

The Rufford Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	SHALINI DHYANI
Project title	Strengthening Community Conservation Initiatives by establishing resource centre for integrating livelihood and conservation in Kedarnath Wildlife Sanctuary
RSG reference	10326-1
Reporting period	July 2013-August, 2014
Amount of grant	£6000
Your email address	Shalini3006@gmail.com
Date of this report	25 -12- 2014

1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
<p>Integrated Conservation program by Establishment of a Livelihood Resource Centre (LRC) for integrating livelihood and conservation for strengthening Community Conservation Initiatives (CSI)</p>				<p>After a long dialogue and mutual consent of locals LRC of the community for the community and by the community was established in Maikhanda village of District Rudraprayag, Uttarakhand. Besides, two local persons (Mr. Birulal and Mr. Harsh Prakash Semwal from Maikhanda and Shersi village respectively) were also full time involved as master trainers for capacity building and awareness generation activities of the LRC in village cluster and nearby other villages like Shersi, Badasu, Rampur, Triyuginarayan and Tausi based on their self-motivation and interest in the activity. They are still help us in managing the activity and also the small plant nursery we had established for ex-situ conservation and mass propagation of some wild multipurpose trees.</p>
<p>To explore locally available resources for generating economy and novel livelihood opportunities while building capacity of women, farmers, youth and weaker sections of society and key stakeholders in the area.</p>				<p>In-depth surveys were carried out to understand the potential wild resources as well as agroforestry and agro horti resources available in the village.</p> <p>Besides, the technical knowhow for local value addition and bio prospecting of wild edibles; manufacturing of craft items from local <i>ringal</i> bamboo for livelihood enhancement was also provided.</p> <p>Wild edible plants species those were available in and around the village like <i>Rhododendron</i> flowers; <i>Diplazium</i></p>

			<p>fronds; <i>Myrica esculenta</i>; <i>Berberis aristata</i>; <i>Viburnum mullaha</i>; <i>Neolitsea pallens</i>; <i>Prinsepia utilis</i> fruits in sufficient availability of village vicinity were chosen by local communities' suggestion to demonstrate the potential and procedure for developing local value added products using local cost effective resources. Locals were also trained in sustainable and responsible harvesting of wild products from forests that also ensured least wastage of resources. The experts from fruit processing institute were also involved for developing and demonstrating the products before the villagers so that they could early adopt it for their own consumption (to enhance nutrition content in their daily diet) and also as alternative livelihood option to reduce direct pressure from forests.</p> <p>Organic cultivation of lesser known wild edibles and off seasonal vegetation training was also included in the programme.</p> <p>We also developed some slide shows for local people to generate awareness among them about potential of wild edibles and why their conservation is so much desired for our future and coming generations.</p> <p>In the same drive during training programmes after one year on project inception some progressive farmers who showed their willingness were provided minor handicraft tools for local Ringal bamboo crafting. Customised T-Shirts were also distributed.</p> <p>Basic marketing skills for their products were also managed that included sale of their products initially in local fair and markets.</p>
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<p>To provide practical knowledge/training for rehabilitating the village community wastelands and cropland bunds with lesser known underutilised wild plants species to lessen the pressure on the wild resources available in forests.</p>				<p>Six capacity building and training workshops for women, farmers, school going students and weaker sections were carried out. Mahila Mangal Dal of the villages Talla and Malla Maikhanda and Phata actively participated in this capacity building and training workshop. Master Trainer and Programme Leader along with team demonstrated the proper method value addition of variety of wild edible plants; Organic farming of off seasonal vegetables; of planting some fast growing and high biomass yielding grass species in their cropland bunds and handicraft preparation from local ringal bamboo and it's domestication in village vicinity so that resources in wild and high altitudes are not pressured much due to huge extraction.</p>
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

The project work was carried out in hill terrain of Himalayan region in Uttarakhand state of India. The region was adversely suffered from a natural calamity, declared national calamity by government. On 16th and 17th of June 2013, the Upper Kedarnath valley our project area experienced a cloud burst, coupled with glacial lake outbreak along with torrential rains. This caused sudden flash floods associated with landslides and earth flows in the valley both upstream and downstream of the valley. From 14 to 17 June 2013, in just 3 days, the entire Garhwal including the study area received heavy rainfall, which was about 375% more than the standard rainfall that falls during the normal monsoon in the region. Following the cloud burst, the Chorabari Lake (3800 m.a.s.l.) above Kedarnath shrine collapsed resulting in a flash flood in the valley. Millions of tons of debris and rocks were carried downstream by these flash floods. This resulted in washing out of human settlements in Kedarnath, Rambara and many small villages downstream, and the loss of more than 20,000 lives including tourists. The Kedarnath disaster left the entire country contemplating the failure of the National Disaster Management Authority, unorganized tourism in sensitive valleys and enhanced deforestation and degradation at high altitudes. So, the project activities could be initiated only after Nov. 2013 after there was some accessibility for the village.



3. Briefly describe the three most important outcomes of your project.

I. Livelihood Resource Centre:

We before initiating the project had firm belief that the LRC concept and approach can help in promoting the role of livelihoods in initiating forest conservation post-FB. A survey was undertaken of LRCs in order to understand their effectiveness, and the potential of this approach in reducing pressure on forests by involving forest dependent poorer segments of the community and other key stakeholders. Local communities were interviewed regarding their understanding about the linkages between conservation and livelihoods to reduce pressure on natural forests and options for *ex-situ* conservation of economically important plants. More than 68% respondents of Maikhanda village followed by 61%, 59%, 56%, 53%, 51% from Shersi, Tausi, Triyuginarayan, Kongarh and Nyalsu, respectively responded positively for linking conservation with livelihoods to ensure long-term reduction of pressure on forests. According to respondents from all these villages, most of the governmental and also non-governmental projects do not attract the attention of villagers when monetary benefits are low or negligible, a major reason explaining the failure of such projects.

Establishment of Livelihood Resource Centre (LRC) enhancing people's well-being through knowledge, innovation and transformative actions in Maikhanda village of upper Kedarnath valley of Rudraprayag district Uttarakhand.

The core program consists of:

- A Gateway of Information to any information seeker including women, weaker sections of the community and others from Maikhanda village cluster, related to livelihood, sustainable, just, responsible utilization and resource conservation for future generations by information material, demonstration, consultation etc.
- Identification of resources available in forests and village vicinity; mapping the resources and their potential for future.
- Alternative livelihood guidance that leads to reduce pressure on natural resources and forests.

- Initial market required training by skilled trainers to local unskilled women and village inhabitants.



II. Strengthening, linking and livelihood enhancement: Strengthening and linking the wild bio resources to the marginal farmers as well as livelihood enhancement through awareness generation and practical application with clear understanding of ecological and economical value of natural resources.

III. The approach involved quarterly capacity building and training programmes with the aim to improve the understanding of local communities of sustainable resource harvesting from nearby forests. LRC also involved training local communities for innovative livelihood options. Master trainers demonstrated and generated awareness about innovative livelihood options such as off-season organic vegetable cultivation, bamboo made handicrafts, nursery raised important indigenous plants, dry flower arrangements, and value added agricultural product development.

Successful entrepreneurs were also involved to share their success stories to motivate local communities. LRC explored locally available cost-effective natural resources for enhancing livelihood options for local communities. This approach was to link local initiatives to market to generate alternative economic opportunities for local communities.



V. Publications and Awards:

1. First IUCN-CEM Chair Young Professional Award: For her extensive and impressive research and scientific publications on Botany and Forestry in Indian Himalayan Region Dr Shalini Dhyani, has been awarded the prestigious “IUCN Commission on Ecosystem Management (IUCN-CEM) Chair Young Professional Award” at World Parks Congress 2014 in Sydney, Australia. World Parks Congress is a landmark and prestigious global forum on Protected Areas, indigenous people; PA conservation and management issues that happens once in 10 years. This award is given for supporting brilliance and recognizing exceptional contributions made by young professionals for their work done in conserving and managing different ecosystems across the globe. Dr. Shalini was selected by a search committee that involved internationally renowned conservation academicians, professionals and practitioners belonging to a variety of international organizations. She was selected by them in appreciation for her extensive and impressive research in Forestry and Botany in Indian Himalayan Region. Her work was relevant to many aspects of the award and her list of publications was found excellent. The award brought her full funding from IUCN Commission on Ecosystem Management supported by GEF to present her work at World Parks Congress 2014, publication of her work in upcoming Springer publication by UNEP and a Plaque.

Link:https://www.iucn.org/about/union/commissions/cem/cem_resources/_ecosystem_news_3__2014/



Dr. Shalini Dhyani, receiving IUCN-CEM “Chair Young Professional Award from Global Chair, IUCN Commission on Ecosystem Management Dr. Piet Wit during on 14th Nov. 2014 in Nature based Solutions Pavilion during World Parks Congress 2014 at Sydney Olympic park

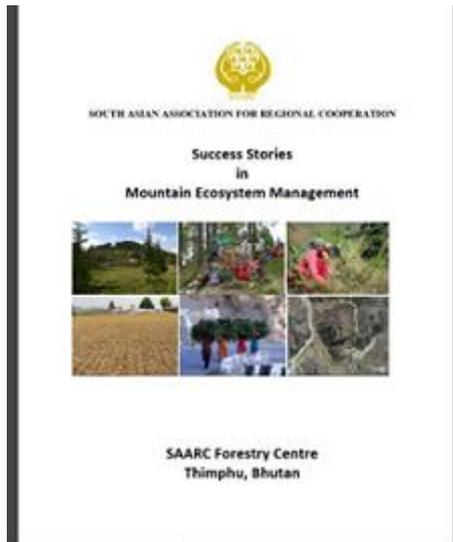


Dr. Shalini Dhyani presenting her work in CEM Steering Committee meeting in Nature based Solutions Pavilion during World Parks Congress 2014 at Sydney Olympic park, Australia

2. First Place in World Agroforestry Congress New Delhi, 2014 Blog competition for Blog entitled “Let’s endorse Fodder Banks for reducing pressure from forests and women drudgery” Won a Book signed Director CGIAR and an Apple i-pad Air.

3.

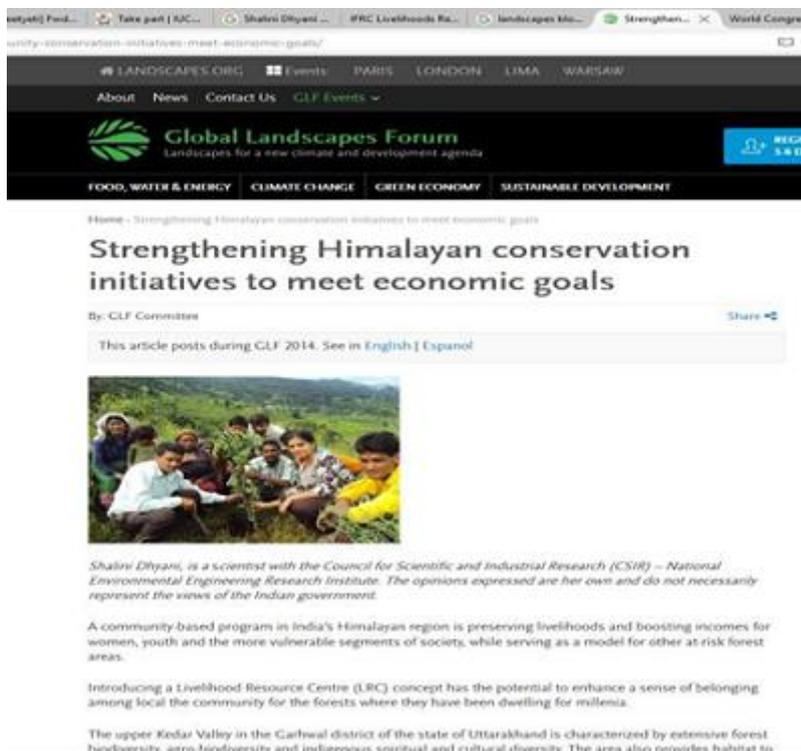




4. Work including the project Lead Dr. Shalini’s work on fodder bank that helped in reduction of pressure of locals on forests for fodder and other plant requirements has also been selected among 10 best case studies of SAARC countries for sustainable forest management in mountains. (Received Honararium worth US \$ 300 and publication in a book published by SAARC forestry Centre Thimpu, Bhutan).

5. Blog got invited and published in Global Landscapes Forum Landscapes for a new climate and development agenda entitled “Strengthening Himalayan conservation initiatives to meet economic goals”

Link:<http://www.landscapes.org/strengthening-community-conservation-initiatives-meet-economic-goals/>



6. Participated in “The contribution of forested landscapes to food security and nutrition” of CGIAR Living data competition. A video was made by team member Dr. Deepak Dhyani, and Concept by Dr. Shalini Dhyani. Historically, the wild edibles and indigenous crops have constituted a sustainable source for subsistence in most indigenous communities. Humanity relies on a diverse range of cultivated species; at least 6000 such species are used for a variety of purposes. World’s population will exceed by 2025 with most of the increase in developing country cities-urban population. World food supplies will have to more than double by 2025, because of increases in income and urbanization in addition to population growth. There has been a growing interest world over to explore, search and collect germplasm of plants which could have economic viability in near future.

Link to video: <http://dialogues.cgiar.org/blog/wild-edibles-fight-poverty-and-provide-food-security/>



7. Article in WFO Newsletter March 2015 - Disaster Risk Reduction in Agriculture “Mighty Twelve Crops reducing disaster risk and women drudgery” pp 14-15.

Link: <http://www.ypard.net/resources/wfo-newsletter-march-2015-disaster-risk-reduction- agriculture>

8. Chapter invited and selected in IUCN-UNEP upcoming Springer book on Ecosystem Based Disaster Risk Reduction. (Case study selected and under progress of publication. Book to be released in 2016)



4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).

Performance of the Livelihood Resource Center (LRC)

Establishment of a LRC was undertaken through the active involvement of local communities and the village *Panchayat* of Maikhanda village cluster in district Rudraprayag Garhwal part of Uttarakhand in Western Himalayas. This allowed integrating livelihood and conservation goals to strengthen Community Conservation Initiatives (CSI). The LRC was developed based on suggestions from respondents during the personal interviews. The overall goal of the programme was to generate awareness about the role of LRC in forest conservation, and sustainable utilization of natural resources by innovative livelihood options for local communities. LRC is a long-term forest conservation and management approach that involves forest dependent marginalized local communities and other key stakeholders. LRC explores locally available cost-effective natural resources for enhancing livelihood options for local communities. The emphasis was on regular and innovative capacity-building programmes that involved livelihood options that are neither dependent nor supported by overharvesting of forest resources. Impact of each and every capacity building programme among local communities was regularly monitored. Some households of the village were motivated to grow *Ringal* bamboo and local fig trees in their cropland bunds for raw material production instead of harvesting these resources from forests. One household developed a plant nursery to increase the availability of planting material in the villages. Vegetable cultivation from indigenous seeds was promoted as an important practice among women. Incentives in the form of plant cutters, vegetable and fodder seeds and handicraft knives were used to motivate local communities. The next step in strengthening the entire approach to reducing pressure from forests was to establish market links between local livelihood options and LRCs. This is still under process and more results will be available as we progress with this research.

The best part of this project was that it was related not only to the ecological conservation but also with the socio-economic upliftment and livelihood enhancement of the local peoples. The stakeholders/ villagers/ farmers involved in a significant way, with very fruitful actions. These scheduled caste poor people were fully involved with the project activities in several ways as they are directly getting the vegetable seeds, fodder plants for cultivation in village common lands as well as in their own crop lands. Besides, the peoples were also a part of our in-depth surveys, meetings, training workshops etc, which certainly benefited them. The reading materials were also given to local stakeholders that help them to learn and understand more about the role of nearby natural bio-resources and cultivation of fodder plants in their livelihoods.



Lecture and training of women participants during one of the capacity building programme in Maikhanda village related to fodder species plantation and sapling distribution among them

5. Are there any plans to continue this work?

Definitely yes, the project activities are still ongoing by the help of our team members but financial input is important that was finished by early 2015 and we are looking forward to more financial benefits to strengthen the LRC activities. Till now we distributes seasonal vegetable seeds; fodder plants; tools for making bamboo crafts and have also initiated *ex-situ*

conservation of *Rhododendron arboreum*; *Diplazium esculentum*; *Myrica esculenta*; *Berberis aristata*; *Viburnum mullaha*; *Neolitsea pallens*; *Prinsepia utilis*; *Debregeasia salicifolia*; *Ficus nemoralis* and few fast growing plants like of Mulberry and Alder along with 01 species of local Ringal bamboo in the village common lands and wastelands by people's participation to target long term conservation goals and initiating livelihood options. Along with the Livelihood Resource Centre we have developed a fodder plant nursery which is used to germinate and propagate the fodder plants to distribute free of cost to villagers in future. We are also looking forward to strengthen the efforts in the valley by replicating the effort and also involving other innovative efforts with local children as well as indigenous people in the region. We also propose to initiate eco-tourism and home stay training programme for local in coming months.

6. How do you plan to share the results of your work with others?

We have already shared our work by publishing articles in some environmental/ science magazines. Besides, our work also got international recognition by IUCN-CEM Chair Young Professional Award; SAARC Forestry Centre and many international blogs where the work was featured. We are in progress to develop a research article for some peer reviewed journal. Details provided in above pages.

7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?

The RSG was used to support the project from July, 2015 to Dec., 2014. Our project activities/ duration was severely hampered due to a natural disaster as discussed earlier in the study area hence, the project duration got delayed for 5 months.

8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.

Item	Budgeted Amount (£)	Actual Amount (£)	Difference	Comments
Site Analysis and Baseline data collection	200	160	40	Due to natural calamity a few village areas could not surveyed as the connecting bridges to most of these villages like Gaurikund were badly damaged to travel to these villages (The

				amount was used for another activities.)
Setting Up Livelihood Resource Centre	2000	2000	-	This cost included purchase of LCD projector; a tables and 8 chairs; mat and few carpets for local meetings in open; an almirah to store training and capacity building material and 02 open shelves to display craft and material prepared during the training programme by locals and trainers. Material is still with local LRC centre established in
Training Programme, Awareness generation, Capacity Building programmes (4 in a year)	1200	1200	-	These training programme were 06 in numbers during the project duration. These accommodated 20 persons per training programme. With the allocated budget under the head was utilised for providing training material; training venue preparation; banners and taking care of food and logistics of villagers and master trainers.
Travel	1500	1540	-40	Unfortunately, the uncontrolled heavy land slides hiked the hiring price of taxi and other conveniences. (Additional amount was used within budgeted amount.) Travel head also included travel costs associated with inviting master trainers to the venue of LRC for imparting training.

Consumables	600	600	-	The amount utilized for consumables helped in inviting master trainers to the villages; arranging equipments and organising 6 training and capacity building workshops under the planned project activities. Consumables also included the purchase of customised t-shirts for the purpose and developing slide shows during training workshops.
Contingency	500	500	-	The amount utilized for contingency helped in purchasing the stationary; e-stationary; printing of training material; Xerox; internet usage; making telephonic calls are other associated miscellaneous purposes of the project activities.
Grand Total	6000	6000	-	

9. Looking ahead, what do you feel are the important next steps?

- Most important was the initiative itself for developing LRC in one of the remotest, schedule village. Adoption of such Livelihood Resource Centre/model and approach is significantly necessary to reduce the drudgery of women as well as for socio-economic upliftment of poor people of higher Himalayan region.
- Trust building among locals for the approach was the crucial point and it needed some time to convince them and make them completely understand the entire approach.
- The approach was considered innovative with the potential to provide not only economic, environmental but also social benefits to local communities, as recognized

- by various national and international platforms (in International Centre for Integrated Mountain Development (ICIMOD, Nepal); South Asian Association for Regional Cooperation (SAARC, Bhutan) and International Union for Conservation of Nature (IUCN) where this approach was presented for discussion so, now we are in mode of replication of the approach and including few more innovative ideas to keep the work going and involving more people and in large number in long run.
- We still need to work more on the approach we have just crossed 2 years of time span to work on this project. We will be continuing our work and work more for our need to first understand that the role of restoration of forests is not only to provide protection from soil erosion and landslides, but also to provide increased opportunities for local communities for improving their livelihoods and make use of several ecosystem services such as carbon sequestration and cultural services.
- Special efforts are desired from our tem to foster more efforts in social engineering to give due share to the socially excluded by developing and planning the approach involving local communities that many times also includes marginalized populations in conserving the forests of Garhwal.
- Involving locals now in targeting conservation efforts for threatened faunal components in their village that includes Barking Deer; Monal Pheasant and Leopard.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

Absolutely yes, the Rufford Foundation logo was used in all campaign and reading materials, such as posters, pamphlets, training programme/ workshop banners etc. Besides, all the project work related publications were and will also be acknowledged and highlighted with the Rufford Foundation and its logo.

11. Any other comments?

I, with my team members sincerely thank the Trustees, Director and staff of Rufford Small Grants Programme for the financial support the provided us. Special thanks are due for Dr Jane Raymond for her prompt replies and acknowledgements of periodical updates/reports. The help came from people enormously as well in bits and pieces; each all was very priceless for me. Here, I feebly put forward my words to express my gratitude towards them all. I am thankful to

people of Maikhanda village cluster; master trainers for the programme for their support and belief to successfully running the project and achieving most of the targeted aims. I also wish to thank my team members for this project that includes Dr. Deepak Dhyani and Mr. Birulal and his family for support throughout the extreme periods in the field. Thanks for selflessly supporting me in all odd and even hours, stimulating discussions, motivations and for egging me on and maintaining your confidence in me in the moments when I lacked it in myself. Without you this work was impossible to shape up. I am whole heartily grateful to all of them. In numerous scientists, academicians, researchers, friends and colleagues, from India as well as abroad went out of way to help me with their suggestions, thoughts and ideas. I am thankful to all of them. I acknowledge the support of all the taxi drivers who transported us even during tough periods when roads were broken and in worst shape ever and there was no proper way to reach these villages. My parents (Smt. Sudha and Sri. Surendra Nath Misra) and brothers (Mr. Krishna and Dinesh Shanker Misra) have had a major influence not just in my personal life, but also in shaping my professional life. This piece of my work is dedicated to them, a small tribute to their lifelong affection, teachings, generous and moral support, encouragement and tolerance. This project is a product of concern for a fascinating woody green temperate ecosystem and important aspect of its existence- for it is uniqueness in terms of its undulating topography, rich and unique floral as well as faunal biodiversity, for its heavenly and fresh mountain air and indeed for its inhabitants. Over the last few years of living with them I have developed a deep love, sense of attachment, respect and admiration for these very honest, excellent hosts though living in extremely poor conditions yet, physically and mentally tough people. The warmth that they have shown me is unparalleled. Without your presence, courage and support this work would have been impossible. I hope your fascinating way of life will survive and your precious forests will not just live long but will keep flourishing under your care. A special thanks to you.