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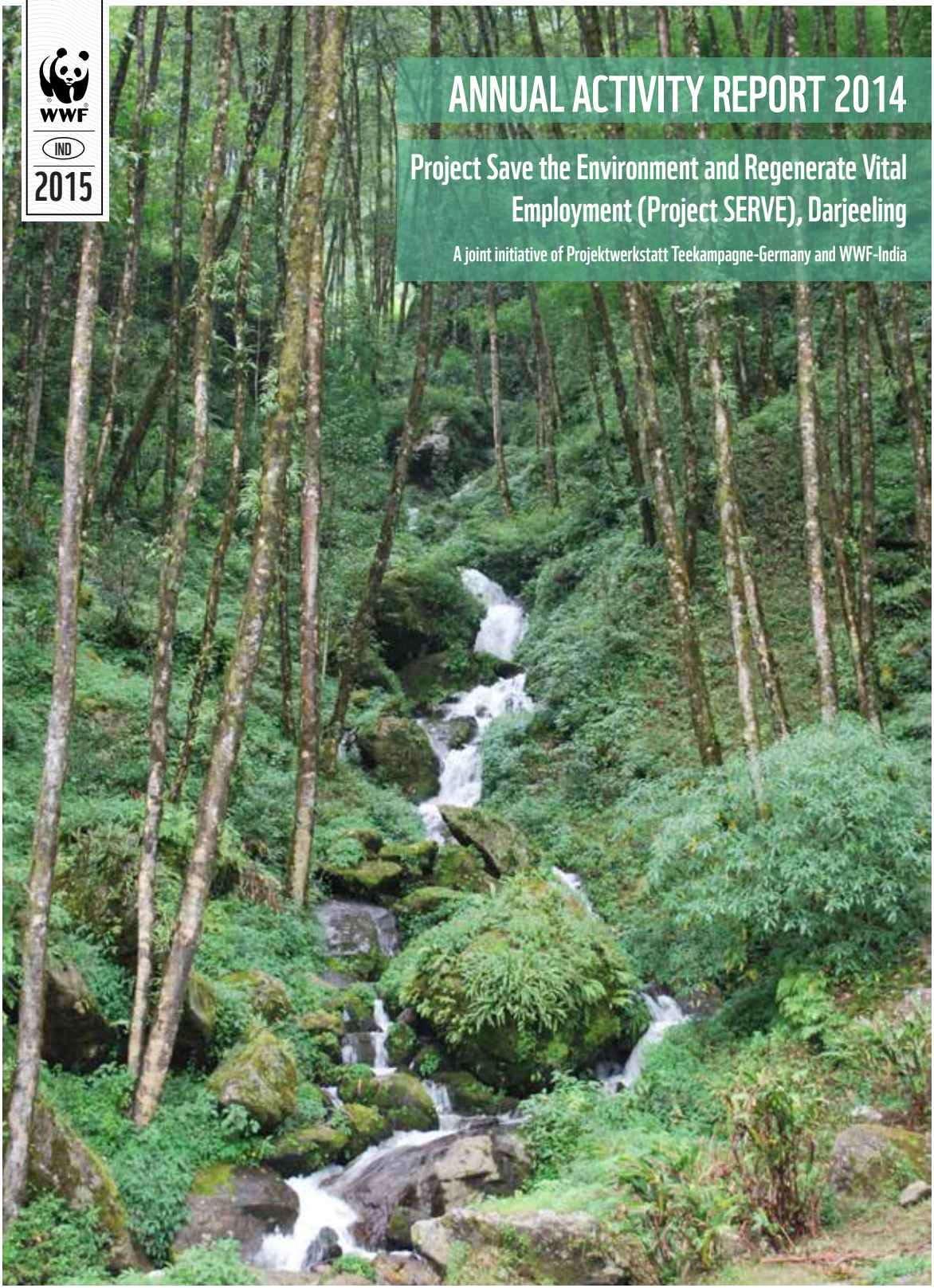
ANNUAL ACTIVITY REPORT 2014

Project Save the Environment and Regenerate Vital Employment (Project SERVE), Darjeeling

A joint initiative of Projektwerkstatt Teekampagne-Germany and WWF-India



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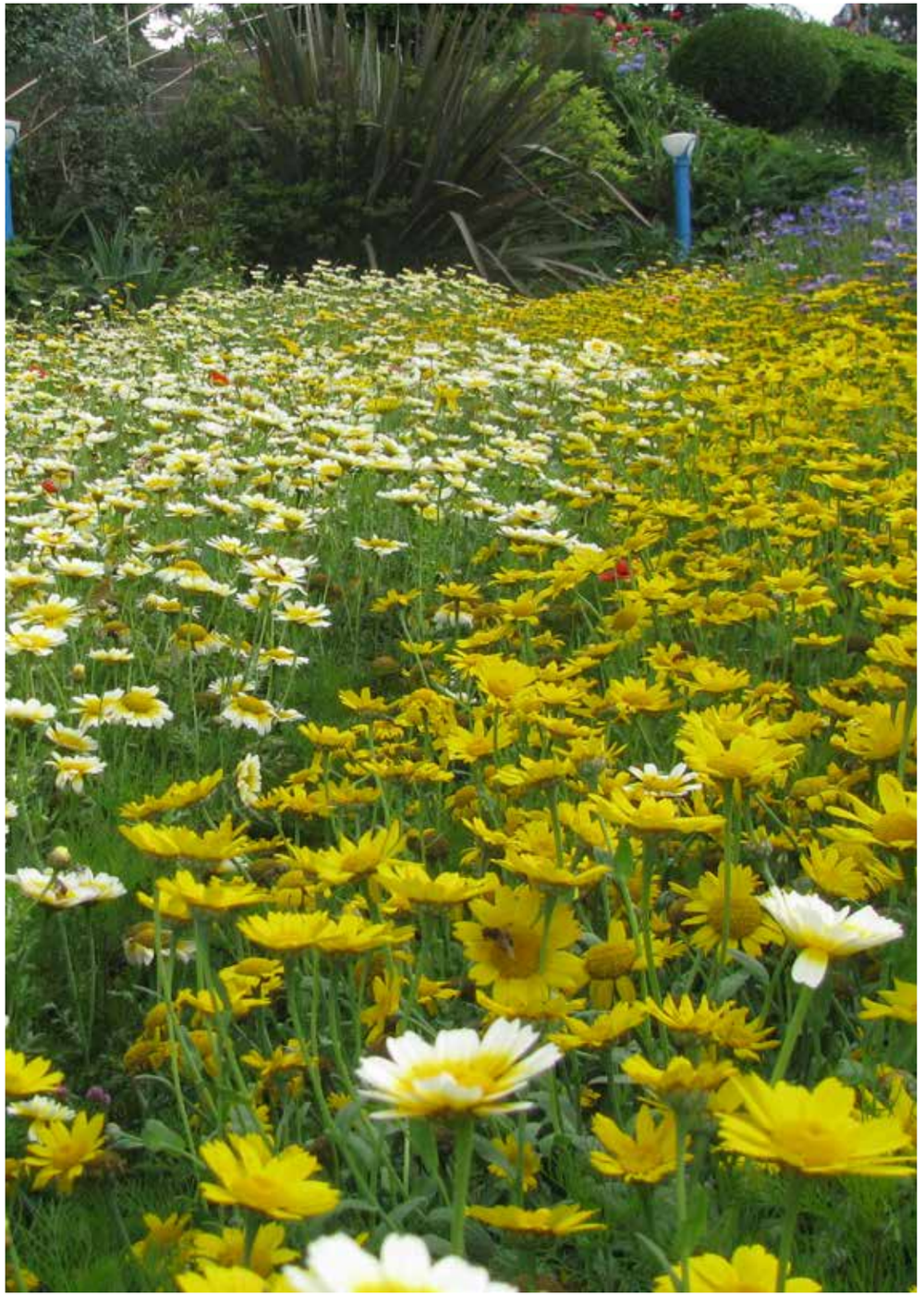


FOREWORD

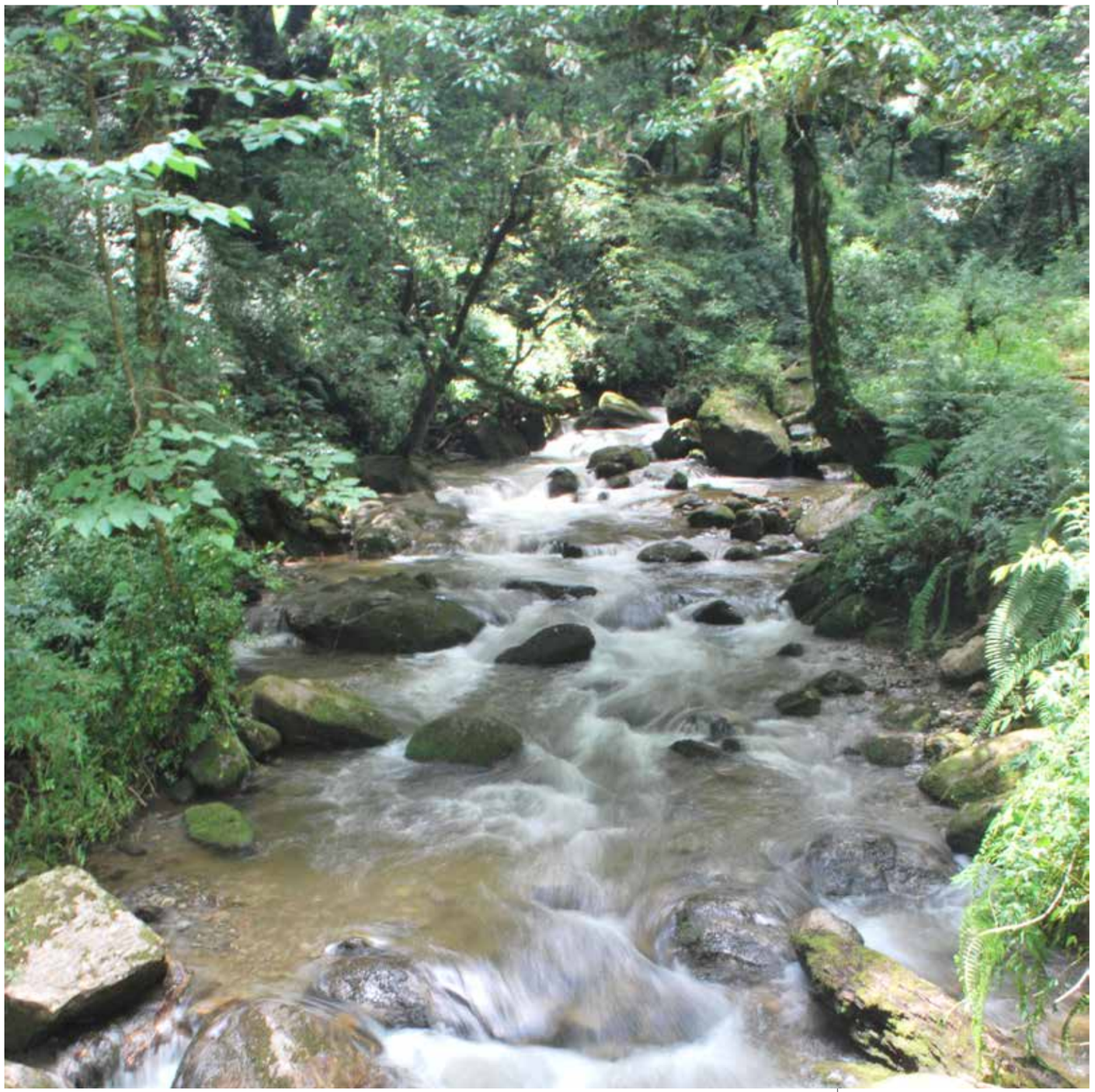
Nature! We are surrounded and embraced by her: powerless to separate ourselves from her, and powerless to penetrate beyond her.

-Johann Wolfgang von Goethe

This year Teekampagne turns 30 years old. A moment to pause and to reflect. What have we achieved? In which direction shall we continue? Our bonding with this tea growing region has intensified over the years. In great parts this is also owed to the SERVE-project and its committed team from WWF-India. Thanks to them our little project of reforestation has become quite a program encompassing further activities to help to secure a sustainable future for the people of Darjeeling. However, the change of time will bring new challenges that need to be tackled, so I am very positive that our program will continue to grow. We should bear in mind that whatever we can contribute to nature will be after all a gift to ourselves. In the case of Darjeeling it and can be experienced all over the world in form of a wonderful cup of Darjeeling Tea.

Prof. Günter Faltin

Founder of Teekampagne/Projektwerkstatt GmbH



AREA PROFILE

Location- Darjeeling, West Bengal

Total Area of the District- 3134.74 Sq Km.

Geographical Location- 27° 16’ 05” and N 26° 27’ 10” North Latitude and 88° 53’ 00” and E 87° 59’ 30” East Longitude.

Altitudinal Variations- 130- 3660 meters

Rock Types- Mostly crystalline gneisses, granite or metamorphic and Schist

Physical Features-Surrounded by the Indian state Sikkim in the north and countries like Nepal, Bhutan and Bangladesh in the west, northeast and southeast respectively. Darjeeling Hills are divided into two by the deep gorges of the river Teesta. To the east of it, lie the Kalimpong Hill, with mountain peaks rising over 2000m. River radiate in all directions from the hills and flow into Teesta. Tiger Hill is the tourist spot and the following spurs radiate from it in all directions- Darjeeling ridge to the North, Takdah spur to the east, Dowhill ridge to the South and Ghoom ridge to the west.

Soil Texture-Sandy loam and porous with poor holding capacity, acidic in most places, micronutrients deficiency is common

Forest Types and Cover-Terai, Tropical, Subtropical, Lower Temperate, Upper Temperate and Sub Alpine.38% Forest Cover.

Tea Gardens- 87 registered tea gardens.

Protected Areas- Senchal Wildlife Sanctuary, Singhalila National Park, Neora Valley National Park and Mahananda Wildlife Sanctuary

1. INTRODUCTION

Since the initiation of Project SERVE in 1992 and its entrustment to WWF-India for its implementation in 1996, the project has been constantly involved in the field of conservation, through various initiatives aimed at the betterment of the environment and the local community. Funded by Projektwerkstatt Teekampagne, Germany, Project SERVE has been working on ecological reforestation projects in degraded areas, preventing soil erosion and landslides, protecting water catchments and helping communities with employment opportunities.

Darjeeling and tea are synonymous to one another as this is the land where some of the best quality of tea is produced and exported to various countries. Nestled in the Eastern Himalayas, the region possesses unique flora and fauna. However, like any other developing town in the hilly region, Darjeeling comes with its own set of challenges like increasing populations, deforestation, loss of habitat, soil erosion, water problems, drying of springs, unmanaged tourism and waste, unemployment, volatile political situations etc. To help resolve some of the key issues that Darjeeling is currently facing, Project SERVE has stepped up in the past few years in developing an action plan to address these issues.

2. PROJECT OBJECTIVES

The primary goal of Project SERVE is to work towards conservation of the environment in the Darjeeling Hills through an active involvement and participation of the general public, government officials, local community members, nature club students and teachers of schools, local NGOs, tea garden management and media persons.

The project has the following four objectives: -

1. Ecological restoration of Darjeeling Hills by improving the natural habitat.
2. Livelihood and income generation through reforestation and farming based on people's knowledge.
3. Environment education and awareness on biodiversity conservation among local communities and students.
4. Conservation of threatened species in collaboration with the forest department and local communities.

3. PROJECT ACTIVITIES

Objective 1: ECOLOGICAL RESTORATION

Plantation of indigenous species is a major component under Project SERVE. In 2014, Project SERVE undertook the following ecological restoration activities which included raising of saplings in nurseries and plantation of saplings in degraded areas, vacant land and water catchment areas.

1.1: Nursery raising

Project SERVE established nurseries for raising saplings indigenous species that would be planted in numerous project plantation sites. Several necessary pieces of equipment such as agro nets, silpauline, water pipes, bamboos, polypots, seeds etc. are provided to the nursery owners. After the saplings are ready, they are purchased from them as well, thereby enabling them to earn an income.

For the year 2014 plantation a total of 75,100 saplings of indigenous species including shade tree were procured from these nursery owners and planted at project sites and tea gardens.

Annexure 1- Details of nurseries of project SERVE and saplings supplied on 2014
Annexure 2- Lists of saplings raised at project nurseries during 2014

1.2: Afforestation

Afforestation is one of the primary activities of Project SERVE. This year, the plantation activities were performed at an additional 20 hectares of land around Chatakpur area alongside the Phoobsering Tea Estate, Naya Busty and Lanku Valley. The activities were carried out with the help of individuals from the local community.

Maintenance of previous plantations was also carried out through activities such as cleaning of weeds and infilling new saplings wherever saplings were found to be dead. Maintenance is performed to ensure a better survival rate of the saplings, and is performed for at least three year from the year of the first plantation.

Annexure 3- Details of Block Forest Plantation 2014

1.3: Shade Tree Plantation

Project SERVE supports tea gardens by providing shade tree saplings to improve the overall environment. Shade trees not only provide shade to the tea plants, but also fertilize the soil, provide fruits and shelter to the avifauna, maintain oxygen-carbon dioxide balance and also prevent soil erosion. There is also the additional benefit of improving the overall quality of the tea produced in that area.

In 2014, 4000 shade tree saplings of *Albizzia sp* and *Melia azederach* were supplied to Rohini Tea Garden for plantation.

1.4: Maintaining the Batasia Eco-Garden

Project SERVE helps maintain the Batasia Eco-Garden as it is one of the region's popular spots for both tourists and locals. A small plot is reserved for showcasing a medicinal plant garden to raise awareness about several locally available medicinal plants and their importance for conservation. Recently, a vermicomposting pit has also been constructed in the eco-garden as part of a larger initiative to raise awareness on garbage related issues. WWF along with a local NGO Darjeeling Ladenla Road Prerna (DLR Prerna) organized a number of meetings with the management committee and hawkers committee based at Batasia. Through these meetings, a number of ideas such as installing attractive dustbins, vermicomposting of biodegradable waste and training the community people on creating commercial products out of waste were captured and those will soon be implemented.

Objective 2: Livelihood and income generation

2.1 Promotion of mushroom cultivation

Project SERVE has been providing training in mushroom cultivation at several villages to generate additional sources of income, and to indirectly reduce the dependency of the village communities on forest produce. Furthermore, by engaging the villagers in mushroom cultivation, several losses incurred such as those caused by human animal conflict in and around the protected area, are mitigated. This year, in collaboration with the Darjeeling Forest Division, a two day training programme along with materials and equipment such as silpaulin and bamboos to build a hot house, straw, chemicals and pawn were provide to the community members of forest protection committees of Baccha Bari Village, Badamtam Range(1 unit) and Lamahatta Village, Tukdha Range (2 units). These villages have seen great success in selling their produce locally and in the nearby markets. More than 200 kilograms of mushrooms at the rate of Rs. 100 per kg have been sold till date. The money collected from the produce will be distributed among the members after setting aside enough to sustain the mushroom unit for the upcoming month of mushroom production.

2.2 Promoting Bio-Briquette as an alternative fuel

Due to the rise in the price of Liquid Petroleum Gas (LPG) and adverse environmental impacts of firewood collection, there has always been a demand for cheap alternate fuel for cooking and room heating. The answer to this was in the form of bio-briquette which can be made with easily available materials. Bio-briquette is being used successfully in villages in Nepal and several African countries.

Bio-briquette is made by mixing coal with soil in the ratio of 4:1. The coal is prepared by burning dried agriculture waste, weeds or any other combustible materials. The mixture of coal and soil is then placed into a molding machine and is molded into briquette. This, in turn, is dried in the sun and is ready to be used for cooking and room heating purposes. Surplus quantities can also be sold for additional income. The prevailing demand for bio briquette is high, and is sold at the price of Rs. 12 to Rs. 15 per piece.

Training and equipment for the manufacture of Bio-briquette was provided at Rangeroong Forest Village for 24 participants and at Lanku Valley for 20 participants.

2.3: Promoting bee keeping

Project SERVE, Darjeeling Field Office have always promoted the importance of honeybees in our environment as a pollinator and the medicinal properties of honey. The project has promoted apiculture as an alternate source of livelihood to the villagers as well for the overall betterment of the environment.

This year a two-day exposure visit and training programme on apiculture was organized at Singell Tea Estate for 13 villagers of Sourenee Forest Village. Furthermore, as a follow up, a one day training programme was also organized for 15 residents at Sourenee Forest Village, which covered the process to create bee boxes.

Sourenee Forest Village lies in the fringe of Neora Valley National park and has a primary source of income of agriculture. Due to its close proximity to the forest there is a high rate of crop depredation by wild animals which in-turn creates economic losses for the villagers. The idea of utilizing an apiary has thus been introduced in this village as an alternate source of livelihood. Presently, honey is being sold at a rate of Rs. 600 for a 750ml bottle.

2.4: Vermicomposting

Vermicomposting is a process of making organic compost using earthworms. The compost contains water-soluble nutrients, and is an excellent nutrient-rich organic fertilizer and soil conditioner. With the objective of spreading awareness against the harmful use of chemical fertilizers and making compost out of biodegradable kitchen waste Project SERVE has set up three units at Batasia Ecological Garden, Padmaja Naidu Himalayan Zoological Park and Lebong Village. These composting units will be used for educating visitors, in flower-beds, vegetable gardens and agriculture field.

Objective 3: ENVIRONMENT EDUCATION & AWARENESS

3.1: Education Programme with schools

This year WWF-India, Darjeeling Field Office and Sikkim Programme Office came together to organize a 3 day Nature Camp for 32 teachers from both Darjeeling and Sikkim Schools. The objective of the programme was to facilitate sharing and learning among teachers, to enhance their understanding on the different environmental issues that are of importance to both Sikkim and Darjeeling. Some activities were birdwatching, learning about biodiversity, knowing the red panda, learning about water conservation, understanding zero waste concepts and creating crafts from waste.

3.2: Awareness programme with stakeholders

To raise awareness amongst the general public and students on the importance of water, this year's World Water Day with a theme as water and sustainable development was celebrated on 22nd March at Chowrasta in collaboration with two primary government partners - District Rural Development Cell (Swacch Bharat Mission), Gorkhaland Territorial Administration and Darjeeling Municipality as well as prominent NGOs from Darjeeling including The Himalayan Society for Nature and Science (HSNS), Ashoka Trust of Research on Ecology and Environment (ATREE), Darjeeling Laden La Road Prerna (DLR Prerna), Zero Waste Himalaya and the Change Group. Activities at the event included draw competition for junior classes, poster making for senior classes, posters and exhibits displays, skit presentation competition with water theme, and a role play on the theme of zero waste.

On the occasion of the World Environment Day, 5th June 2014, 500 indigenous tree saplings were planted at Orange Valley Tea Estate of Bagaria Group in collaboration with the tea garden management and religious group "Art of Living Foundation", Darjeeling Chapter. 3000 indigenous tree saplings were planted at the water catchment area of Seeyok Tea Estate in collaboration with the tea garden management and Seeyok Fair Trade Group.

A training programme for aspiring tour guides on the theme of sustainable livelihood was organized at Maneybhanjang in collaboration with Forest Department from 22nd-24th Sept, 2014. A total of 53 guides from Maneybhanjang, Joubari, Lamahatta, Tihchuley, Tukdha, Tonglo, Dhotrey, Gurdum, Lodoma and DamaiGaon were given training by the Khangchenjunga Conservation Committee, an NGO from Sikkim on the basic requirementsto become a tour guide, plant and bird identification techniques, hospitality, safety and first aid, camping methods, conservation and protection of nature etc.

As is the case with several Protected Areas across the country, Singhalila National Park currently faces challenges with managing garbage inside the park caused by the increasing number of tourists who visit the park. Tour guides from Singhalila National Park were taken on an educational and exposure visit to Yuksom and Dzongri from 23rd- 29th Nov 2014. The Yuksom-Dzongri trail is one of the most popular trekking routes in Sikkim which has implemented a system of check-in and check-out system for garbage management practice inside the Khangchendzonga National Park. A total of 8 tour guides from Maneybhajang and Dhotrey participated in this learning tour, which was held with the objective of learning about Zero Waste management. During the tour, the participants were trained in zero waste management techniques with a local organization called Khangchenzonga Conservation Committee (KCC) and the Forest Department. They visited the resource recovery center at Yuksom and learned how waste was regarded as a resource and was segregated so that it can be sold or be made into commercial crafts and reused. To experience how the community and forest department manage the waste situation inside the park, the tour guides were taken for a trek from Yuksom to Dzongri. After returning from the tour the participants were impressed with these management practices, especially with the fact that 70-80% of waste is recovered after the end of a trekking tour. Taking back the knowledge, the tour guides have decided to follow the same practices in Singhalila National Park. A stakeholder's meeting was convened with the government agencies, NGOs, locals community, travel and hotel organizations etc. and a proper garbage management strategies and activities would be developed and followed. Project SERVE will follow up the actions in the next year.

ANNEXURE 1

Detail of seedling supplied from Project SERVE Nurseries-2014

S.no.	Name of Farmer	Nursery site	Total seedlings supplied	
1	Kalpana sherpa	Chatakpur	16300	
2	Lochan Rai	Chatakpur	15700	
3	Nima Dorjee Glan	Chatakpur	4500	
4	Rakhi Tamang	Chatakpur	4600	
5	Sumi Sherpa	Paschim forest village	4000	
6	Suren Tamang	Chamong	8000	
7	Bir Bhadur Jogi	Phoopsering	5000	
8	K.K.Thakuri	Phoopsering	5000	
9	Pawan Subba	Bungkulung	7000	Shade tree
10	Bikash Thapa	Lanku	5000	
		Grand total	**75100**	

ANNEXURE 2

List of tree saplings raised in project SERVE nurseries 2014

S. no.	Local name	Botanical name	Uses/ Purpose
1	Kapasi	*Acer campbelli*	Agricultural impliment, fodder, timber, furniture, plywood
2	Putli	*Acer laevigata*	Timber, fruit, fodder, agricultural impliment
3	Tata siris	*Albizzia lebbek*	Timber, flower, shade tree
4	Seto siris	*Albizzia procera*	Timber, flower, shade tree
5	Utis	*Alnus nepalensis*	Timber, soil conservation
6	Katus	*Castonopsis indica*	Timber, fruit, Charcoal, agricultural impliment
7	Sinkowlo	*Cinnamomum obtusifolium*	Timber, fodder, medicine
8	Cupress	*Cupressus sp*	Timber, furniture
9	Dhupi	*Cryptomeria japonica*	Timber
10	Lal Chandan	*Daphniphyllum himalayense*	Timber, firewood, furniture, fruits
11	Badrasae	*Elaeocarpus lanceaefolius*	Timber, fruit, medicine
12	Maya	*Eriobotrya petiolata*	Firewood , Fodder
13	Pangra	*Entada scandens*	Fruit
14	Okhar	*Juglans regia*	Timbr, furniture, medicine,fruits
15	Lapche Kawlo	*Machilus edulis*	Timber, fruit, medicine
16	Chiplae Kawlo	*Machilus gammieana*	Timber,charcoal
17	Goge Chap	*Magnolia campbelii*	Timber, foliage, flower
18	Bogana	*Melia azedarach*	Foliage, pesticide, fruits, shade tree
19	Tetae Chap	*Michelia cathcartii*	Timber, fodder,furniture
20	Mitae Chap	*Michelia exelsa*	Timber,furniture, fruits, flower
21	Payoon	*Prunus ceracoides*	Flower,fruits, fodder
22	Arupatae	*Prunus nepaulensis*	Timber, furniture, foliage,flower
23	Aru	*Prunus persica*	Fruit,
24	Buk	*Quercus lamellosa*	Timber, furniture,foliage, flower, fodder, fruit, charcoal
25	Phalant	*Quercus lineata*	Timber,fodder,fruit, charcoal
26	Adkowlo	*Quercus spicata*	Timber, firewood, furniture, fruits
27	Lali Guras	*Rhododendron arboreum*	Firewood,medicine, flower
28	Gagun	*Saurauria nepalensis*	Fodder, fruit
29	Chilawnae	*Schima wallichii*	Plywood
30	Lapsi	*Spondias axillaris*	Fruit, firewood,
31	Pipli	*Symingtonia populnea*	Timber,fodder,foliage,charcoal
32	Kyamuna	*Syzygium operculutam*	Fruit, firewood, fodder
33	Khapal	*Syzygium tetragonum*	Fodder,fruit
34	Pani Sajh	*Termenelia myriocarpa*	Timber, furniture, plywood, fodder,flower
35	Harra	*Terminalia chebula*	Charcoal
36	Barra	*Terminalia belerica*	Charcoal, tanning, fruit

ANNEXURE 3

Detail of seedling supplied from Project SERVE Nurseries-2014

S.no.	Plantation Site	Area in Hec	Year of Plantation	Total seedling Planted	Remark
1	Chatakpur Railway Siding	5	2014	13200	New creation
2	Chatakpur Railway Siding	5	2013	3500	Maintenance
3	Chatakpur Railway Siding	10	2012	2050	Maintenance
4	Phoopsering	5	2014	12750	New creation
5	Phoopsering	5	2013	1900	Maintenance
6	Phoopsering	5	2012	1500	Maintenance
7	Naya busty	5	2014	13450	New creation
8	Naya busty	5	2013	2750	Maintenance
9	Naya busty	10	2012	1750	Maintenance
10	Lanku	5	2014	12600	New creation
11	Lanku	5	2013	2150	Maintenance
12	Seeyok Tea Estate		2014	3000	Shade tree (2500) World Environment Day Celebration (500)
13	Orange Valley Tea Estate		2014	500	World Environment Day Celebration
14	Rohini Tea Estate		2014	4000	Shade tree
		Total		**75100**	

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