

**Layer farming for adaptation.
(LFAP)
(Cultivating and marketing high value crops to improve food security
enhance livelihoods and adapt to climate change in Nepal)
Annual Report**



Date: (15 Sep 2019 – 14 Sep 2020)
Submitted by: Himalayan Community Development Forum (HICODEF)
Kawasoti ,Nawalparasi ,Nepal



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Background

The Himalayan Community Development Forum (HICODEF) has partnered with The Glacier Trust (TGT) in south-central Nepal to enable climate change adaptation in the remote mountain villages of the Siwalik range since 2009. Our work in this region has, to date, enabled people to increase their resilience to the growing impacts of climate change. In 2019, a new project – Layer Farming for Adaptation – was designed by TGT and HICODEF in close collaboration with farmers in three villages (Ripaha, Matthillo Basani, and Lahape) and all relevant local government institutions.

Through this project we have reached further into the remote villages in the foothills of the Himalayas. This is an area of dangerously low food security. Climate change and inequality are exacerbating these problems significantly. In this project Coffee can be grown with other high value crops, root vegetables and fruits across the Himalayan foothills as a climate change adaptation and livelihood improvement strategy. Coffee will be grown using the organic ‘layer farming’ method so that coffee is inter-cropped with fruits, vegetables and other high value crops to vastly improve income, diet and resilience to climate change. Through this project, we will enable farmers to grow coffee commercially for the first time.

The project also works with local primary school children and teachers to give them practical and theoretical knowledge of ecosystem-based climate change adaptation, agriculture and environmental conservation.

This Annual report refers for the activities implemented from 15th September 2019 to 14th September 2020 in the community of Ripaha and Basani villages of Hupsekot Rural Municipality; and Lahape village of Boudhikali Rural Municipality. Baseline Survey, Farmers Group formation, OJT Volunteers mobilization, Project Monitoring, Schools engagement program, Coffee market Study & Coordination Visit, Coffee cultivation & Production Training, Plastic Tank & Tunnel Distribution, On Site Technical Support / Plant Clinic, Coffee seedling support & plantation, Ground crop seed distribution and material support are the major implemented activities of this year.

The second half of this 12-month period was, of course, dominated by the COVID-19 pandemic. COVID-19 has severely impacted on Nepal, the country has been in lockdown for six months. Due to the lockdown, people are less able, and in many cases, entirely unable to participate in income generation and other activities. Production, service provision, field level knowledge sharing and most transportation have been stopped. All educational institutions have been closed. The community of the project area didn't expect such an adverse situation.

During the lockdown period we have been largely unable to deliver our planned activities in planned ways. As a result, we adapted our methodologies to continue as best as possible. We adopted distance learning methods by using phone, mobile and internet for coaching, backstopping, coordination and facilitation of relevant activities. However, with some adjustments



and with strict maintenance of infection, prevention and control (IPC) measures, we were able to conduct some planned activities in the field. We also organized Coronavirus awareness raising campaigns and contributed to emergency distribution of essential resources and supplies to households impacted by the lockdown restrictions. Fortunately, to date, there have been no confirmed positive COVID-19 cases in the project area.

Summary of major activities in 2019/20 (planned vs. achieved)

SN	Activities	Planned	Achieved
1.	OJT Volunteers mobilization	6	4
2.	Farmers Group formation	3	3
3.	Baseline Survey	-	3
4.	Project monitoring and evaluation	1	1
5.	Schools engagement	3	3
6.	Coffee market study and coordination visit	-	1
7.	Coffee cultivation and production training	3	3
8.	Supply of equipment, water tanks and polytunnels	6	9
9.	Ground crop support (technical support and plant clinic)	4	4
10.	Coffee production facilitation	1	1
11.	Awareness raising against COVID-19		1
12.	Relief support for households affected by COVID-19 lockdown		1
13.	Coffee seedling support and plantation	1,500	1,550
14.	ECCLA. Program Monitoring	1	2
15.	Preparation of farmers coffee calendar	-	1
16.	preparation of Farmers coffee diary	-	1
17.	Stakeholder meeting	1	postponed
18.	Field verification by the Expert	1	postponed

Activities implementation and achievements

1 . On-the-job volunteers mobilization

According to our plan there are six OJT (on-the-job) volunteers to be hired but only 4 volunteers have joined as JTA (Junior technical Assistant) volunteers in our program during this period. All are female (**3 from Ammar Secondary School, Bharatpur, Chitwan; and 1 from Shaid Smirit community Secondary school, Kawasoti.**) Before mobilising them a one-day orientation was organised at HICODEF's office. Orientation covered: Introduction



to the project; project objectives, activities, rules and regulations; benefits of OJT; activities implementation processes and methods; roles and responsibilities for smooth mobilization. After orientation JTA volunteers

have been placed in two project sites (Ripaha and Matthillo Basani). The volunteers have been helped for strong social mobilization and technical support to the farmers in regular basis as well as capacity development of their own as they live in the community create opportunity to build relationship of trust with the farmers. The volunteers have been guided and monitored by Project Coordinator of the project. The volunteers have massively mobilized to collect the information of farming other social issues. They also have supported to collect the information of coffee. This initiative supports the farmers when they need in the field and also develop human resource to work in the agriculture sector in future. Unfortunately, due to personal problems, the 2 OJT volunteers placed in Basani dropped out from in Jan 2020. Only 2 OJT volunteers placed in Ripaha completed the course of time.



Monitoring the Tomato Nursery & participating in coffee training by OJT Volunteers

2. Farmers Group formation

During this period, 3 farmers groups have been formed. There are 99 HHs involved across the 3 groups. Among them 20 HHs are women headed. All of the farmers' group have been registered in respective rural municipality that have given them legal authority to work as farmers groups. All the activities of this project have been implementing through these Farmers groups. The Details of Farmers are as follows:



Name of Farmer Groups	Total HH	Women headed HH	Total HH member	F	M	Remarks
Milijuli Farmer group, Hupsekot 5 Basani	25	5	248	117	131	Active hh 21
Rumsi Ripaha Farmer group Hupsekt 4 Ripaha	31	7	196	102	94	Active hh 27
Juntara Laxmi Farmer group Bundhilaki 6 Lahape	43	8	320	155	165	Active HH 37
Total	99	20	764	374	390	

At the same time of farmer groups formation, an inception workshop was conducted to inform them about the goal, objective, expected results of the project including planned activities, budget and their roles and responsibilities.

3. Baseline Survey

The baseline survey has been conducted in 3 sites Ripaha and Mathillo Basani, of Hupsekot 4 & 5 Rural Municipality and Lahape of Bundhikali Rural Municipality 6. This is the regular process conducted in the beginning to set the milestone for the project and also monitoring the previous milestones. The survey covered 99 HHs. The survey has been conducted applying rapid rural appraisal (RRA) methods like household survey and focus group discussion. The household survey was used to obtain the information regarding agriculture production and productivity, cultivation, and food sufficiency of the farmers. The detailed findings are presented in the tables below:



Location	Total HH	Women headed HH	Total HH member	F	M	Existing coffee plants	Existing vegetable area (Ropani)	Pontential coffee plantation area (Ropani)	Remarks
Basani	25	5	248	117	131	76	25	43	0
Ripaha	31	7	196	102	94	30	17.67	74	0
Lahape	43	8	320	155	165	585	16.85	292	
Total	99	20	764	374	390	691	59.52	409	0

Status of food security (3-month, 6-month, 9-month, 12-month)

SN	Categorization	Location			Total
	Month	Basani	Ripaha	Lahape	
1	3month HH	0	12	7	19
2	6month HH	20	16	23	59
3	9month HH	3	0	6	9
4	12monthHH	2	3	7	12
	Total HH	25	31	43	99
	Women Headed HH	5	7	8	20

4. Project Monitoring & Evaluation

During this period HICODEF team (ED, PC & SDO) and Co-Director of TGT have been visited 2 sites Ripaha and Lahape for monitoring the project Site and to know the exiting situation. Other potential site Dhubadi was

also visited by the monitoring team in the way. They also visited & observed coffee plantation site and Nursery area. During the visit the monitoring team have made a interaction with community in both sites. In the interaction ED of HICODEF has been informed the project goal, objectives, working area, activities components, implementing methods, process & its expected outcome of project in community meeting. In Lahape the team has been visited in school for the School engagement program & observed the selected site for practical session. The Team made the interaction with school management team and teachers for proposed activities. And get the feed backs and suggestion from the community for the project activities.

5. Schools engagement programme

The Schools engagement programme is a key activity within this project. The programme engages with three Primary schools to give practical training to students and teachers. The schools gain practical and theoretical knowledge of ecosystem-based climate change adaptation, environmental conservation and agriculture.

The programme has engaged with year 1-3 in Ripaha at Shree Surya Binayak Basic Level School; years 1-6 class in Basani at Shree Rastrya Basic level school and years 1-8 class in Lahape at Shree Laxmi Basic Level School.

We have formed student 'houses' in each school, to divide student and teachers into either three or four groups. Each House has been given a special name like *Red Yellow, Blue or Green*. A 'house leader' has been chosen for each house, by the house members. Each house has an assigned teacher who acts as a facilitator. All the school engagement activities will be done by these houses in school. We will try our best to make the class interesting by creating healthy competition between houses. During this period, we have conducted the climate change classes and coffee seedling plantation in each school.

In climate change classes we discuss with students what climate change is, its impact and how it can be addressed. All the classes are conducted through flip chart, presentation, and groups discussion. All the students of schools are given more interest in such classes and presentations. After the classes the students made plans for regular cleaning of school grounds and to care for plants/flowers. Students have engaged enthusiastically in these activities and are sticking to their plan.



Students Group Formation For school program



Climate change class to students

Coffee seedling plantation in School area

Due to the COVID-19 pandemic all schools were forced to close along with all teaching and other extra curriculum activities. We adapted by consulting with schoolteachers and management committees to explore involving students in a coffee planting workshop as an extra curricula activity. Further consultations were held with parents, with a proposal of carrying out one event on the school grounds with the students. Parents and teachers agreed, so we organized a coffee planting outdoor activity that would maintain all viable protection measures. All three schools received an event, with parents and teachers also attending. Each school planted 24 coffee seedlings on the school grounds.

Before starting planting activities, we trained students, in their house groups in how to dig and prepare pits, how to correctly space coffee plants, and how to water and fertilise (organically) plants effectively. We divided four parts of available land on the school grounds and assigned one to each house. All students were involved in field activities like cleaning the land, digging pits, filling the pits; transplanting the coffee plants, mulching, watering and fencing. Students were very keen and excited to be involved in these practical classes. We made an announcement to reward the group who will take care of the plant properly that also motivates them for caring of their plants.



Facilitation to Students for Coffee plantation



Student's participation for Land cleaning & digging pits for coffee plantation

School area Coffee plantation in Basani



School Area coffee plantation in Ripaha



6. Coffee market study and coordination visit

A short coffee market study and coordination visit has been made during this year. In this study the following organizations, institutions, companies and people have been visited to develop connections necessary for future coordination.

Sn	Name of organisation, company	Address /Location
1	District cooperative federation Ltd.	Gulmi, Tamgash
2	Coffee Research centre	Gulmi, Bhandaridanda
3	District Coffee cooperative federation Ltd.	PalpaTensen
4	High mountain Arabica Coffee company	Gimdi 7 Lalitpur Satdhobato
5	Highland Organic Coffee company P.Ltd.	Thulobharayang Swoyambhu kthmandu

6	Mount Everest organic Coffee company P.Ltd. (Mustang Coffee)	Kuleshowar Kathmandu
7	National Tea & coffee Development Board ,	New Baneshowar, Kathmandu

Through this study we have collected a price list for sale of coffee products (Fresh cherry, Dry cherry, & parchment). Which are as follows:

Name of organisation / company	Rate list (NRs/KG) /Quality Grading					
	Fresh cheery		Dry Cheery		Parchment	
	A grade	B grade	A grade	B grade	A grade	B grade
District cooperative federation Ltd.	NA	Na	120	100	450	350
Coffee Research centre	Reference material collected					
District Coffee cooperative federation Ltd.	85	70	130	80	550	400
High mountain Aribica Coffee company	85	70	200	100	575	400
Highland Organic Coffee company P.Ltd.	NA	NA	200	125	450	350
Mount Everest organic Coffee company P.Ltd.(Mustang Coffee)	NA	NA	NA	Na	550	500
Government of Nepal,National Tea & coffee Development Board.	85	75	140	90	425	375

Through this study we have learned that there is a significant market for coffee in Nepal in National. Farmers can sell raw coffee for a good price. To get a good price the farmers should be careful on quality of raw coffee, they should consider factors like cultivation altitude, pre-processing, moisture content and storage. The national picture is good, but it is more difficult to access coffee market at the local level in Nawalparasi or nearby cities. There are no local collectors in Nawalparasi. We need to facilitate to develop coffee buying agents in local level market or develop mechanism of raw coffee collection and selling in local level or within farmers groups, which creates easy access to markets so that coffee farmers can sell their raw coffee.

In this visit, we had the opportunity to learn about the coffee market, and gained insights into coffee related organizations, institutions, companies and people. This visit did not however cover the condition and work of commercial coffee farmers. So a visit needs to be planned to engage with commercial coffee farmers to gain further insights.

7. Coffee cultivation & Production Training

Coffee cultivation is a major activity of this project in this year. As per the plan we organized three training events on coffee cultivation and production in Ripaha, Basani and Lahape. Two days' training were separately organized in the three sites of the project area. Mitha Ram Jamkatel was the main facilitators of these trainings, he is a farmer's level trainer of coffee farming and also a coffee farmer. The training covered: history of coffee cultivation, varieties of coffee and its nature, environmental aspects and location for coffee farming, coffee nursery and plantation, garden management, coffee pest pesticides and diseases, coffee harvesting, coffee bean processing technique, and marketing. The training was conducted in lecture, presentation, practical exercise methods. Most of the participants are excited for the training. After the training, all the participants made a commitment to planting and farming coffee using the layer farming method. Details of training participants (60% of participants were female):

Training Date	training Site	Participant		
		Total	Male	Female
3-4 Feb,2020	Ripaha	36	13	23
6-7 Feb,2020	Basani	25	12	13
9-10 Feb,2020	Lahape	40	15	25
Total		101	40	61



Ripa Training Glance



Basani Training Glance



Lahape Training Glance

8. Equipment, Plastic Tank and Polytunnel Support

Coffee and vegetables promotion is the major programme of the project and irrigation is one of the major basic requirement for the production. Therefore, the project has supported nine 1,000 litres capacity HDP tanks for irrigation, and nine Silpouline (10m x 6m) sheets for polytunnel construction for 3 farmers of Basani, 4 farmers of Ripaha and 6 farmers of Lahape. This is the activity to support to increase production of agriculture product, especially vegetables.



Irrigation Tanks for Ripa farmers



Irrigation Tanks for Lahape farmers

This support is a joint venture activity. In these activities, beneficiary farmers contributed 50% of the total cost and transportation of the HDP tank and covered the full costs of the polytunnels. This creates a sense of ownership. The farmers have fixed the tanks and have started using the polytunnels for vegetable farming in their fields. The farmers are very excited to cultivate vegetables in their polytunnels. During this period Mr Bishne Rana has earned Rs 8,000 and Chani Sara Rana earned Rs.3500 from polytunnel farming. The project has also supported coffee related equipment: Pulping Machine x 2, Coffee grinder x 3, Pruning saw x 3, Sketchier x 3, Sprayer Tank x 3. After the The community has started to pulp fresh cherry coffee in their locality.



Vegetable farming in Tunnel

9. Ground crop support (On Site Technical Support and Plant Clinic).

Ground crop support or onsite technical support/plant clinic is another activity of this project. The activity has supported the farmers to grow vegetables and ground crops as part of the Layer Farming approach. We have organized four sessions of onsite technical support and plant clinic in each site (Lahape, Basani and Ripaha) to develop the farmers skill, knowledge, effective management of water in vegetables, vegetable seeding production, preparation and use of organic fertilizer and pesticide.



During this period, we have conducted sessions with farmers groups in Ripaha, Basani and Lahape to identify the plant diseases and the possible solutions. In these sessions we discussed: agriculture problems faced by farmers, diseases of vegetables plants, conducted practical exercises; and suggested possible solutions and treatments. At the same time, farmers were taught about the preparation of bio pesticide, preparation of organic manure and organic farming. After these classes, more than 54 farmers have started to make bio pesticide and liquid organic manure for their vegetable cultivation.

Additionally, we have supported another onsite technical support in Lahape for farmers group to preparation of tomato seedling trasplant bed and trasplant of seedling. During this exercise farmers learned how to collect cattle urine to prepare bio pesticide. 7 farmers (3M and 4F) participated in this class. They stared to collect cattle urine to prepare bio pesticide and liquid manure.



Practical Exercise of Seedling Trasplant bed preparation in Tunnel

We organised another technical session in all three sites for the preparation of seedling and transplanting of winter vegetables. The session focused on preparation of nursery bed, seed sowing, watering, caring and transplant of seedling. After each session, improved seeds of cauliflower, cabbage, radish, onion and green mustard were distributed to all farmers. In total we distributed 8.9kg of improved seeds to 97 HHs. After receiving the seeds, all the farmers prepared their own nursery beds and transplanted seedlings in their coffee farm and kitchen gardens. Due to the late period of monsoon, the seedling preparation and transplanting of seedling happened a little later than normal.



Technical session for vegetable seedling preparation & vegetable seed distribution

Site of technical support /plant clinics and vegetable seeds distribution	Participants		
	Total	Male	Female
Ripa	31	8	23
Basani	25	13	12
Lahape	41	18	23
Total	97	39	58

10. Coffee Production Facilitation

Previous to the initiation of the Layer Farming for Adaptation project, farmers in the communities of Lahape, Basani and Ripaha produced coffee parchment using the traditional method. The small scale of production and varying quality meant they could not bring coffee to market. They used their parchment for domestic purpose only. With this in mind, our project organized coffee cultivation and processing training in all three sites. During the COVID-19 lockdown period, we provided coffee pulping machines, made regular distant follow-up, coaching and feedback for coffee cherry picking, pulping and preparation of market-quality coffee parchment. Using their training and the pulping equipment, the farmers have started to make coffee parchment – as much as possible. The numbers of domestic coffee users' farmers have increased. They have coffee parchment for sell and are waiting for good price locally.

Project site	Number of HHs producing coffee	Number of households preparing parchment for sale	KG of Parchment prepared for sale.
Lahape	15	8	50
Basani	10	6	20
Ripaha	4	3	5
Total	29	17	75



Grading of coffee fresh cherry & pulping



Production of Coffee parchment, waiting for selling with good price

11. Awareness rising against COVID-19 & relief support affected HHs by Lockdown

COVID -19 pandemic is spreading all over the world. Our country Nepal and our project area is not exempted. Keeping in mind the situation, our donor The Glacier Trust and HICODEF realized something need to be done to help. In response we conducted awareness raising activities and relief support for households directly affected by Coronavirus and the lockdown. A detailed report of this programme has been prepared separately and submitted to The Glacier Trust. However some glimpses are enclosed here.



Awareness Raising against CORONA(COVID-19)



Relief support materials handover to Municipality officials and affected HHs

12. Coffee seedling and planting support:

Coffee seedling and planting support is another major activity of the project. Due to the COVID-19 pandemic the project has been facing difficulties as the country has been lockdown since March 24, 2020. Because of the situation the mobility has been restricted and there are restrictions on visits by project staff to the project communities. In such a critical situation, we have had to adapt to ensure seasonal activities like planting can go ahead. To tackle the situation, we have adopted pandemic friendly tools and methods to deliver training and support. We use distance learning methods using phone, mobile, internet for coaching, backstopping, coordination, and facilitation of relevant activities. We also conducted some planned regular outdoor activities like coffee plantation. During this period, we have conducted two types of coffee plantation in the community:

1. Farmers HH level coffee plantation
2. School area coffee plantation by students

In this period 84 HHs Farmers (83 Janajati 1 Dalit) of three farmers groups have been involved and planted 3,255 coffee seedlings. They have purchased 1,705 seedling themselves and 1,550 seedling supported by

the project. Due to the Lockdown we were unable to carry coffee seedling from outside of district. We managed coffee seedling from a nearby nursery. Through our facilitation and guidance, the farmers have planted 20 (minimum) to 320 (maximum) coffee seedlings on their land. Most of the coffee seedlings have been planted in maize field and some are in fruits and fodder field that will allow for immediate practice of layer farming and intercropping system. Primary schools in all three communities (Shree Laxmi Basic Level School Lahape, Shreerastrya basic school, Basani; and Shree Suryabinayak Basic School, Ripaha) have planted 24 coffee seedlings each.

Project site	No of HHs involved in coffee plantation	Total coffee seedlings purchased by community	Total coffee seedlings purchased by project	Coffee seedling planted at schools	Total
Lahape	28	560	326	24	910
Basani	25	945	531	24	1500
Ripaha	31	200	621	24	845
Total	84	1705	1478	72	3255

Coffee Seedling Support (coffee seedling transport & distribution)



Farmer coffee plantation in Lahape



Pits for plantation



coffee plantation



mulching for plant after plantation

Coffee plantation in Lahape

Farmer coffee plantation in Basani



Coffee plantation in Basani with maize

Farmer coffee plantation in Ripaha



Coffee plantation in Ripaha with banana and fodder (layer farming)

13. ECCLA. Programme monitoring visit

During this year we visited Dhabaha, Sartakun and Durlunga, the three communities we worked with on our previous TGT funded project: ECCLA (Enhancing Community Capacities for Learning & Adaptation to Climate Change). These visits are part of ongoing legacy monitoring of the ECCLA work and to continue to motivate the community to ensure long-term benefits. During this monitoring we visited farmers households and their cultivation land, focusing especially on vegetables, potatoes, chili cultivation, kitchen garden, polytunnel sites, plastic ponds and the RVTs (irrigation tanks). The RVT of Durlunga has been running smoothly. Farmers are taking irrigation facilities from this RVT. The plastic pond of Ran Bahadur Rajali in Dhabaha has been running smoothly. He used water from this pond for vegetable cultivation.

Most of the farmers are practicing the cultivation of tomato, potatoes, beans and chili. 80% of the farmers have used their product for their domestic purpose. Only 20% farmers are selling their farm products in local market like Jhyalbas, Chormara, Danda and Kawasoti. During this year, 19 farmers are farming tomato commercially on 3.2ha of land across three sites. They have sold 9,450 kg tomatoes at Rs 40/kg and have earned NRs 378,000. 18 farmers are involved in small scale commercial potato farming on 1.2ha of land. They have sold 5,440 KG potatoes at Rs 40/kg and have earned NRs 217,600. 11 Farmers are involved in Bean farming on 1.2ha of land. They have sold 4,560kg beans at Rs50/per kg and earned NRs 228,000. Similarly, 27 farmers across the three sites are involved in chili farming. They have cultivated chili on 1.3ha of land. They have sold 3,700 kg chilies at Rs 80/kg and earned NRs 296,000. The community of three sites have sold 7,400 kg of broom grass at Rs 55/kg earning NRs. 407,000.

SN	Project site (Previous)	Status of Potato, Tomato sell quantity & income							
		Tomato Rs. 40/kg				Potato Rs. 40/kg			
		Sold KG	total income	Amount of land (In Ha.	Involved HHs	Sold KG	total income	Amount of land (In Ha.	Involved HHs
1	Dhaba	450	18000	0.2	2	60	2400	0.1	2
2	Satakun	2000	80000	1.0	8	80	3200	0.1	1
3	Dulunga	7000	280000	2.0	9	5300	212000	1	15
	Total	9,450	378,000	3.2	19	5,440	217,600	1.2	18



Potato & tomato Farming

SN	Project site (Previous)	Status of Bea & Chilly sell quantity & income							
		Bean Rs. 50/kg				Chilly Rs. 80/kg			
		Sold KG	total income	Amount of land (In Ha.)	Involved HHs	Sold KG	total income	Amount of land (In Ha.)	Involved HHs
1	Dhaba	20	1000	0.1	2	140	11200	0.2	7
2	Satakun	40	2000	0.1	2	3500	280000	1	16
3	Dulunga	4500	225000	1	7	60	4800	0.1	4
Total		4,560	2,28,000	1.2	11	3,700	2,96,000	1.3	27



Bean & Chilly cultivation

SN	Project site (Previous)	Status of Broom grass quantity sold and income generated				
		Broom grass Rs. 55/kg				Remarks
		Sold KG	Total income	Amount of land (in Ha)	Involved HHs	
1	Dhahaba	2500	137500	6	14	More than 5 ha of land broom grass are cultivated by commonly in Dhahaba.
2	Sartakun	3100	170000	7	15	
3	Durlunga	1800	99000	3	14	
Total		7,400	406,500	16	43	



Broom Grass cultivation

Due to the lockdown because of COVID-19 the agriculture products of the farmers have not sold easily. Farmers have not got reliable prize of their commodity. But they have to buy agricultures inputs, domestic material in high prize.

14. Preparation of 'farmer coffee calendar'

During this period, we have drafted a coffee calendar for farmers. In this calendar we have recommended activities for each month for the plant nursery, new coffee garden, and old (mature) coffee garden. We will publish this calendar and provide copies to individual farmers to help them to schedule their activities.

15. Preparation of 'farmer coffee diary'

During this lockdown period we have drafted a 'farmers coffee diary'. This is a daily operating plan for coffee farmers. In this diary farmers will mention detail of their own introduction, farmers' land, crops, total labor in farming, total inputs in coffee farming and total production and income from coffee farming. After maintaining this diary, farmers will be able to find profit and loss, areas of improvement, future plans and this will help to maintain a database of individual farmers. The project will publish and distribute these diaries and encourage and facilitate all farmers in how to keep their daily records.

16. Challenges

- Communities still only have small quantities of coffee parchment, no local buyers. We have to develop local market for collection of fresh cherry and coffee parchment.
- Due to the late start of the project, the project had just 4 OJT volunteers (designed for 6) among them 1 volunteer has dropped out due to health problems and also we placed one local student in their local area, but the community didn't accept as facilitator her. She therefore also left the project.
- Due to the COVID-19 lockdown the following challenges have been faced by community and project:
 - Farmers are unable to sell produce like broom grass, dry ginger, woven tray (**Nanglo**), bamboo basket (**Dhoko**), green vegetables, tomato, bitter gourd, leafy green vegetables and coffee parchment. Even if they sold their produce they did not get proper price. This is a very hard time the farmers are facing because of the COVID 19 situation.



Broom Grass,



Coffee parchment



Weaning plate

- Farmers have to buy their necessary item, commodity in high price.
- Due to lockdown we have faced difficulties for field mobility to conduct project planned activities.
- Some mass gathering activities like school engagement program, meeting, plant clinic, field monitoring have been difficult to complete in planned time.

The Glacier Trust has been sympathetic to all these challenges and not applied any pressure on the project team. We have communicated with them throughout the year and adjusted targets and activities in full agreement.

Case Story

Excitement of Bisne Rana for Improve Farming

Bishne Rana-46 is a resident farmer of Ripaha. He lives in Ripaha with six family members. He migrated to gulf country for labour and returned two years ago. After returning home he continued his traditional farming occupation. He cultivated maize, millet, rice and vegetables. By this farming practice he and his family only coped with difficulty. The Layer Farming for Adaptation project gave him the chance to join the newly established farmer's group in Ripaha. Furthermore, he got opportunity to involve in framers group meetings, onsite technical support. After being capacitated he started vegetables farming like chili, long beans and tomato. Having seen his efforts and commitment, the project supported him with a polytunnel and a 1,000 litre irrigation tank. After that he stared tomato farming in the tunnel. In this lockdown period he has grown 400kg tomato in. Unfortunately, due to lockdown he could not get a high price for his tomato crop. However, he sold tomato at Rs 20/kg and earned more than 8,000 rupees from. Likewise, he sold 100kg long beans at Rs 80/kg and earned a further 8,000 rupees. Now he has started to grow valuable chillies named **Akabare** on one Ropani of land, it is now ready to sell. These chillies can be sold for Rs 200/kg in the local market, possibly more. Now, Bishne Rana is very excited in his success and he told us: "I will expand my vegetable farming in more than 5 Ropani and will take more than 1 lakh (100,000 rupees) every year." Now he has also started coffee plantation on his land too.



Long Bean farming

Tomato farming in tunnel with **Akabare Chilly**