

Himalayan Permaculture Centre

www.himalayanpermaculture.com

Building Livelihoods for Household and Community Resilience

6-month Report

Date of this report: May 2019



Introduction and background

This report heralds the start of a new phase of 3-year activities by HPC, the 4th phase. Previous phases have focussed on establishing demonstration and training resources and building HPC's capacity (Phase 1, 1 year), implementing demonstration and training programs within the 5 main areas of HPC's work: Food Sovereignty, Health, Education, Livelihoods and Capacity Building, and building the capacity of village groups (Phase 2, 3 years); continuing that work while focussing on livelihoods programs (Phase 3, 3 years). In this fourth phase, HPC will provide continuity to previous activities while focussing on building capacity of village groups to self-manage their development, and further developing ecological and economic conditions to enable them to do this.

Working Areas

A summary of groups' names, locations and demographics is given below.

| | | Households | Women | Men | Total |
|----------------|-------------------------------|------------|-------------|-------------|-------------|
| Surkhet | 2 municipalities, 14 villages | 253 | 758 | 842 | 1600 |
| Humla | 2 municipalities, 18 villages | 618 | 1976 | 1936 | 3912 |
| Total | 4 municipalities, 32 villages | 871 | 2734 | 2778 | 5512 |

These figures represent the demographics of the villages that have been registered with HPC as participating villages. They do not include the new villages that have requested participation, where HPC staff visit for surveying, and barefoot consultants have started to work (usually on training).

Activities

1. FOOD SOVEREIGNTY PROGRAM

Resource Centers

The Resource Centres (RCs) have been the first systematic establishment of demonstration and training facilities, and are regarded as the heart of HPC activities in its working areas. HPC is operating its own resource centres in Surkhet and Humla. In Surkhet the local community provided land for the RC in Baragaun village where HPC established and built its main headquarters, demonstration and training centre and office on about 0.3Ha of land. Meanwhile in Humla, HPC's regional "branch" RC is in a rented farmhouse situated on about 1.5Ha of farmland belonging to 8 different households, of which 7 households comprise a member that has completed a permaculture design course (PDC).

RC production – Surkhet & Humla

HPC's resource centre in Baragaun has developed from bare fields growing 2 main crops a year to a thriving and diverse polyculture of grain, fruit, herbs and vegetables within a matrix of agro-forestry around the infrastructure of training halls, office, kitchen and accommodation. There is also a polytunnel, biogas unit and multiple composting toilets. Energy needs for the farm (lighting, running computers and charging) are provided by a solar system, while the biogas provides for about 20% of cooking needs and firewood from the on-farm agro-forestry provides a further 10%. Fodder cut from the agro-forestry is exchanged with a neighbour for animal manure

as there are no livestock on the farm. Over the past 6 months the farm has produced **80kg of firewood**, **43kg of tree/grass fodder** and **115kg of vegetables** comprising 19 different varieties including garlic, tomato, coriander, chard, peas, beans, ginger, kale, taro and yam, and fruit including mulberry and sugar cane. In years gone by large numbers of grafted fruit and multi-purpose species of tree, shrub, grass and medicinal herb were grown in nurseries on the farm. Nowadays however much of this work has been handed over to village groups and individuals in HPC's working areas, and the RC just holds small demonstration nurseries for training purposes. Even so, **132 seedlings**, including grafted almond, pear and lemon and medicinal plants have been distributed over the winter. Four kg of seed has been produced of vegetables and tree seed that have been distributed to village groups.

In Humla **994kg** of crops have been recorded over the past 6 months, including traditional potatoes, maize, Taro (*Colocasia*) and pumpkin, as well as vegetables such as perennial (Daubenton's) kale, aubergine, garlic, onion, coriander, lettuce, chard, cabbage, cauliflower, carrot, rhubarb and tomato. Over 100 seedlings of grafted apple, comfrey, strawberry and lemon grass have been distributed.

Farmers' demonstrations

Following demonstration of various diverse farming and household techniques and training in their establishment and management, HPC supplies various basic tools to farmers' groups enabling them to implement activities in their villages. These include grafting knives, secateurs, irrigation pipe, sprinklers and plastic for hot beds and small polytunnels.

As a result of demonstrations at the RCs and in farmers' fields, and various training opportunities at the RCs and in situ in the villages (see below 1.3), groups are involved in implementing various types of practical work in their houses and fields to increase household self-reliance. A summary of all practical work carried out in the groups over winter is as follows:

Farmers making integrated demonstrations

| Practical Activities | Dec 2018-May 2019 | | |
|------------------------------------|-------------------|------------|------------|
| | Surkhet | Humla | Total |
| No: households implementing | 253 | 615 | 868 |
| House hygiene | 251 | 600 | 851 |
| Stove | 126 | 605 | 731 |
| Toilet | 251 | 596 | 847 |
| Grinder | 251 | 565 | 816 |
| Water pot | 253 | 600 | 853 |
| Hay box | 0 | 1 | 1 |
| Sweepings | 221 | 342 | 563 |
| Waste water management | 129 | 388 | 517 |
| Plate/pot rack | 237 | 320 | 557 |
| Compost | 161 | 14 | 175 |
| Fodder trough | 11 | 0 | 11 |
| Salt lick | 35 | 23 | 58 |
| Kitchen garden/vegetables | 217 | 370 | 587 |
| Mulching | 51 | 4 | 55 |
| Liquid manure | 36 | 27 | 63 |
| hot bed | 15 | 41 | 56 |
| Leaf pots | 38 | 28 | 66 |
| Home nursery | 63 | 500 | 563 |
| Fruit nursery | 90 | 44 | 134 |
| Air nursery | 7 | 2 | 9 |
| Off season onions | 1 | 47 | 48 |
| Grafting | 29 | 49 | 78 |

| | | | |
|------------------------|-----|-----|-----|
| Budding | 0 | 1 | 1 |
| Top grafting | 23 | 35 | 58 |
| Air layering | 49 | 3 | 52 |
| Pot irrigation | 49 | 12 | 61 |
| Orchard | 132 | 77 | 209 |
| Agro-forestry | 74 | 5 | 79 |
| SRI | 0 | 1 | 1 |
| Green manures | 2 | 0 | 2 |
| No till | 0 | 2 | 2 |
| Bamboo cuttings | 37 | 0 | 37 |
| Improved plough | 253 | 74 | 327 |
| Fruit tree Pruning | 65 | 0 | 65 |
| Greenhouse | 1 | 29 | 30 |
| Biomass compost | 10 | 2 | 12 |
| Double digging | 5 | 21 | 26 |
| Urine collection & use | 9 | 19 | 28 |
| Seed production | 143 | 17 | 160 |
| Fruit planting | 44 | 108 | 152 |
| Water Filter | 241 | 268 | 509 |
| Jam/juice making | 0 | 2 | 2 |

Most of these activities are illustrated in the [Farmers' Handbook](#), a key training tool used by HPC.

Demonstration farmers

The key to spreading the methods and approaches demonstrated and trained by HPC is their fostering of innovative farming men and women who provide the lead not only in developing their own farms but also their communities. They are then trained as trainers and innovators, and become “**barefoot consultants**” (BCs – see below under 5. Capacity-building) who are able to expand the approaches in villages around HPC’s working areas, as well as being employed in other projects in Nepal. These include earthquake-affected villages where they have gone to provide basic training in regenerative farming methods.

Fruit and multi-purpose tree production

Increase and diversification of trees on farmers’ land is an important part of resilience planning and general sustainability of farms. Trees provide multiple product benefits (fuel, food, timber, biomass, fodder etc.) as well as contribute significantly to soil and water conservation and improvement. They also provide habitat and food for a multitude of insects, birds and other forms of biodiversity. As such HPC has always promoted planting trees and other perennials, focussing on farmers’ private land. Fruit trees are always high on farmers’ requests, and HPC has trained hundreds of farmers in propagation, planting and after care (pruning).

Winter-time is **Grafting** season, and the following summary of achievements shows that over **6100 fruit trees** have been grafted, mainly in private village nurseries. These seedlings will generally be planted out in the following winter, and occasionally in the monsoon. In addition over **30 fruit trees** have been top worked, involving grafting improved varieties on wild trees (wild apple, pear, walnut, almond, apricot and peach are all common especially in Humla) that do not require a nursery.

| Species | Apple | Pear | Peach | Plum | Apricot | Walnut | Almond | Cherry | Total |
|--------------|-------------|------------|------------|------------|-----------|------------|------------|-----------|-------------|
| Surkhet | 16 | 245 | 79 | 68 | 3 | 74 | 76 | 44 | 605 |
| Humla | 4060 | 177 | 219 | 250 | 43 | 296 | 489 | 0 | 5534 |
| Total | 4076 | 422 | 298 | 318 | 46 | 370 | 565 | 44 | 6139 |

Planting

Many trees that were grafted last year have been planted out this winter, together with other species that are grown from seed and cuttings. A summary of over **5000 fruit trees planted** is as follows:

| Species | Surkhet | Humla | Total |
|--------------|------------|-------------|-------------|
| Almond | 18 | 0 | 18 |
| Cherry | 1 | 0 | 1 |
| Amilo | 13 | 0 | 13 |
| Apple | 24 | 4117 | 4141 |
| Avocado | 1 | 0 | 1 |
| Banana | 13 | 0 | 13 |
| Cardamom | 250 | 8 | 258 |
| Ground Apple | 106 | 5 | 111 |
| Guava | 3 | 0 | 3 |
| Junar | 6 | 0 | 6 |
| Lemon | 38 | 21 | 59 |
| Orange | 10 | 276 | 286 |
| Peach | 5 | 4 | 9 |
| Pear | 9 | 0 | 9 |
| Plum | 3 | 9 | 12 |
| Pomegranate | 7 | 7 | 14 |
| Walnut | 50 | 0 | 50 |
| Apricot | 0 | 5 | 5 |
| Coffee | 1 | 0 | 1 |
| Bogate | 0 | 3 | 3 |
| Hazelnut | 0 | 1 | 1 |
| Total | 558 | 4456 | 5014 |

In addition, over the past 6 months a total of **341 multi-purpose trees, shrubs and grasses** have been planted, mainly in farms' agro-forestry plots and around gardens. Monsoon is the main planting season for these, and will be described in the next report. There are over **12000 trees and shrubs** still in farm nurseries plus over **4700 cuttings** – mainly mulberry, sugar cane and napier grass, most of which will be planted in the monsoon (June to September).

Pruning and after-care

All farmers receiving or growing fruit trees are provided training in their after care. This usually involves winter and summer pruning. In this period **1865 fruit trees** have been pruned in Surkhet (1215) and Humla (650).

SRI Rice Farming

The rice season generally starts with the monsoon: nowadays farmers are preparing their fields and may be starting to raise rice seedlings in nurseries ready for transplanting after the rains come and the fields are puddled. With SRI, the seedlings are much younger than traditionally planted so can be established later. This activity will be detailed further in the next report.

Community Funds

HPC provides training and support for all groups to set up and manage micro-credit funds, involving collecting a monthly sum from all members and making this available for loans. These are used for activities such as buying food, medicines, school fees and investment into small businesses. In this period loans totalling

NRs**1,741,795/-** (about £12,000, US\$16,500) have been provided by the groups to **209 households**.

This reporting period's audit is summarised below:

| | Loans given | Expenses | Cash | Total NRs | No. Households |
|--------------|--------------------|-----------------|---------------|------------------|-----------------------|
| Humla | 243,900 | 21,230 | 71,017 | 336,147 | 30 |
| Surkhet | 1,497,895 | 13,365 | 18,584 | 1,529,844 | 179 |
| Total | 1,741,795 | 34,595 | 89,601 | 1,865,991 | 209 |

Farmers' Training

After demonstration, training to farming communities is HPC's second strategy. With a diverse range of best-practice methods and approaches involving farming and growing, HPC offers a variety of trainings: 5-day residential (at the RCs), 3-day "mobile trainings in villages and 1-4 hour hour in situ technical trainings in all its villages. Many of these trainings are now provided by trained villagers themselves in the form of "barefoot consultants" (BCs) – motivated men and women that have led their community's implementation of programs by first developing their own farms and lifestyles and are now supported to train others.

A training summary is below.

| Surkhet | No: Trainings | Days | Participants | | |
|----------------------------------|----------------------|-------------|---------------------|------------|--------------|
| | | | Women | Men | Total |
| Permaculture Design Course | 1 | 13 | 4 | 8 | 12 |
| Residential Farmers' Training | 1 | 5 | 6 | 11 | 17 |
| Mobile Farmers' Training | 20 | 5 | 321 | 169 | 490 |
| Technical Trainings | 5 | 17 | 77 | 18 | 95 |
| Livestock mobile training | 1 | 3 | 10 | 7 | 17 |
| Organisational Capacity training | 1 | 3 | 5 | 10 | 15 |
| Biofertilizer Training | 1 | 4 | 8 | 15 | 23 |
| Total | 30 | 50 | 431 | 238 | 669 |

Humla

| | | | | | |
|-------------------------------|-----------|------------|------------|------------|------------|
| Residential Farmers' Training | 1 | 5 | 13 | 10 | 23 |
| Mobile Farmers' Training | 1 | 3 | 5 | 18 | 23 |
| Mobile Livestock training | 2 | 6 | 16 | 15 | 31 |
| Technical Trainings | 11 | 6 | 32 | 26 | 58 |
| Basic Village Design Training | 1 | 5 | 9 | 14 | 23 |
| Sewing and Tailoring training | 1 | 60 | 2 | 1 | 3 |
| Total | 17 | 85 | 77 | 84 | 161 |
| Total All Areas | 47 | 135 | 508 | 322 | 830 |

Bio-fertilizer Training

HPC was fortunate to be able to host a new training in making and using bio-fertilizers. Agro-ecology trainer Jaunfran Lopez led a 5-day practical training course in March on the production and use of bio-fertilisers and bio-pesticides using locally available, low cost materials. Juanfran taught the how and why of regenerating biological and mineral fertility of agricultural soils, and how this enables the viable production of healthy food that is affordable to consumers and profitable for farmers. Participants learned about:

- Crop nutrition as a tool to prevent pests and diseases
- Regeneration of soils.
- Using rock dust for re-mineralization
- How to make adapted bio-fertilizers
- Hot and cold mineral broths
- Plant protection and stimulating plant health
- Seed protection
- The role and use of micro-organisms in soil and plants

Types of bio-fertilizers made

- **SUPERMAGRO** - cow dung fermented liquid fertilisers enriched with bio available minerals.
- **BOKASHI** - 10 days fermented semi decomposed organic amendment
- **Natives Microbes Reproduction** - solid reproduction of local diverse microbes
- **Natives Microbes Activation** - fermented liquid bio-fertiliser as foliar-soil spray enriched with minerals
- **APICHI** - general insect repellent
- **MINERAL BREWS**
 - **Ash Emulsion** - home made mineral brew to control aphids, maize heartworm, white fly
 - **Sodium Bicarbonate** - home made brew to control mildew, oidium among others
- **SOIL ASSESSMENT** - visual assessment, rice traps, hydrogen peroxide
- **HUMUS HYDROLATE** – bio-fertilisers enriched with humic acids
- **Lactic Acid Bacteria** - home made lactic bacteria reproduction for several uses
- **Root growth hormones** - extract hormones from seed for rooting
- **Seed coating** - coating seed with minerals to protect them, prevent pathologies and feed seeds during growth.

These methods allow farmers to disengage from a dependence on external inputs as well as enhancing local resources. HPC staff and BCs from Surkhet and Humla attended the training in March, and the next steps are to try out the bio-fertilizers in structured research, as well as try making new ones from other local resources including garlic, nettle, chilli and other herbal plants.

This course was one of 3 in eastern, central and western Nepal that HPC helped to coordinate with partners Sunrise Farm (Kathmandu) and Almost Heaven Farms (Ilam/Japha).

Slide and Film shows

HPC staff and BCs regularly show slide shows and videos using pico-projectors at the RCs and in the villages. In this period **33 shows** have been provided to **458** adults and children (192 female and 266 male) in a range of topics including Soil conservation and improvement, pest management, green manures, orchard management, effects of pesticides, seed saving, smokeless stoves and women's health. Many of the videos shown have been produced by HPC.

Livestock

Farmers spend a large proportion of their time and money on livestock, which form an important part of providing land fertility through compost, and domestic nutrition and income through dairy and meat products. However, traditional practice is characterised by high input-low output as livestock are mostly free-ranged, and poor diets leading to poor health and low productivity, with little or no access to veterinary support. HPC focuses on 3 main areas: breed improvement, stall management (diet and hygiene) and provision of basic veterinary support.

In this period 3 mobile trainings (3 days each; 2 in Humla and 1 in Surkhet) have been provided by trained BCs to 48 farmers (26 women and 22 men), and 35 oxen and goats have been castrated. In addition, an improved breeding goat has been provided to Shanti group of Sal Karkha/Bhalim village in Surkhet.

Irrigation

HPC provides support for small-scale irrigation systems that villagers build themselves. The systems usually involve building tanks lined with cement or heavy-duty plastic that are filled from local springs, and then piped to fields where sprinkler systems are often used. Some systems are also connected to drinking water systems and use excess and/or waste-water, usually for kitchen gardens and plant nurseries within the village.

During this period several new irrigation systems are in planning stages with village groups and other systems have received maintenance support from HPC in the form of new pipe and fittings. Three villages have been involved in this, benefitting 36 households (117 female and 132 male).

Appropriate Technology

HPC has been testing different forms of appropriate technology aimed at reducing labour time and cost to perform agricultural processing tasks such as winnowing, threshing, oil expelling and de-hulling. The aim is that villagers will be able to identify tools and machinery that will speed up traditional tasks, releasing time for other activities such as farm diversification, livelihoods, child care and education. In addition, some machines provide a more efficient way of extracting oil and juice resulting in higher outputs for lower inputs of time.

In this period fruit cutting machines and 2 fruit juicing processors have been acquired and provided to groups in Surkhet and Humla.

1. HEALTH PROGRAM

Women's Health Program (WHP)

HPC's Women's Health Program works around 3 main activities: training, health camps and networking. Women's Health Trainings (WHT) include gender training, and take place through residential 5-7 day trainings at the resource centres and mobile 3-day courses run in the villages. Short half to 1 day trainings and workshops are also provided.

Women's Health Camps (WHCs) have taken place each year in both districts and involve a trained team of specialists providing diagnosis, counselling, treatment and referral services as well as educational classes to attendees of the camps.

The Women's Health Network (WHN) involves meetings between women active in the trainings and camps where they discuss issues, develop strategies and plan events including the WHTs and WHCs

Women's Health Training (WHT)

In this period a 5-day women's health training was hosted by HPC at its RC in Baragaun Surkhet to which 12 women attended from local village groups. The training was facilitated by BC Ms Hommaya Gurung and visiting women's health expert Mrs Januka Bhattarai. Hommaya also provided 1 mobile women's health training for 16 women in Subbatol village (Jana Sahayogi Group).

Hommaya also provided 27 women from Hariyali Krishi group in Khalikharka village of Surkhet with a 3-day menstrual pad-making training. Women either purchase disposable pads or use rags and poor hygiene during their periods, so this training is

extremely popular with women in HPC's villages. This training has now been provided to women in all 14 groups in Surkhet.

Women's Health Camp (WHC)

A WHC was provided in Surkhet in December that was part of Phase 3 remaining to be implemented. Held at Gagane Health Post in Chingar municipality in collaboration with the government health post, 158 women were treated for a range of ailments including uterine prolapse, skin infections, ENT problems, gastric ulcers, dysentery, worms, etc. Herbal remedies were also provided

Women's Health Network (WHN)

WHN network members continue to support activities in the WHP. Groups in both districts meet to review activities and plan new ones. They also provide support in trainings and health camps. As such, they remain active in supporting the activities of HPC, whilst also building their own capacity to lead in women's health and rights issues, thus further benefiting the women in the region.

Drinking Water

HPC constructs small-scale drinking water systems for villages using its non-cement technique, tapping small local springs and bringing water to village tap stands. Where possible the policy is 1 house, 1 tap. Households can then use this water for irrigating kitchen gardens and plant nurseries either direct from the tap or using waste (grey) water runoff from the tap stands.

In this period several new systems are in planning stages and 4 village groups have received support for maintenance and improvement of existing systems, including tanks, water pipe and fittings, benefitting 52 households comprising 359 adults and children (171 female, 188 male). In addition water filters have been distributed to 11 households. All households in HPCs working area have now been provided with drinking water filters.

3. EDUCATION PROGRAM

Practical Literacy Classes

This activity involves running practical literacy classes in Humla and Surkhet. The PLCs combine Freirian literacy principles with HPCs unique collection of practical activities based on the Farmers' Handbook (FHB), an easy-to-read compendium of over 40 farmer-friendly methods to increase domestic household and farm productivity. PLC participants learn letters and words, and later sentences, that form topics from the FHB such as smokeless stove, nursery, toilet, hygiene, diet, fruit tree grafting, etc. At the same time as developing their literacy skills, they also apply the methods practically in their own houses and fields.

Two PLCs (both in Humla) are currently in process for 49 adults (38 women and 11 men). Two more classes are about to commence in Surkhet.

Schools' Program

HPC also works directly with schools in its areas, through co-design and development of bare land with planting trees and gardens, which helps to provide pupils vocational training useful not only for school but that they can take home and apply there as well. It also supports schools with infrastructure such as for drinking water, furniture, roofing, painting etc. with an aim of creating a more comfortable learning environment.

In this period HPC has provided pipe for drinking water at Gokharna Adharbhat School in Pakhapani village and has supported painting at Nepal Rastya Prathamik school in Subbatol village.

Education materials

HPC is continually developing training materials to help make its courses more effective and provide better resources for participants to take home after learning and demonstration.

In this period 100 Farmers' Handbooks have been provided to participants and as prizes for innovative work. It has also produced new materials to use as training aids for women's health trainings and farmers trainings.

4. LIVELIHOODS PROGRAM

Beekeeping

Improving bee populations and increasing their fodder sources are activities that any organisation and individual can do. HPC trains farmers in hive construction and beekeeping, and many of the thousands of trees, shrubs, grasses, herbs and vegetables its groups are planting each year are sources of pollen and nectar. Bees in turn help the pollination of these plants increasing productivity of fruits, vegetables and crops such as mustard and soya bean.

In this period resources such as veils, queen gates, honey extractors and comb knives have been distributed to groups.

Vegetable seed production

In a time when seed availability is increasingly being controlled by a few multi-national corporations, it is vital for the resilience of farmers and their communities that they regain control of their biodiversity resources, and producing their own seeds is key to this. Farmers in Nepal have traditionally bred and kept their own seed that are adapted to their local conditions, needs and are full of genetic diversity. HPC trains farmers in seed production and saving, and facilitates exchange between groups, including the ability to sell seeds to generate income. During the aftermath of the earthquakes that hit Central Nepal in April 2015, HPG groups sent over 150kg of vegetable and other crop seeds to affected communities.

In Neta and Rajena, different farmers' plots for seed producing plants have been selected. HPC staff and BCs have been continuously monitoring those plants. Later on many of these seeds will be bought by HPC and will be distributed to other farmers groups who do not have those varieties in their farmstead. They will also facilitate the trade between villages where required and requested.

Cotton Growing & Processing

Over the past 3 years farmers in Surkhet have started to grow organic cotton with an aim of increasing farm income by resourcing a local weaving cottage industry that is also being set up as part of this program. To date 18 farmers have successfully grown cotton though production is still quite low as they learn about the new crop and save seed for further planting. There have been issues with the climate suitability for the main variety, Sea Island, especially when cropping is un-irrigated thus reliant on monsoon rains. This has meant that seed is often sown too late for the cotton to ripen completely. Sea Island has been found suitable for lower areas in Surkhet, on the Bheri plain for example, and so varieties that are suited to cooler climates have been sought in India.

Meanwhile some 125kg of raw Sea Island cotton has been harvested last season (2018) from which 32.5kg of seed has been ginned using an electric-powered ginning machine acquired in India. From this up to half will be used to replant and the remainder be pressed to produce oil (that can be used for cooking or as biodiesel), while the remaining cake will be fed to livestock or used for a soil additive to fertilize and control pests. This demonstrates the multi-faceted benefits of cotton and also integrated way in which activities are planned: food, compost, soil fertility, crop protection, employment and income all from one plant!

New farmers are requesting to join this program and as this report is being prepared HPC's organic cotton growing expert from UK is in Surkhet providing training for 10 new applicants as well as refresher training and review for existing farmers.

In the processing part of this program, 3 weaving apprentices in Salghadhi village working at the community weaving centre continue to train at 4 looms built locally, and have so far produced 50 metres of cloth made from cotton thread purchased from the bazaar, until thread from the organic cotton project comes online. They are also spinning and weaving nettle fibre from the new herbs processing centre being set up in the next valley, also under the coordination of HPC (see below).

Mills

HPC is supporting communities to build local hydro-powered mills for single and multi-purpose use, with the aim of reducing the time taken to process crops by being able to do it locally – saving several hours of each household's time. Basic mills are powered by under-shot vertical-axis grinding mills for flour production. Where the water source is large enough, multi-purpose mills do this as well as de-husk and flatten (beat) rice and expel vegetable oil from crops such as mustard.

In this period new mills are still in planning stage meanwhile HPC has supported maintenance of a mill constructed last year in Salghadhi village (Pragatshil Krishak group) to increase the water flow with larger diameter pipe.

Herbs development stage 2

In this program HPC are supporting communities to set up a herbs' processing unit in Rajena municipality at a point central to several villages in that area, just below the village of Gurung Gaun (another Pragatshil Krishak group). Initially for distillation of lemon grass oil (to start with) the unit is also collecting and processing wild nettle to produce yarn for weaving in the community weaving centre described above. In this region are large areas of wild nettle, which can be harvested sustainably and the climate is good for growing lemon grass within agro-forestry systems, generally on terrace edges. The site has been decided by the community, who will build any structures required, and various resources are in the process of being acquired. The processing machinery is being provided at cost by the district Handicrafts Office who will also provide training. HPC is also working with another local NGO, Anter Nirbhar Samaj Sukhet (ISS) that has worked with the local community previously.

Weaving & Fibre Processing

In addition to cotton weaving as described above, nettle yarn production has begun in Gurung Gaun and this will be woven on selected looms in Salghadhi community weaving centre in Salghadhi village, managed by (the other) Pragatshil Krishak group. There are currently 3 full time apprentices at the centre.

Solar drier

Continuing the theme of processing locally grown products, solar drying is seen as a useful technology for vegetables and fruits to improve their storage capacity, make them available out of season, and create a resource that can potentially be used to generate income. HPC has been manufacturing home-made versions of solar dryers reducing their cost to communities. They are being used for a variety of products including beans and pulses, chillies, Asian pepper (Timur), cardamom and mulberry. In Humla they are also being used for apple drying.

Previously 6 home made solar driers were made in Surkhet and shipped to Humla where copies are now being made, under training by the same carpenter.

Juice/Jam making

Another program that is processing fruits during time of glut is juice and jam making. Communities have been learning the process of doing this and training is continuing, and HPC have been supplying simple technology to aid the process. In this period 2 hand-operated juicing machines have been acquired and shipped to Humla.

Biogas

Utilising locally produced energy for cooking and other uses is a classic way of working with closed-loop systems, and biogas is an important technology that fits this strategy. HPC is testing different types of biogas technologies, including in HDP bags as well as the more traditional cement and brick. It is partnering with a local hardware and appropriate-technology business Manikej in Surkhet, who are building traditional biogas units for HPC groups at a subsidised cost, and are also interested in experimenting with new ways of producing gas.

In this period 2 units have been constructed in Neta and Rajena municipalities (where?) and in the next period HPC will install a different type using water tanks modified for biogas, which is a kind of hybrid between the plastic bag type and the cement/brick version.

Sugarcane Processing Machine

This project aims to acquire a hand-operated mill for squeezing sugar cane juice. Many communities have been planting sugar cane as part of the agro-forestry planting activities so there is a plentiful supply of raw material. The aim is to be able to market the juice though immediately it is a nourishing drink for local.

Cloth recycling machine/training

This activity aims to acquire a machine that produces yarn from recycled cotton clothing. The yarn can then be woven in the Community Weaving Centre described above. The program is currently in the planning and design stage with village groups.

Community agro-vet centre operation

This program aims to set up a village-based centre for livestock treatment, providing tools and equipment locally and run by local co-operatives. Farmers will buy their services and materials to enable re-stocking and sustainable operation of the centre. Currently a site has been chosen and village group members are mobilising to build the centre, while HPC has started procurement of veterinary materials.

Farm Produce and Distribution Centre

This activity aims to set up a centre to collect farm produce for marketing either locally or to entrepreneurs that will take for sale in local markets (Dashratpur, Ramghat, Chinchu, Birendranagar, etc.). Produce will include vegetables, fruits, herbs, vegetable oils and handicrafts where possible produced by village group members. The Centre will be run under a co-operative structure, and is currently in the planning and design stage with village groups.

Farm Tools Community Sales Centre

This activity aims to establish a centre for distribution and sale of farm tools and equipment, such as pipe, polythene for tank lining, irrigation equipment, secateurs, beekeeping equipment, etc. Basically after 2 years HPC will stop free distribution of materials for farmers' demonstrations and all appropriate resources will be available through the centre as a profit-making community/Co-operative venture. New and tested technologies such as threshers, oil expellers, spinning wheels etc. will also become available locally, as well as organic bio-fertilizers and seed. The program is currently in the planning and design stage with village groups.

Vegetable Production Partnership

This activity aims to coordinate vegetable growing with 30 households from disadvantaged groups in HPC's working areas, enabling them to produce vegetables that will enhance their diets as a priority and further be able to be sold through the Farm Produce and Distribution Centre described above or privately by the grower. The program is currently in the planning and design stage with village groups.

Local chicken rearing partnership

This activity is similar to the Vegetable Production Partnership but involving rearing of local varieties of chicken with 12 households from particularly disadvantaged/poor farmers. The program is currently in the planning and design stage with village groups.

Sewing training

This activity aims to train 12 members of the low-caste tailoring caste in advance methods of tailoring and sewing to enable them to improve their income-generating abilities. They are provided with 2 months of free training by a government-appointed trainer and HPC supports with living costs and a sewing machine. Currently 3 persons (2 women and 1 man) from Humla have started the training.

Blacksmith training

This involves providing basic and advanced blacksmithing skills' training and tools for 30 farmers so they can learn the basic skills of tool manufacture and maintenance. One farmer that was on this course last year is already earning over 50% of his livelihood needs from using these skills, in his own village. The program is currently in the planning and design stage with village groups.

Leatherworking training

This activity aims to train 20 local farmers in leatherworking using livestock hides that are normally thrown away, instead processing them into useful and marketable products such as bags and shoes. In times gone by each village would have its leatherworking (and blacksmithing) households – usually “low” caste – that would be responsible for these crucial elements of society. Payment would usually be in food, and the low status would normally be reflected in them being landless and reliant on their skills and seasonal labour to meet their needs. While times have changed, the legacy of poverty and being marginalised often remains, while the skills are also being lost. HPC aims to address both of these issues with its skills development and marketing activities within the livelihood program. The program is currently in the planning and design stage with village groups.

Furniture making training

This activity aims to increase skills in processing local timber into furniture for both home use and sale, by providing training and basic tools to individuals from 50 households. The program is currently in the planning and design stage with village groups.

5. CAPACITY BUILDING PROGRAM

Permaculture Design Course (PDC)

The international-standard 72-hour Permaculture Design course was taught in Baragaun in April. In total 12 persons attended (8 men and 4 women), who are destined to become barefoot consultants.

Village Design Course

This is a basic, locally modified 5-day version of the PDC. It is designed to give background of the problems facing rural communities and show them how to assess their needs, resources and constraints. It also introduces how permaculture can help make changes and improvements as well as contribute to and strengthen traditional practices.

In this period 1 VDC was provided by staff and BCs in Humla to 9 women and 14 men. For some of them it is a qualification to become a BC, while for others is for their own use in their community.

Organisational development

This program has 2 main aims. Firstly it looks to increase the capacity of HPC to plan, design, implement and monitor and evaluate its programs. Many of the systems are already in place for this, and so it is the monitoring and evaluating that are the important outputs. The second aim is to develop the capacity of village groups to do likewise, which is a focus of Phase 4. In particular it is about ensuring that village groups have the infrastructure and skills to manage their own livelihood-related activities, including the various community-based co-operatives that are planned and in the early stages of development (see above). Having the right skills and organisational structures are key to allowing such initiatives to be self-reliant and resilient.

In this period, one capacity building training has been completed for HPC staff and board, which reviewed the past 3 years of work, and audited the skills and resources the project has developed (including those of the communities involved) with the view of implementing the next 3 years' activities. The workshop also involved local municipality representatives of Surkhet and Humla, as there is opportunity for them to co-implement many of the different programs within the overall project design in other localities they are responsible for.

Farmers Field trips

In March 13 farmers (4 women and 9 men) from Humla went on a field trip to visit projects in Surkhet working areas. They observed agro forestry plots, biogas, fruit gardens, micro-credit groups, cardamom farming, improved mills, cash crops, building of group's community house, Surkhet's agriculture festival (see below) and other practical farming techniques.

Meanwhile in Surkhet 40 farmers (36 women and 4 men) from Kalikharka village in Rajena municipality visited HPC's CEO's farm in Gumi to view the extensive agroforestry systems established there over the past 10 years, as well as fruit, biogas, livestock management, urine collection and use, living fence and seed production systems going on at the farm.

Farmer-Farmer extension

These workshops are generally held quarterly and aim for innovative farmers to get together to share information and experiences in their related work. It often involves them making a tour of sites to view activities, and also invites newly participating farmers and groups to attend so they can learn from more experienced farmers as well as contribute to discussion.

In this period in Humla, 16 farmers assembled to view demonstrations, review past activities, and discuss planning new activities.

Barefoot Consultants' Workshop

The Barefoot Consultants (BC) are an important part of HPC's strategy to spread their lessons, methods and approaches to communities outside of the working area of 32 villages in Surkhet and Humla districts. They hold quarterly meetings and workshops to share experience and develop their skills as extension workers, and plan what activities they are required for in collaboration with HPC staff.

There are currently 10 active BC-led activities, including 2 BCs from Humla in earthquake-affected villages of Linjho and Puru in Dhading district where villagers have an ambitious project to plant 2000 apple trees. HPC has recently signed an agreement with the Linjho project to support this work for a further 5 years. Other BC work outside of HPC's project area includes a farmers' training for a local CBO in Koshi zone, and a site survey/community audit in Kalikot district.

Meanwhile, BCs also support HPC training within its project areas and have so far in Phase 4 been involved in delivering women's health training, mobile and technical

farmers' trainings in both Surkhet and Humla, and the sewing and tailoring training in Humla.

Agricultural Festival (*mela*)

HPC's annual Surkhet Agricultural Festival was held at the end of February in Gurung Gaun, Rajena Municipality. About 350 villagers attended and viewed exhibitions of agricultural produce and locally produced handicrafts, as well as participating in competitive games between village groups participating with HPC, and cultural dance, song and poetry from group representatives.

Video film making

This activity is continuing from Phase 3 which has enable HPC staff to learn how to produce technical videos for farmers to share via mobile phone technology. Topics already produced include diet and nutrition, agro-forestry, smokeless stove making, Green Manures, compost making and seed saving.

PRA Training

This activity is aimed at training 100 group members in Participatory Rural Appraisal (PRA) techniques, enabling village groups to use PRA to survey and map existing conditions (such as resources and constraints) in their community as well as design improvements.

Leadership Training

This activity is aimed at providing Leadership training to 80 representatives of local groups, enabling them to lead facilitation of their groups activities in a transparent, democratic, effective and sustainable way.

Video film making

Further follow-up training has been provided to HPC staff and group members by Ms Renu Shakya and Mr Siddhi Bajracharya, focussing on production of 3 short videos to show at the 13th International Permaculture Conference and Convergence in Hyderabad, India in November. HPC representatives Bhuwan Khadka, Hommaya Gurung and Paumal Aidi will show videos on Introduction to HPC, Women's Health, and Barefoot Consultants respectively. These will also be made available to view on You-tube.

The previous report described an initiative by Peace Corps Nepal working with HPC to produce technical videos on various topics including Water Collection, Mulching, Leaf Pot Nursery, Leaf Compost and Double Digging are now available to view on You-tube at: <https://www.youtube.com/channel/UCJ7sajYGFJUQk79pzJI7mxQ/feed>

Videos produced by HPC are available to view at <https://www.youtube.com/playlist?list=PLUtvIa4Yp5ymtgLYCxZnGISf6FCsKgmV>

To date the following videos have been produced:

- Smokeless stove (34min)
- Making videos (58 min)
- Agroforestry (19 min)
- Nutrition (14 min) – this video alone has been viewed over **1,32,000 times** on You-tube
- Local Seed: Our Future (seed production) (31m)
- Liquid manure (31 min)
- Making Compost (24min)
- Farmers' Festival (1hr 12 min)
- HPC Introduction (10 min)
- Women's Health Program Introduction (10 min)
- Barefoot Consultants Introduction (10 min)

Other videos currently under production include Green Manures, SRI and Livestock Management.

Community contributions

Community contributions to activities in Surkhet and Humla show a total contribution of **290 person days** with a monetary value of **NRs 87,000/- (GB£600)**. This figure is lower than normal due to heavy snow over winter in Humla reducing activities of communities. Activities include maintaining community infrastructure (paths, bridges, water courses, mills, schools and community learning centres), and direct contributions to HPC programs such as portorage of equipment, and construction of PLC classrooms.

HPC Website

HPC's website, www.himalayanpermaculture.com was created February 2009. Up to the time of this report (May 2019), over **221,206** hits have been recorded.