrains along with 02 districts (Nainital and Dehradun) those falls largely in plains region with some portion in the hills were studied.

Objectives

The main objective of the study was to identify the potential sites to market agro produce of the near by areas through a retail outlet which would be managed by farmers. Hill districts have a comparative advantage of climate and according

strategy can be developed for comprehensive growth based on specific district/place requirements. The objectives of the study are:

- To assess the overall potential of localised retail business for local agro commodities.
- To develop well defined concept of producer controlled retail system.
- To map/identify the potential consumption hubs in hilly region of Uttarakhand with suitable model of proposed retail system.

This study proposes a strategy for a planned approach to market and to give maximum returns to producers for their agro produce. A collective marketing approach is proposed as an efficient way to improve land productivity and sustain it. Developing marketing linkages of local produce, processing of fruits and vegetables, can provide livelihood security and support. Development of all these areas along with infrastructure development and better marketing facilities can be a direction for sustainable development of the hill regions for better quality of life to the inhabitants and to help halt migration from villages.

Accordingly, presentations were made in Vikas Bhawan of each district by organizing the workshops.

Work done during the period

The presentation on farmer based retail outlet were made district specific and focused on the outcome of the study. The main objective of the presentation was to share the study with the government personnel those are actually responsible and involved in planning of development programme. It was also considered that the Chief Development Officers should be available during the presentations and in case of his absence Project Director, DRDA should chair the programme. Participation of district level officers from different departments was also ensured. During the presentation Chief Agriculture Officer, District Horticulture Officer, District Development Officer, Block Development Officers along with representatives from different programmes and project. NGOs, Farmer federations and farmers were also present and explored their inputs for the successful implementation and execution of the farmer based retail outlet at identified location in near future.

2.4.2 First Late Prof. S.L. Shah Memorial Lecture

Late Prof. S.L. Shah, who has the enduring determination and tenacity of defining a path for rural development, was one of the founder members of CHEA. Prof. Shah, a retired professor of agriculture economics, nurtured a dream of making villages of a near home stream catchment to regain health of their fields, forest,

pastures, springs, livestock and people's community. This dream was realized through implementation of Kosi Valley Action Research Project in Khulgad watershed with his endless efforts and the CHEA team, providing a model for rural development in the hill region.

To pay homage to Late Prof. S.L. Shah, CHEA organised First S.L. Shah Memorial Lecture on 19th of November, 2010 at Challet Hall, Nainital. The executive director of Himalayan Action and Research Centre (HARC), Mr. Mahendra Kunwar was the key speaker of the event and delivered the lecture on "Social development process is depend on community empowerment: An Experiences of HARC ". Dr. L.M.S. Palni, Director, GBPEHID, Kosi Katarmal, Almora was the chief guest for the event and later shared his views. Dr. R.S. Tolia, Chairman, CHEA; Shri Shailesh Bagoli, District Magistrate, Nainital; Prof. S.P. Singh, Advisor Planning Commission, Government of Uttarakhand and other dignitaries from Nainital were also present in the event and expressed their views.

2.4.3 Indian Mountain Initiative

The *Indian Mountain Initiative*, as resolved by the CHEA Council and endorsed by its General Body, proposes to undertake this Open and Continuous Dialogue on mountain concerns, (i) through *Annual Thematic Summits* at Naini Tal, on a few selected themes, year after year , and (ii) by encouraging *establishments of various Thematic Networks* spread –over the Indian mountain states on various 'mountain – themes and concerns' .

The Indian Mountain Initiative, or In MI in brief, takes into account the Global Mountain scenario and the Regional Mountain scenario. Like the Concepts and Strategies which were published in 1985, as result of the Seminar held on 24-26 October 1983 a Strategy Paper has been prepared and has been titled as the Indian Mountain Initiative, or InMI in short. This Strategy Paper recounts the Global, Regional and Indian Mountain Scenarios which have evolved since the very beginning, at each level. In a way it allows CHEA, its members or verily every mountain person to know where precisely the 'mountain-development', and thus mountains themselves, stand in time and space.

The Indian Mountain Initiative is being initiated in order to ensure that all Indian Mountain states, who presently have no mechanisms in place where all stakeholders could hold open and informed dialogues, from time to time could be provided one such forum.

As the latest Task Force on hill states and hill areas has also suggested that "the IHR States must agree to a common essential platform for regular interaction

and from therein, decide on a common essential plan for the region.” It has recommended establishment of a Himalayan Development Forum for all IHR States. In view of the fact that various similar recommendations of the various Working Groups and Task Forces have not had any tangible manifestation in terms of concrete timely action at the national level, the Central Himalayan Environment Association, CHEA, based at Naini Tal, in Uttarakhand has resolved to take upon itself to follow-up this extremely timely and relevant recommendation of the Task Force and attempt to get all stakeholders involved in the process and create and generate sufficient momentum that through the implementation of the Mountain Agenda, as envisaged in Chapter 13, Agenda 21 of Rio Declaration and the National Mission on Sustainable Himalayan Ecosystems of the National Action Plan on Climate Change gets implemented, maximizing the over-all gains in favour of the Mountain Ecosystems of the 11 Indian Mountain States. The Indian Mountain Initiative shall also try to harmonize the efforts of the Indian government with those of the Mountain Initiative prepared as a collective of the Mountain nations and nations with mountain ecosystems, which includes India.

3. CHEA's Participation in Training/Seminar/Workshop/Meeting

- Workshop on "Experience Sharing to Improve Watershed Programme with Focus on Agribusiness". Organized by UDWDP, Kumaon. 12 April, 2010 at Hadwani.
- Workshop on "Developing Result Based Monitoring System (RBMS)". Organized jointly by GTZ and FACKT, Germany. 10-11 May, 2010, Dehradun.
- International Workshop on "Instruments for Project Management and Capacity Development". Organized jointly by UDWDP, Dehradun and GTZ-NRM, Delhi. 16-20 August, 2010, Dehradun.
- Training cum Workshop for "Capacity Development Managers of Watershed Projects". Organized jointly by MANAGE and GTZ-NRM. 25-28 October, 2010, Hyderabad.
- Workshop on "Planning and Implementation of MNREGA Programme in *Van Panchayats* (VPs)". Organized by District Administration. 7 January, 2011, Almora.
- Seminar on "Awareness, Motivation and Technology Transfer for Development of Beekeeping". Organized by National Bee Board, Delhi. 17-18 March, 2011, Dehradun.
- Training on Micro Planning, organized by Himmothan Society at INHARE, Chinoni , 25th – 29th November, 2010.
- Workshop on "MAP and Micro Enterprise", organized by SRTT, Dehradun, 12th -13th October, 2010 .
- Study tour: Chhattisgarh State Minor Forest Produce Cooperative Federation Limited, Raipur. 5th – 11th September, 2010.
- LEAD International Session on Population, Climate Change and Development, Port Elizabeth in South Africa, October 31- November 6, 2010
- 8th Asia-Pacific Leadership Programme on Environment for Sustainable Development organised by UNEP- Tongji University at Tongji University, Shanghai, China, 16th - 23rd September, 2010

4. Key Funders/Partners (Past and Present)

- Aajeevika, an IFAD assisted Project in Uttarakhand
- Birla Institute of Applied Research, Bhimtal, Nainital
- Centre for International Forestry Research (CIFOR), Bogor, Indonesia
- Department of Agriculture and Cooperation, Agriculture Ministry, Government of India, New Delhi
- Forest Department, Government of Uttarakhand
- G. B. Pant Institute of Himalayan Environment & Development, Kosi Katarmal, Almora
- Horticulture and Food Processing Department, Uttarakhand
- Indian Institute of Management, Lucknow
- Indian Institute of Technology (IIT), Roorkee, Uttarakhand
- International Centre for Integrated Mountain Development (ICIMOD), Nepal
- Kumaun University, Nainital, Uttarakhand
- National Bank for Agricultural & Rural Development (NABARD), Uttarakhand
- Regional Economic Development programme for Uttarakhand, German Technical Cooperation (GTZ), New Delhi
- Research Centre of Coldwater Fisheries, Bhimtal
- Sir Dorabji Tata Trust, Mumbai
- Sir Jamsetji Tata Trust, Mumbai
- South Asia Regional Initiative (SARI), USAID, New Delhi, India
- The Ford Foundation, New Delhi, India
- Uttarakhand Decentralized Watershed Development Project, Uttarakhand
- Uttarakhand Organic Commodity Board (UOCB), Dehradun
- Uttarakhand Renewable Energy Development Authority, Uttarakhand (UREDA)
- Himmothan, Dehradun

(The aforesaid list is given in alphabetic order and does not represent any classification or preference)

5. Visitors at CHEA and its field operations 2010-11

- Agency for Integrated Development Action (AIDA), Don Basco Provincial House, Dimapur, Nagaland, India.
- Dr. Andreas Springer, Technical Advisor, GIZ Head Office, Germany.
- Dr. B.G. Singh, District officer BAIF, Almora.
- Mr. B.S. Bisht, DDM, NABARD.
- Mr. Clwe Weihert, Consultant, GIZ, Uruguay .
- Mr. Gottfried Hilz-Ward, Senior consultant, Tourism development and planning, GRF Tourismusplanung, Weigasse Eppstein, Germany.
- Mr. H.S. Supyal, ULIPH, Bageshwer.
- Mr. Karan Mahara, Member of Legislative Assemble, Ranikhet.
- Prof Kwan Tun lee, National Taiwan Ocean University and Dr Ravinder Kaur, Indian Agricultural Research Institute Indo-Taiwanese Program of Co-operation in S & T.
- Mr. Nikhil Gopal Agrawal (MSW), Phd Student, Delhi School of Social Work, University of Delhi, Delhi-110007, Purpose: Learning of Uttarakhand livelihood Pattern for study purposes.
- Miss Nikita Rawat, Student, I.P. University, Delhi.
- Mr. Subrat Roy, Dr. Indraneel Gosh, Mr. Rajeev Ahuja and Mr. S. Chauhan GIZ, Dehradun
- Mr. V.K. Bist, AGM(DD), NABARD, Almora.
- Miss Vartika Pande, Student, Hindu college, University of Delhi.
- Mr. Virender Adhikari , GBPIHED, Kosi-Katarmal
- Dr. Yaspal Bisht, Coordinator HIMMOTHAAN, Dehradun
- Miss Zankhana Shah, MPhil student, Department of Land Economy, University of Cambridge
- Mr. Ziya Ahmadee, UN-Habitat, Afghanistan.

Note: The aforesaid list of visitors to CHEA during 2010-11 is in alphabetical order and does not represent any preference.

6. List of Council Member 2010-11

(As on 31.03.11)

Sl.	Name	Address
1.	Chairman	Dr. R.S. Tolia Former Chief Secretary, Uttarakhand
2.	Vice-Chairman	Dr. P.P. Dhyan Scientist 'G' GBPIHED, Kosi- Katarmal (Almora)
3.	Hony. Secretary	Dr. P.D. Pant Department of Geology Kumaun University, Nainital
4.	Jt. Secretary	Dr. Jeet Ram Head, Forestry Department Kumaun University, Nainital
5.	Jt. Secretary	Prof. Uma Malkania Head, Department of Environment Science G.B. Pant Agriculture & Technology University Pantnagar
6.	Councillor	Prof. S.P. Singh Advisor Planning Commission, Uttarakhand
7.	Councillor	Mr. Sushil Ramola Social Entrepreneur, Palam Vihar, Gurgaon, Haryana
8.	Councillor	Dr. R.C. Sundariyal, Director, Herbal Research Development Institute, Gopeshwar
9.	Councillor	Dr. G.L. Shah, Professor, Department of Geography Kumaun University, Nainital
10.	Councillor	Mr. Anup Shah Horticulturist & Photographer, Nainital
11.	Councillor	Dr. G.C.S. Negi Scientist GBPIHED, Kosi-Katarmal, Almora

7. Publications

Books/Pamphlets/Flyers	Year	Author/Editors
1. Environment Regeneration in Himalaya Concepts and Strategies	1985	Dr. J. S. Singh
2. Perspectives of Biomass Production and Utilization in Central Himalaya	1988	Dr. S. P. Singh
3. A Perspective, 2000 AD & Beyond	1990	A. D. Moddie
4. Farming System Approaches in the Development of a Sustainable and Viable Agriculture in the Khulgad Micro Watershed Concepts, Strategies, Constraints and Learning Lesson	1995	S. L. Sah & K. C. Sharma
5. Padap Rog Avam Niyantaran Plants Diseases & Control (Cereals, Pulses, Vegetables, Fruits & Tea)	1996	Dr. R. D. Khulbe
6. Sustainable Replicable Eco-Development in Central Himalaya /Uttarakhand	1997	Dr. S. L. Sah
7. The Khulgad Project An Experiment in Sustainable Development	1998	K. S. Valdiya
8. Fungal - Diseases of Vegetables	2001	Dr. R. D. Khulbe
9. Vermiculture Kya? Kiyun? Kaise	2003	Dr R Koshiyari
10. Uttaranchal Mein Audhyanik Vikas Hetu Kam Lagat LDPE Tank	2004	P. Nagarkoti
11. Uttaranchal Mein Polyhouse Ki Pahal	2005	Dr. P. Tewari
12. Uttaranchal Mein Chai Vikas Ka Safarnama... Bouquet Chai Say Uttaranchal Brand Tak	2005	Edited by CHEA
13. Parvatiy Kshetron Mein Udpadit Ki Jaane Wali Unnat Chara Ghasein	2006	CHEA
14. Vanya evam Fal Prajati ki Nursery: Sthapna, Rakh-Rakhaw evam Prabndha	2006	CHEA
15. Pashu Prabndha ki nayee takneekon ke prasar dwara aajeevika sudhar	2006	CHEA
16. Jal Sanrkshan aur Khal: Uddeshya, Nirman evam Upyogita	2006	CHEA
17. Paudharopar Takneek: Prakriya aur Jankari	2006	CHEA
18. Hamare Van Aur Carbon	2006	CHEA
19. Pamphlets on Organic cultivation of Vegetables i.e. Cauliflower; Potato; Capsicum & Pea.	2006	CHEA
20. Kuteer Udyog se Aajeevika Sudhar: Swayam Sahayata Samooh ki Rahe	2007	CHEA

21. Himalayee Kshetro mai Maun Palan	2007	CHEA
22. Pashupalan mai Nad evam Kutti ki upyogita	2007	CHEA
23. Kritrim Garbhadhan dwara Nasl Sudhar	2007	CHEA
24. Himalayan Forest Ecosystem Services Incorporating in national accounting	2007	Prof. S. P. Singh
25. Pamphlets on Prakriti, Manav aur Paryavaran	2007	Dr. G. Bisht
26. Carbon and Community Forestry in the Himalaya	2007	Jointly written by CHEA, KMTNC and ICIMOD.
27. Nasargik Nainital	2008	Hindi Translation by CHEA
28. Flyer on "The Kyoto Protocol: A Brief"	2008	CHEA
29. Flyer on Kyoto: Think Global, Act Local Project	2008	CHEA

Training manual (*developed for Learning for Community Empowerment Program (LCEP-2), UN-HABITAT, Afghanistan*)

-
30. Beekeeping in the Himalayan Regions
 31. Mushroom Cultivation
 32. Fish Farming
 33. Backyard Poultry
 34. Training to develop/reinforce skills, knowledge and attitude for conducting training/ methods, designing and management of a training event
 35. Agro-Horti System: Horticulture plants and vegetable cultivation, nursery raising and composting techniques
 36. Protected Cultivation by Use of Poly-sheets (Poly-tunnel/Poly-pit/Poly-house)
 37. Irrigation Technologies (Harvesting and Management)
 38. Processing and Preservation of Agro-Horticulture Produce
 39. Post Harvesting, Value addition and Marketing Strategies

Bulletin

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40. CHEA Bulletin Vol. - 1 to 11

Research papers

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8. Financial Summary 2010-11

AUDITOR'S REPORT

TO
THE MEMBERS,
CENTRAL HIMALAYAN ENVIRONMENT ASSOCIATION
NAINITAL

1. We have audited the Balance Sheet of Central Himalayan Environment Association as at 31 March 2011 and the relative Income and Expenditure Account ended on that date, both of which we have signed under reference to this report.

These financial statements are the responsibility of the management. Our responsibility is to express an opinion on these financial statements based on our audit.

We have conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

2. The balance sheet and Income and Expenditure Account dealt with by this report are in agreement with the books of accounts.
3. We have obtained all the information and explanations which, to the best of our knowledge and belief were necessary for the audit.
4. 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
 - 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 Receipts and Payments Account, the receipts and payments reflected therein.

For Manish Khanna & Co.
Chartered Accountants

Manish Khanna, FCA, DISA (ICA)
Proprietor, Membership No 077858
Dated: May 20, 2011
Place: Nainital

Abridged Balance sheet as at 31 March 2011

Sources of funds	<u>31.3.2011</u>	<u>31.3.2010</u>
Capital Fund	<u>12,160,253.91</u>	<u>12,010,253.91</u>
Reserves		
(a) Association's objectives		
General Reserves	<u>3,302,209.49</u>	<u>2,907,911.38</u>
(b) Association's Specific Purpose Reserves	<u>3,064,000.97</u>	<u>1,730,110.42</u>
(c) Ford Foundation Endowment Grant Objective Reserves	<u>805,212.33</u>	<u>805,212.33</u>
Total sources of funds	<u>19,331,676.70</u>	<u>17,453,488.04</u>
Application of funds		
Fixed assets [written down value]	<u>51.00</u>	<u>52.00</u>
Investments (stated at cost)	=	<u>350,000.00</u>
Fixed Deposits in banks - Corpus Grant	<u>10,791,969.00</u>	<u>10,791,969.00</u>
Net Current assets		
Current assets		
(a) Cash and bank balance (including FDR)	<u>10,497,586.29</u>	<u>9,431,928.70</u>
(b) Other assets	<u>528,249.00</u>	<u>454,298.00</u>
Total current assets [a]	<u>11,025,835.29</u>	<u>9,886,226.70</u>
Current liabilities		
(a) Unspent grants	<u>2,479,214.59</u>	<u>3,113,959.46</u>
(b) Other liabilities	<u>6,964.00</u>	<u>460,800.20</u>
Total current liabilities[b]	<u>2,486,178.59</u>	<u>3,574,759.66</u>
Net current assets [a-b]	<u>8,539,656.70</u>	<u>6,311,467.04</u>
Total application of funds	<u>19,331,676.70</u>	<u>17,453,488.04</u>
For Central Himalayan Environment Association (CHEA)		
Sd/-	Sd/-	Sd/-
Dr P.P.Dhyani	Dr. P.D.Pant	Dr Pushkin
Vice-Chairman	Hony. Secretary	Phartiyal Executive Director
		Sd/-
		Manish Khanna,
		FCA, DISA(ICA)
		Proprietor

Dated: May 20, 2011

Abridged Income and Expenditure account for the year ended 31.3.2011

	<u>31.3.2011</u>	<u>31.3.2010</u>
Income		
Member subscription	2,000.00	16,000.00
Implementation cost of projects	545,797.00	1,854,533.00
Interest earned on bank deposits	2,071,088.04	1,440,160.18
Interest on Income tax refund	9,769.00	-
Other income	-	612.00
Total earnings	<u>2,628,654.04</u>	<u>3,311,305.18</u>

Expenditure

Depreciation and Write offs	16.00	-
Balwari program	30,892.58	116,504.00
Livelihood and sustainable development programme	110,116.00	153,578.66
Seminar & workshop/ Environmental Programs	38,964.00	28,083.00
Excess grant spent written off/ Transfer from reserves	3,169.00	-
Establishment and other expenses	454,817.84	497,908.49
Prior period adjustment	112,489.96	-
Total expenditure	<u>750,465.38</u>	<u>796,074.15</u>
Surplus for the year	<u>1,878,188.66</u>	<u>2,515,231.03</u>

For Central Himalayan Environment Association (CHEA)

Sd/-
Dr P.P.Dhyani
Vice-Chairman

Sd/-
Dr. P.D.Pant
Hony. Secretary

Sd/-
Dr Pushkin
Phartiyal Executive
Director

Sd/-
Manish Khanna,
FCA, DISA(ICA)
Proprietor

Dated: May 20,2011

**CENTRAL HIMALAYAN ENVIRONMENT ASSOCIATION,
NAINITAL**

Outlays from Grants and CHEA Fund : FY 2010-11

A	Four Thematic Action Group	
1	Climate change, with special reference to Mountain and Adaptation Activities for Mountain Regions	90,026.00
2	Rural Livelihood Initiatives in Mountain Regions for Mitigating Rural Poverty	6,909,304.24
3	Art Culture and Handicrafts Promotion in Mountains	49,961.00
4	Library cum Documentation Centre on the Mountains and Mountain Regional best practices	479,194.00
	Total	7,528,485.24
B	Administration Overheads	568,118.84
	TOTAL	8,096,604.08

For Central Himalayan Environment Association (CHEA)

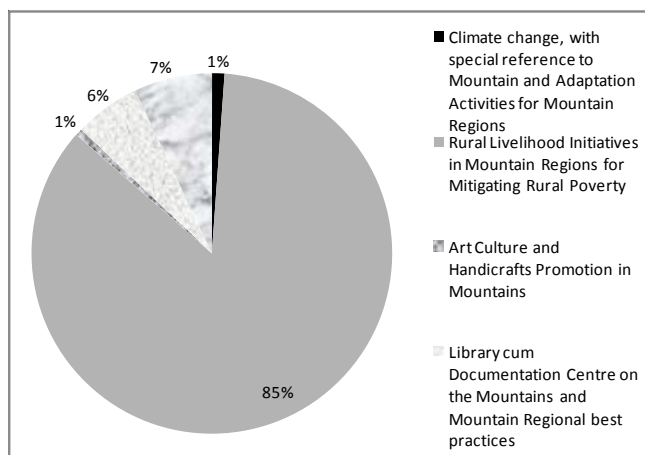
Sd/-
Dr P.P.Dhyani
Vice-Chairman

Sd/-
Dr. P.D.Pant
Hony. Secretary

Sd/-
Dr Pushkin
Phartiyal Executive
Director

Sd/-
Manish Khanna,
FCA, DISA(ICA)
Proprietor

Dated: May 20,2011



9. CHEA Team 2010-11

Sl.	Name	Specialization	Position in Project
1.	Strengthening Community Managed Institutions for Enhancing Livelihood Options in Uttarakhand		
1.1	Dr. Pushkin Phartiyal	Community Participation and Project Management	Co-coordinator
1.2	Dr. Pankaj Tewari	Project Management	Sr. Project Manager
1.3	Mr. Vijay Adhikari	Environment Science	Project Manager
1.4	Ms. Deepa Upadhyaya	Accounting	Accountant
1.5	Mr. Suresh Badhani	Horticulture promotion & Documentation	Astt. Project Manager
1.6	Mr. Gopal S. Nagarkoti	Nursery development	Gardner
1.7	Mr. Anil Kumar	SHG & market linkages	Community facilitator
1.8	Mr. Basant Joshi	Community Participation	Community facilitator
2.	Sustaining Rural Livelihoods through the Cultivation and Conservation of Non Timber Forest Products (NTFPs) and Medicinal and Aromatic Plants		
2.1	Dr. P Tewari	Co-ordination and management	Co-ordinator
2.2	Mr. Vijay Adhikari	Research and documentation	Project Manager
2.3	Mr. G.C. Joshi	Community Participation	Field Task Manager
2.4	Mr. Naveen Joshi	Documentation	Office Assistant
3.	Agribusiness Support Agency under the Decentralized Watershed Development Project (UDWDP) Gramya, Haldwani		
3.1	Dr. Pushkin Phartiyal	Coordination and Community participation for Value chains	Coordinator
3.2	Dr. Pankaj Tewari	Project Management	Sr. Project Manager
3.3	Mr. P.S. Nagarkoti	Technical post harvesting, handling supply chain management and logistic support	Project Manger
3.4	Mr. Satish Joshi	Dissemination of technology for improved farm practices	Manager
3.5	Mrs. Bhawana Joshi	Business promotion	Manager
3.6	Mr. Surendra Bhandari	Market linkage	Manager Marketing
3.7	Mr. Mohan Bhatt	Community Participation	Field Task Support
3.8	Mr. Madan Bisht	Community Participation	Field Task Support
4.	Scope and mapping of potential sites for producers managed retail outlet in Uttarakhand		
4.1	Mr. Deepak Joshi	Market economics	Key Researcher

4.2	Mr. Kundan Bisht	Market research and analysis	Key Researcher
5. Improving livelihoods through knowledge partnerships and value chains of bee products and services in the Himalayas			
5.1	Dr. Pushkin Phartiyal	Community participation and management	Co-ordinator
5.2	Mr. Kundan Bisht	Project management & Documentation	Project Manager
5.3	Mr. Satish Joshi	Apiculture, Beekeeping	Researcher
5.4	Mr. Surender Bhadari	Data analyst	Researcher
5.5	Mr. Govind Nagarkoti	Field survey	Team Member
6. Livelihoods improvement project for the Himalayas, Bageshwar & Almora-Uttarakhand			
6.1	Mr. Kanahiya Upadhiyaya	Project management	Co-ordinator
6.2	Mr. P.S. Nagarkoti	Appropriate technology	Engineer
6.3	Mr. Surendra Bhandari	Documentation	Team Member
6.4	Mr. Anil Kanwal	Documentation	Team Member
6.5	Mr. Dheeraj Joshi	Field survey	Team Member
7. SHG Formation and Linkages programme under NABARD in Tarikhet Development Block			
7.1	Mr. Deepak Joshi	Coordination & Linkages	Coordinator
7.2	Mr. Ganesh Lal	SHG formation & micro credit	Manager
7.3	Mr. Pooran Chandra	Community mobilization	Field assistance
8. Carpet weaving: Cluster Development Agency			
8.1	Mr. Deepak Joshi	Business promotion & marketing linkages	Project Manager
8.2	Mr. Naveen Joshi	Business promotion & marketing linkages	Cluster Development Facilitator
9. Farmer Club			
9.1	Mr. Deepak Joshi	Project management	Project Manager
9.2	Mr. Ganesh Lal	SHG and community participation	Field Task Manager
10. Appropriate Technologies for Strengthening Bee Based Livelihood Activities in Rural Hills			
10.1	Mr. Kundan Bisht	Project Management	Project Manager
10.2.	Mr. Satish Joshi	Beekeeping	Reseracher
10.3.	Ms. Devendar Singh	Community participation	Field Support
11. Cluster Development: Off Season Vegetable Cultivation through organic interventions in Tarikhet, Almora			
11.1	Mr. Deepak Joshi	Project Management	Project Manager

11.2 Mr. Ganesh Lal Community participation Asst. Project Manager

12. Cluster Development- Infusion of Appropriate Rural Technologies for Enhancing Off- Season and Protected Vegetable Cultivation in Okhalkanda, Nainital

12.1 Ms. Deepak Josht Project management Project Manager

12.2 Mr. Mohan Bhatt Community participatiion Field support

12.3 Mr. Anil Kanwal Community participatiion Field support



Administrative Office

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Uttarakhand, India

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