

EcoHimal Nepal
Integrated Sustainable Tree Cropping and AFRC Programme
Narrative Progress Report
1st November, 2017 to 31st March 2018

A. Background Information

The STC programme has been implemented since 1st August, 2017 in financial support of The Glacier Trust (TGT), UK in Deusa and Waku Village Development Committees (VDCs) of Solukhumbu district to promote commercial high value cash crops and tree cropping. The aim of the extended programme is to improve the economic and social well being of smallholders and ensure the environmental sustainability of tree crop systems in mountain villages.

34 local farmers from 9 VDCs of Solukhumbu have been trained and capacitated in organic coffee production and processing with improved technologies for better production and income. They also were trained in cooperative management and will foster tree crops produces marketing. Trainings and orientations have been mobilized developing "Tree Cropping Hamlets" for effective intervention at grassroots level. Hamlets are brought together on ward basis and lead farmers have been made responsible for sharing learning. 67 local farmers from 4 villages have been trained on improved coffee farming under this approach.

The survival status of planted tree crop seedlings is satisfactory; out of 21,243 seedlings planted, 15,988 seedlings (75.26%) are alive till the reporting period. There is less chance of losing seedlings afterwards because of spring and warmer days approaching rainy season. The growth of planted seedlings will have great benefits for the provision of ecosystem services, adaptation to climate change-related stresses, and the productivity of agricultural systems.

Go Green model village approach has been encouraged to promote income generation and better living conditions for local people. As per the strategy, an average populated poor and disadvantaged group residing settlement is selected and trained in improved farming and supported with agri-materials. Likewise, the sustainable market linkages for supply of local produces, coffee and fruits have been linked in Kathmandu. Supply of goose berry and coffee has been done as initial market initiative. Working together with government line agency is being better and were able to pool resources for AFRC and community.

B. Objectives Achieved:

Overall Goal

Sustainable rural livelihoods through the promotion of tree cropping and organized marketing of the produce

N/A (will be updated in annual progress report)

Specific Objectives:

N/A (will be updated in annual progress report)

To capacitate farmers on tree cropping technology and its extension and promotion

N/A (will be updated in annual progress report)

C. Outcomes/Results Achieved:

1. Approximately 200 farmers trained in tree crop production and supplied with appropriate tree crop planting materials.

The following training and orientation events have been conducted to train local farmers on tree crop production during the reporting period.

- Training on Organic Coffee Farming and Processing: 3 days residential training on coffee farming and processing technologies has been conducted with facilitation by Mr. Bholu Shrestha, Team Leader, HELVETAS Swiss Inter-cooperation Nepal. There was participation of 34 farmers from 9 Village Development Committees (VDCs) of Solukhumbu. The objective of training was to train and develop the capacity of local coffee farmers on improved technologies for better production and income. The training was conducted with practical session and 1st hand field learning and experience. The training venue is fixed in the coffee crop growing area to make it more effective. The training is being helpful for bringing positive changes in the knowledge and skill of the farmers supporting better livelihood status of farming communities of Solukhumbu through organic coffee production and management.

An additional step has been taken during training for promotion and better marketing opportunity. A market promotion expert **Ms. Meleah Moore**, a TGT volunteer, accompanied the training and took photographs and video clips together with farmer's opinion as a promotional documents. Better documentation of training has been acquired from her support.

- The trainees has chance to acquire knowledge and skill on all aspects of coffee farming, such as soil selection preparation, bed preparation, seed selection, seed sowing, seedling preparation, plantation, organic insect and pest management, irrigation, harvesting, processing, drying, packaging, storing, roasting, grinding, coffee preparation to marketing and more. In addition, the training was focused on organic coffee farming, considering effect of climate change in environment and livelihood. Farmers are made aware on the technique of integrating coffee and other crops to get better agriculture output and increase income through quality coffee production. The detail training report is in [Annex 1](#).
- **Training on Cooperative Management:** together with coffee farming training, co-operative management training has been conducted for 34 farmers. To promote coffee farming, it is necessary to organize a farmer in formal structure. Coffee Co-operative could be a better local structure for this purpose. The 3 days training was facilitated by Mr. Narayan Dhakal. The training was conducted early in the morning and in the evening after completion of coffee training.
- To cover all farmers in the different cultivation areas, trainings and orientations activities have been conducted developing "Tree Cropping Hamlets" for effective intervention at grassroots level. Hamlets are brought together on ward basis and lead farmers have been made responsible for sharing the learning. Through this approach a

total of 67 farmers from 4 villages have been oriented on improved coffee farming and processing technologies. The training was conducted by our staff Hari together with the training participants of 3 days main training. In Waku, 27 farmers have been trained in improved coffee farming and processing. The detail of trainees is in [Annex 2](#).

- In addition, 28 farmers (participated in coffee farming and processing training) have been trained on organic fertilizers production techniques and its proper use. Detail of trained local farmers is in [Annex 3](#).

Response from trainees:

"Most of us were planting few coffee trees for the sake of hobby, without knowing importance and technical aspect of coffee farming. After training, we just have planned to start commercial farming in local area"

"We will initiate collective coffee farming for easy marketing"

2. About 30,000 tree crop seedlings planted.

In total, 21,243 seedlings were distributed, where 15,988 seedlings (75.26%) are alive till the reporting period. The status of seedling survival percentage till previous reporting (till October, 2017) was about 89.93. In the period of 3 months, about 14.67 % more seedlings have been inactive or deceased. As per the latest assessment (done in the beginning of February, 2018), 75.26% plants are active (stay alive), 9.67% are in inactive and 15.07% have been deceased. The detail is given below:

Table 1: Seedlings survival status

Seedlings survival assessment period	status	Active	Dormant	Deceased	Total	Remarks
In October, 2017		19103	350	1790	21243	
	%	89.93	1.65	8.43	100	
In February, 2018		15988	2054	3201	21243	
	%	75.26	9.67	15.07	100	

Detail of seedlings survival status in [Annex 4](#).

D. Activities carried out:

- **Assessment on existing tree crop farming in both VDCs**

The detail assessment of the existing tree crop and identification of cash crops production areas is under plan. The assessment formats are developed and discussed with staff and AFRC for local level initiative. The prepared assessment formats are in [Annex 5](#)

- **Institutionalization of farmers groups**

The farmer groups were formed and registered in District Agriculture Development Office (DADO), Solukhumbu. After execution of federal system in Nepal and accomplishment of local election, we have elected local government at place as an authorized development body. As per the new structure, we are under process of re-organizing farmer groups. Registration of farmer groups in newly established local bodies (ward and rural municipality) is under discussion with concerned stakeholders. The local law and regulation regarding community based organization registration provision are not at place. After

execution of regulations, we will prepare the documents and proceed for legalization in the local lever.

- **Establishment of sound linkages with relevant district line agencies**

The linkage of local farmers with district line agencies was excellent. They were frequently in touch with district line agencies for agri-materials support as well as seedlings request and technical knowledge.

After execution of federal structure, local bodies have been authorized for local level development. We are regularly coordinating with elected body of local government and have requested support for farmers. Local farmers are encouraged for resource pooling developing better linkages with local bodies.

EcoHimal itself is also working in coordination with the local government. Our programme is appreciated by the newly elected local government and requested for the project extension in whole RM. The request letter is in [Annex 6](#)

DAFRC is working together with Prime Minister Agriculture Commercialization Programme (PMACP) in the project area. Our both technician (Hari and Keshab) are attending each meeting of PMACP and are playing role to allocate the resources as per the need of local community. Keshab Rai selected as chairperson of the PMACP and playing a leading role.

DAFRC is working together with RM and able to allocate 4 hundred thousand rupees for a building construction. **The Council of Thulung Dudhkoshi Rural Municipality has allocated that amount to DAFRC for another building as store and alternative training hall.** The construction of building is planned on the land in-between main building and kitchen building.

- **Physical upgrading of the AFRC and hiring of one project dedicated staff**

The kitchen building has been re-arranged and used by staff members and also available for guest. Kitchen utensils and cooking stove (Gas Stove) are in place. Self cooking facility is promoted for guest. A staff quarter (medium size hut) has been constructed in the AFRC premises where office assistant is residing with his family.

The DAFRC building slightly affected by the land movement has been surveyed by the volunteer architect engineer, Ms. Johanna, from Austria. The technical report for maintenance of building has been received from her. It is under plan for the retrofit in the recommended area with better drainage system.

- **The undertaking of market and value chain research and surveys to identify most profitable tree crops for Solukhumbu district.**

Market and value chain research is carried out as per the plan. Seedlings of varieties of nuts, cash crops and fruits have been planted for trial. Coffee and banana plants are intercropped where banana plants will provide shade to the coffee plants. **In addition, Moringa seedlings production is under research in satellite nursery of Tingla village of Solukhumbu District.** Intercropping of orange and coffee is under plan and will be carried out in coming plantation. Cooperative formation and link to the market is under process.

After initial training, 2 more meetings and regular pushed up from Kathmandu a workshop at AFRC building has been planned to form a 13 person's ad hoc committee.

Perennial plants such as Rosemary, Ginko Biloba, ornamental plant Sandal wood, shed and multipurpose use plant Moringa, extinct plant Chaap has been brought and planted as research.

To ensure reasonable price of products, project has initiated market research and identified few potential market linkages for coffee, gooseberry. Coordination, correspondence and meetings in Kathmandu for market access of produced fruits were carried out by project management; as a result, connection with **Singhadurbar Vaidyakhana** is established for marketing of gooseberry and other medicinal produce. This year, 1090 kg gooseberry in 2 lots has been supplied in Vaidyakhana. There is more quantity demand of gooseberry this year but we could not able to supply due to limited time. For next year, we have received a demand for tons of gooseberry. It is up to farmers how much they can collect.

In addition, the project management has become successful to have relation with a reliable coffee buyer – Newa Estate Pvt. Ltd. The company is convinced with the quality of coffee from Solukhumbu and committed for long term demand and supply. Sustainable market solution for parchment coffee is set up with better coordination. About 710 kg parchment have been supplied to the company till the reporting period and supply of more 800 kg parchment coffee to the company is under process.

To allow farmers immediate cash in hand, a revolving fund has been setup with the support of The Glacier Trust. With the help of revolving fund DAFRC is collecting coffee and paying directly to the farmers. It has created harmony among farmers and DAFRC and also farmers are able to address their financial need after selling their coffee. In addition, it is empowering farmers to produce more coffee in future, since they are able to exchange cash with coffee beans right in the village. In addition, farmers are able to get fair price (~450 Rupees/KG.)

Cooperative management training to the 34 lead farmers have provided knowledge and information about market access through cooperative, its importance and role in market value chain. They have been educated on following marketing strategies under cooperative management:

- Product quality, market and fair trade
- Different layers of Market and partnership
- Production, processing, packaging and promotion strategies
- Production of reasonable Quantity and bargaining tools
- Preparation of Financial Plan
- Administration Management and Recording System

The project is focusing on more production, multiuse of land and resources, quality of the produced and reasonable quantity to attract buyers, thereby providing the means for a sustainable income. Micro level market study and promotion of available produced is satisfactory till reporting period.

Under feasible plant research and trial, hazelnuts plantation is demonstrated in coordination with Helvetas Swiss Incorporation Nepal and Bhutan Mountain Hazelnuts venture project. The survival and growth condition of the planted seedlings is regularly assessed. Timely irrigation, Manuring and weeding has been done. The detail report is in [Annex 7](#))

- **Procurement of seedling materials and production of a wide variety of the most suitable species for the two target VDC.**

Go Green model village approach has been introduced to promote income generation and better living condition of local people. As per the strategy, an average populated poor and disadvantaged group residing settlement is selected, they are trained improved farming and supported with agri-materials.

The approach is intervened initially with vegetable seeds and agri-materials support to all households of Dalit hamlet of Waku. All 17 households 40 participants are trained in improved vegetable farming and supported improved vegetables seed as well as materials. Improved seed of vegetables like Cauliflower, Cabbage, Chilli, Cucumber, carrot and radish etc. have been provided. Along with seeds, sprinkles (17 set of sprinkle to 17 farmers) have been supported to the farmers for regular irrigation. (The detail is in [Annex 8](#)).

- **Training of at least 200 farmers in all aspects of tree crop production, through nursery management, land selection and preparation, nutrients requirements and crop management and special aspects of each species selected by the farmers**

➤ 3 days coffee production and processing training with the facilitation of Team Leader, HELVETAS Swiss Inter-cooperation Nepal has been conducted focusing on following contents:

- ❖ Introduction, importance and probability of Coffee farming
- ❖ Varieties and characteristics of coffee
- ❖ Coffee cultivation technologies
- ❖ Shading of coffee plants
- ❖ Coffee processing, packaging, storing technologies
- ❖ Organic Pest management
- ❖ Organic coffee certification
- ❖ Marketing of coffee

While conducting training, nursery management, weeding, harvesting techniques was conducted practically in coffee farm of local farmer. The trainees were very enthusiastic and fully involved in effective learning process. Turning fresh cherry into parchment bean as well as green bean through pulping machine during practical session was the curiosity of training. Parchment drying, processing, grinding and preparing a cup of coffee has been practice in the training.

Organic certification of coffee is under discussion with Nepal based organizations called Organic Certification Nepal. It is ready to support us with minimum cost of the certification. Coordination with Fair Trade Group, Nepal and its coffee producing member cooperatives is on-going.

- Cooperative management training has been conducted together with coffee farming training. The participants of both coffee and cooperative training were same.
- To capacitate farmers at grassroots level and to cover wider farmers, hamlet level coffee production and processing training (*coffee plantation hamlet and potential hamlet for coffee plantation*) has been conducted. The training has been conducted in 4 hamlets, where 67 farmers have been trained.
 - ❖ 27 local farmers have been trained in ward no 6 of Waku
 - ❖ 15 farmers in Besi, Lokhim VDC
 - ❖ 10 farmers in Khorda, Pawai VDC
 - ❖ 15 farmers in Bangaun, Jubu VDC
- Training on farm yard/Organic fertilizers (OF) production and use has been conducted in ward no 6 of Thulung Dudhkoshi RM. 28 farmers have been educated on following subject matters:
 - ❖ Introduction and importance of OF
 - ❖ Effectiveness of OF
 - ❖ OF preparation techniques
 - ❖ Conditions and methods of OF use in coffee farming
- In addition, 21 local farmers have been trained in vegetable nursery establishment and management. (Participation detail is in [Annex 9](#)) They have been trained in following contents:
 - ❖ Importance of vegetable nursery in vegetable farming
 - ❖ Materials necessary for vegetable nursery
 - ❖ Practical training on nursery establishment

- **Field extension and supervision of orchard and plantation development.**

Under this intervention, 430 hazelnuts seedlings planted and orchard has been established for demonstration in coordination with Bhutan Mountain Hazelnuts Venture. The growth and adoptability of the plants is satisfactory. The caretaker has been appointed for regular rearing and caring. Regular monitoring has been done by our staff members.

Establishment of satellite nursery and capacity building of the farmers in Hakula village of Waku to extend our project outreach is planned before the summer. The farmer group will be formed and technical as well as materials support will be provided for nursery establishment.

- **Establishment of satellite nurseries for tree crops seedlings production.**

The 5 satellite nurseries (2 in Deusa, 2 in Waku and 1 in Tingla) are in good condition and are well managed. The farmers running the satellite nurseries are very optimistic and sharing the learning to their neighbors. Three more satellite nurseries are under plan for establishment. The current status of 5 satellite nurseries owned by following farmers is as below:

1. Mr. Solahang Rai, Deusa 5: He has established coffee seedling production nursery and there are about 1,500 seedlings in his nursery. In addition, about 1,000 seedlings of

Epilipi, 30 seedlings of Picanuts have been prepared for sale. Also he has grown about 300 seedlings of tomato in his nursery.

2. Mr. Youbraj Rai, Deusa 1: In his nursery, about 300 seedlings of orange, about 2,000 saplings of cardamom, about 400 seedlings of guava and approximately 300 seedlings of *Tuni* (forest fodder tree) are at place for sale.
3. Mr. Harka Rai, Waku 5: He has grown up about 300 seedlings of Badahar (*Monkey's Jackfruit*), 200 seedlings of Uttis (*Alder*), 2,000 seedlings of Badulla Salla (*Pinus roxburghii*), 200 seedlings of *Kimbu* (fodders tree) and about 200 seedlings of tomato in his nursery. He is targeting production of about 50,000 seedlings of Badulla Salla (*Pinus roxburghii*) in next season.
4. Mr. Bal Bahadur Rai, Waku: He has produced about 500 seedlings of coffee, about 400 seedlings of *Kutmero* (fodder tree), 200 seedlings of *Bakaeno*, 200 seedlings of *Kimbu* and about 150 seedlings of orange.
5. Mr. Karna Bahadur Karki, Tinla – 7: He has produced about 5,000 seedlings of cardamom, 200 seedlings of Moringa, 100 seedlings of Pomegranate, and about 4,500 vegetable seedlings (cauliflower – 1,700, cabbage-1,300, tomato-1,500)

- **Capacity building of farmers on pest management and diseases control**

28 local farmers have been made capable on pest management and diseases control. They have been provided with knowledge and practical skills on pest infestations and control. Last year, 42 farmers were trained on pest management and diseases control.

- **Purchase of necessary processing equipment for the new cooperative for the most popular products.**

This year, till the reporting period, 5 pulping machines have been distributed to 5 different villages. In total, 8 pulping machines have been introduced in Solukhumbu. Though the machines have been distributed to the local community, the ownership of all pulping machines is reserved with DAFRC. A coordination meeting has been done with Prime Minister Agriculture Commercialization Programme (PMACP) for the possibility to support some tools or equipment through AFRC in relation with coffee. A discussion is ongoing with Mahendra Paudel chief of PMACP to support pulping machine.

Detail of 8 Pulping machine distribution is as follows:

Table 2: Pulping Machines Distribution

S.N.	Distributed Area	Quantity (In Number)	Remarks
1	Masep, Ward no 2 (Organic Coffee Farmer Group) – Shyam Kumar Rai	1	
2	Rindapu, Ward no. 2 (Khadim Farmer Group) – Net Kumar Rai	1	
3	Khorda, Pawai (Khorda Coffee Production Group)- Bhim Bahadur Basnet	1	
4	Lokhim VDC (Lower Lokhim Coffee Group)	1	
5	Jubu VDC (Jubu Coffee Farmer Group)_Man Bahadur Ban	1	
6	Waku VDC (Waku Coffee Production Group)_Dinesh Kumar Rai	1	
7	Cherakhu, Deusa (Cherakhu Fruits Production Group)_Mani	1	

	Kumar Rai		
8	Diple, Deusa (Multipurpose Farmer Group)_Youbraj Rai	1	

Likewise, in coordination and financial support of PMACP, 10 pulping machines have been ordered and under plan for procurement and transportation to the project area.

In addition, support of equipments to DAFRC and beneficiaries is as follow:

- ❖ 1 Moisture measuring machine at DAFRC
- ❖ 1 Coffee grander machine and one coffee cooking pot (Mokkha pot)
- ❖ Castration machine 2(large 1 and small 1) to Amar Rai
- ❖ Compound microscope 1 to Amar Rai
- ❖ 6 Pruning saw Masep Coffee farmers group
- ❖ 2 Sketcher Masep Coffee farmers group
- ❖ Irrigation HDP pipe 1,200 m to Masep Coffee Farmers Group (from EcoHimal central office fund)

- **Establishment of contacts with major cooperatives and local and export buyers in Kathmandu**

The market contacts of local farmers under management of DAFRC for coffee and cash products sale in Kathmandu has been established. The contacts of local farmers in Kathmandu have been established in coordination Newa Estate Pvt. Ltd.

After execution of federal structure, we are waiting for new regulations regarding marketing and supply of local products produced. Coordination with local government at ward and rural municipality level is regularly carried out. We are in regular coordination with District Cooperative Association, Salleri and updating the outcomes and progress of the project.

The formation of cooperative is under plan and many meeting has been done to initiate it.

Regular follow-up has been done from Kathmandu and different leader from different village are contacted. In other hand we are waiting for new regulations regarding the formation of coffee cooperative from the local government. The discussion has been done with PMACP for combine cooperative for orange, coffee and other fruits. After formation of cooperative, market linkages, and access to financial capital, certification and quality improvement will be easy.

What Next?

1. Exposure visit of local farmers and farmers to farmers knowledge transfer
2. Continuation of trainings and orientations at local level
3. Follow up trainings and orientations
4. Establishment of new satellite nurseries
5. Seedlings plantation _ cultivation of marginal land
6. Keep smooth track of ongoing activities.