The Marr-Munning Trust

Grant Monitoring Form – End of Year Report

Please complete this form and email to: grants@marrmunningtrust.org.uk

You must complete and return this form by: **31st December 2020**

NOTE: When discussing your project please do not use any actual names or provide information that could identify an individual.

ABOUT YOUR ORGANISATION:

1.	Name of Organisation:	The Glacier Trust

ABOUT THE GRANT WE AWARDED:

2.	Summary of purpose for which the grant from MMT was awarded:	
	Mandan Deupur Agro Forestry Resource Centre (AFRC)	
3.	Amount of Grant Awarded:	£ 55,658
4.	Period Covered By This Report:	1 Dec. 2019 to 30 Nov. 2020

TELL US ABOUT YOUR PROJECT AND THE IMPACT IT HAS HAD SO FAR:

5.	During the 12 months covered by this report, what activities have you undertaken?

Output 1. Detail baseline and feasibility studies completed.

Activities

1. Coordination with local government, concerned line agencies and local communities

Regular coordination with local government and local communities has been continued in the 2nd year of project implementation. The following activities have been carried out in cooperation with the local government, the concerned line agencies and the local community.

a. Coordination with local government

- Regular communication and cooperation was carried out with all Ward offices to extend the satellite nurseries. In cooperation with the Ward offices, 3 satellite nurseries have been established in Ward nos. 3, 10, and 12, all managed by nursery caretakers.
- A Plant Pathology Clinic with local government and Nepal Plant Disease Associates Pvt. Ltd was jointly organized on 20 December 2019. The programme was inaugurated by the Mayor of Mr Mandan Deupur (MDM), Mr Tok Bahadur Waiba and summarized at the end by the Deputy Mayor, Ms. Nirmala Shahi in the presence of respective ward chairpersons, farmers and other stakeholders. The plant clinic was very helpful in the diagnosing of diseases, pests and insect problems of field crops and vegetables in the area.
- Cooperation with the Agriculture Section of the local government is working well; the soil testing laboratory is now functional through project support of necessary materials such as cooking gas, batteries, etc. In a joint effort, the soil pH test of 7 locations was carried out, and farmers continue to receive soil test service from the laboratory.
- Five sets of drip irrigation system were obtained by the MD AFRC with a 50% subsidy from the local government and installed at the center and satellite nurseries.
- Ward chairpersons of all Wards of MDM are visiting the AFRC frequently to monitor the progress, and provide us with valuable feedback.

- The Deputy Mayor of MDM, Mrs. Nirmala Shahi, carried out a monitoring visit on 11th March 2020; she provided valuable feedback and appreciated the project work.
- Regular communication and coordination was carried out with the Ward offices during the lockdown which was very helpful in maintaining progress and keeping all plants at the satellite nurseries alive.
- Regular coordination was also maintained with relevant MDM offices in relation to the distribution of summer season fruit seedlings. In addition to seedlings provided and distributed by the project, the MDM agriculture section also distributed fruit seedlings to farmers at a 50% subsidized rate of the actual cost.
- The 17th National Rice Day on 29 June 2020 (15 Asadh) was celebrated in coordination with the Ward no. 11 office. The Ward Chairperson, Mr. Madhab Acharya, the chief guest, inaugurated the day by planting rice seedling.
- For the inauguration of the summer season seedling distribution programme, formal invitations were sent to the MDM Mayor, the Deputy Mayor, the Chief Administrative Officer and the Chief of the Agriculture section. Project staff members made personal visits to request all invitees to attend the programme.
- Seedling distribution was done on 7 July 2020 in presence of the MDM Mayor, who inspected the AFRC and observed its activities. The Mayor, Mr. Waiba, appreciated the plantation techniques and progress at the AFRC, and encouraged the local farmers to adopt tree cropping.
- To promote bio-intensive techniques in fruit cultivation, all 12 Ward offices were requested to select 3 to 4 interested farmers for a practical training hub. All the Ward Chairpersons supported us by selecting farmers from their respective wards.
- A meeting with Mr. Jit Bahadur Tamang, the Ward Chairperson of Ward no. 9 of MDM was held on 2 August 2020, during which methods involved in effective tree crop plantation employing bio-intensive methods was described and discussed. Mr. Tamang shared his feelings on the challenges in tree crop promotion over the past years, including distribution of poor-quality seedlings and lack of technical knowledge about appropriate plantation technologies, which have been a major cause of failure of tree crop initiatives in the municipality. After the meeting, a lead farmer was selected and oriented about the bio-intensive plantation techniques and preparation of planting pits.
- A meeting with Mr. Narayan Lamsal, Ward Chairperson of Ward no. 7 of MDM was held on 3 August 2020, where discussions focused on the establishment of a satellite nursery in Ward no. 7. It was decided to select a committed lead farmer from the Ward and provide him or her the necessary support to establish a nursery. After the selection of a farmer, EcoHimal Nepal, the Ward Chairperson and the selected farmer would have a meeting and detailed discussions before nursery establishment began. The lead farmer is yet to be selected.
- A meeting with Mr. Netra Prasad Dhakal, Ward Chairperson of Ward no. 5 of MDM, was held on 3 August 2020, where detailed discussions concentrated on establishing a satellite nursery and implementation of a coffee promotion programme in the ward. Mr. Dhakal took the responsibility to select a model farmer to establish the satellite nursery, after which a meeting of the Ward Chairperson, an EcoHimal Nepal representative and the selected farmer would be organized to establish the ward-level satellite nursery.

Immediately after the meeting, 5 dedicated farmers were selected to establish coffee plantations, and they were coached on proper plantation procedure and pit preparation, and provided with a total of 500 coffee seedlings. Details of the farmers are provided in Table 1 below.

Table 1: Selection of Farmers for the Coffee Promotion Programme

#	Name of Farmers Receiving the Seedlings	Municipality	Ward	Sex	No. of seedlings received	Utilization of land in hectares
1	Mr. Sudarsan Dhakal	Mandan Deupur	5	M	150	0.50
2	Mr. Rishiram Dhakal	Mandan Deupur	5	M	150	0.50
3	Ms. Goma Dhakal	Mandan Deupur	5	F	100	0.33
4	Ms. Sanita Sherestha	Mandan Deupur	5	F	50	0.17
5	Mr. Bhuntu BK	Mandan Deupur	5	M	50	0.17
				Total	**500**	**1.67**

- All 12 MDM ward offices were encouraged to promote bio-intensive techniques of fruit cultivation, through regular communications.
- Coordination with the agriculture section of the MDM continued and 4 virtual trainings were jointly organized during the lockdown period. The Chief of the agriculture section, Mr. Gopal Sapkota, formally chaired all the virtual trainings on behalf of MDM. The dates and thematic areas were as follows:
  - ✓ training on disease and pest control of citrus on 25 August 2020 for citrus fruit farmers
  - ✓ training on soil structure, soil problems and Bordeaux paste and mixture (fungicides) preparation on 31 August 2020
  - ✓ training on the management of diseases and pests of paddy on 3 September 2020
  - ✓ training on organic vegetable farming was organized on 8 September 2020.
- EcoHimal Nepal and MDM had jointly decided on 23 August 2020 to make household visits to all farmers who had received seedlings from either MDM or MD-AFRC in order to monitor the status of the tree crop plantations, their survival rates and to provide encouragement and training. The plan, however, was postponed due to the pandemic, when the MDM imposed a lockdown with strict travel restrictions across the whole municipality. The visits will be carried out when the situation normalizes.
- Throughout the year, the project has been implemented in close coordination with local government and its ward offices.

b. Coordination with local communities

- A successful 3 day farmer's exposure visit to the Deusa AFRC (in Solukhumbu District) was carried out under the leadership of the Ward Chairperson of Ward no. 11, Mr. Madav Neupane between 13 and 15 December 2019, with the participation of MD-AFRC management committee members and local farmers. The experience sharing by Mr. Mahendra Sapkota is provided in Annex 1.
- In coordination with the Chandeni Mandan Small Farmers Agriculture Cooperative Ltd., a virtual training on bio-intensive plantation techniques was conducted on 9 June 2020.
- The MD-AFRC management committee conducts regular periodic meetings and making necessary decisions; a brief summary of the meetings is provided in Annex 2.
- A meeting of the MD-AFRC management committee, in the presence of Mr. Madhav Neupane, Ward Chairperson of Ward no. 11 of MDM as chief guest, was organized and conducted at the AFRC meeting hall on 1 August 2020, where an annual progress review of the project work was undertaken; this included discussions on implemented activities, progress on seedling production and plantations, the income and expenses of the MD-AFRC, and the fixed assets acquired to date. It was followed by planning discussions and a public commitment by all participants to implement the project more effectively in the current circumstances to ensure fulfilment of its objectives. The following decisions were made at the meeting:
  - procurement of cauliflower seeds from the previous fund balance of the MD-AFRC management committee bank account;
  - to prepare documents proposing that the office of Ward no. 11 construct a model improved cattle shed at the Centre, and a request for the necessary budget provision from the Ward office as soon as possible;
  - to remove the trees of Pine, Sal (Shorea Robusta) etc. from the terraces under the jurisdiction of the MD-AFRC;
  - to prepare the annual plan for the MD-AFRC and approve it at the next meeting;
  - to continue regular communications and coordination with the satellite nursery lead farmers to orientate and provide guidance on proper care of the nurseries and plants.

c. Coordination with concerned line agencies

- Special travel permits from the District Administration Office in Kathmandu and Kavrepalanchok were obtained for field visits during lockdown.
- Annual plans were presented at the annual planning meeting of the Municipality.
- All programme activities were coordinated with the Ward offices, Ward Chairpersons and members.
- The Mayor, Deputy Mayor and the Chief Executive Officer were regularly informed about the project activities and requested to undertake monitoring visits.
- The Mayor and the Deputy Mayor have visited project sites several times, provided valuable feedback, and shown great interest in the project activities.

2. Create and annually update farmer database

A database of trained farmers receiving tree crop seedlings from the project along with the survival status of planted seedlings has been created and is updated regularly – this includes profiles of all benefited farmers. Updates are provided through information

provided by the farmers, farm monitoring visits and observation of the tree crop plantations by the project team. Updated details of the beneficiary farmers is provided in Annex 3.

3. **Feasibility survey/study to ascertain best high value crops for target area**
   This was completed in the first year of project implementation (2019).

Output 2: Establishment of the AFRC, outlet centres, satellite nurseries completed.

Activities

1. **Construction of prefabricated farmstead building**
   This was accomplished in the first year of project implementation (2019), and the centre is in full operation.

2. **Land preparation and establishment of the AFRC nurseries.**

a. Establishment and management of the nurseries

- The MD-AFRC has established various nurseries to produce vegetable seedlings; around 1,365 seedlings (cauliflower, cabbage, garlic and onion, brinjal, better guard, tomato, etc.) have been produced to date.
- A flower nursery has also been established, and flowers have been planted around the AFRC to attract pollination insect species and for decorative purposes.
- The green house is utilized for back-up to the nurseries, for tree crops, fruits and vegetables.
- The nursery caretaker's capacity has been enhanced throughout the year – especially in terms of skills concerned with plantation, weeding, irrigation, transplantation, nursery bed preparation, and compost and liquid manure preparation.
- Nurseries for fruits (mango and jackfruit) have been established to prepare rootstocks for grafting purposes.
- All vegetables were cultivated following organic principles - these included cauliflower, cabbage, spinach, radish, bitter guard, tomato, brinjal (egg plant), etc..
- Over 1,000 litres of bio-pesticide were prepared using local herbs, aromatic leaves, chilli and grasses.
- Compost manure was prepared through the collection of herbs, weeds, leaves, and organic waste from in and near the AFRC centre.

b. Current status of seedlings in MD-AFRC/Nurseries

The current status of seedlings in the MD-AFRC nurseries has been regularly updated. A summary is provided in Table 2 below; further details on seedling production, distribution to farmers and plantation is provided in Annex 4.

Table 2: Summary of Seedlings Produced in the MD-AFRC Nurseries

No. of varieties of tree crops and species	Seedlings produced up to June 2020	Seedlings produced from July to September 2020	Total	Status of seedlings		
				No. of distributed and planted seedlings	No. of seedlings that decayed	Current seedlings in stock
54	1,882	1,341	3,223	179	53	2,991

The survival status of the planted seedlings of fruits, nuts, ornamental trees and spices at the MD-AFRC is continuously updated. The survival status of seedlings planted in 2019 and 2020 is presented in Table 3 below; survival rate of seedlings over the past 2 years is 78%, which is satisfactory, but some 22% of seedlings died due to different reasons. Further detail of the plants and their survival status is provided in Annex 5.

Table 3: Summary of the Survival Status of Seedlings

#	Particulars	Survival Status of Seedlings				Total
		Active	%	Died	%	
1	Seedlings planted in 2019 (214)	147	69	67	31	214
2	Seedlings planted in 2020 (122)	115	94	7	9	122
	Total	**262**		**74**		**336**
	Average Survival Rate %		**78**		**22**	

c. **Bio-fencing**: 592 plants of 9 species have been planted around the AFRC boundary for live fencing purposes. A detailed list of the plants is provided in Annex 6. Plants established for fencing purposes in 2019 have grown well and have converted into scrub; the survival status of the plants is almost 100%. Bio-fencing is a technique through which inedible varieties of herbs, shrubs and bushy species are planted to deter animals from entering an area; these will develop into a substantial boundary and barrier in the future. It is a long process but a sound environmental initiative to minimize the use of cement and concrete, and expensive fencing materials.

d. **Plantation to minimize soil erosion at the MD-AFRC**: a total of 825 saplings of 7 species of fodder and forage have been planted around the AFRC premises to minimize soil erosion. The survival status of saplings is nearly 100%, as detailed in Annex 7.

e. **Demonstrations of SRI, System of Rice Intensification**: following the success of 2019's demo at the Centre, two further demonstration plots were established where SRI rice was compared against traditionally cultivated methods. Unfortunately, the demonstration plots were completely ruined by wild rabbits, and there was no production. Wild rabbits are becoming a problem for other crops and vegetables as well – some of the cauliflowers were destroyed last year, and this year cauliflowers on a 50m² area were completely destroyed.

3. Purchase of nursery and polytunnel tools/equipment and planting materials

Provision of seedlings: during this reporting period, the local farmers have been provided improved varieties of fruits, nuts, and spices as part of the promotion of high value tree

crops. In the 2nd project year, a total of 3,335 seedlings of 25 varieties were purchased from 4 nurseries and transported to MD-AFRC. Out of 3,335 seedlings, 1,806 seedlings were distributed to the local farmers (1,622 individual farmers and 184 ward level selected farmers), 42 seedlings were planted at the MD-AFRC and 18 seedlings planted in satellite nursery of MDM-12, where 1,469 seedlings remain in stock for hardening and acclimatizing. A summary of the seedlings purchased, distributed and hardening is presented in Table 4 below.

Table 4: Summary of seedlings purchased and distributed

#	Particulars	No. of seedlings	Remarks
A	**Number of Seedlings Purchased in 2nd year**		
A1	Number of seedlings purchased	3,335	25 varieties
	Total	**3,335**	
B	**Seedlings Distributed and Planted**		
B1	**Seedlings distributed in previous reporting period (up to June 2020)**		
1	Number of seedlings planted at the MD-AFRC	42	
2	No. of seedlings distributed to farmers (visiting AFRC)	1,622	
3	No. of seedlings distributed under Ward Level Scheme during bio intensive training.	184	
4	No. of seedlings distributed/ planted at Satellite Nursery Ward 12	18	
	Total	**1,866**	
C	**Seedlings under hardening in MD-AFRC**	**1,469**	

Plant distribution is always followed by technical knowledge and skills transfer on alternative farming technologies; all fruit and nut plantations are undertaken with application of bio-intensive plantation techniques.
Further details are provided in Annex 8. Details of the seedlings distributed to local farmers from the MD-AFRC are provided in Annex 9; and details of seedlings distributed to local farmers under the Ward level scheme are provided in Annex 10.

4. Establishment of nurseries in 2 other wards

In addition to the 2 satellite nurseries (Chandeni and Nayagaune) established in 2019, one more satellite nursery in Ward no. 12 is now established. Despite the COVID-19 pandemic and lockdown, the nursery caretakers have maintained the nurseries well.

a. **The satellite nursery (SLN) at Nayagaune, Ward no. 3:** the nursery is well managed by the caretaker, Mr. Chutar Bahadur Tamang, and is well equipped with agri-materials, seeds and resources for seedling production. The necessary agri-materials for nursery establishment, garden management and proper irrigation have been provided by the project, as well as different varieties of vegetable seeds and other crops. Details of this agri-material and seed support is provided in Annex 11.

The nursery status is as follows:

- a total of 5,819 seedlings have been produced in the 2nd year - 3,818 seedlings of vegetables (tomato, chilly, cabbage, cauliflower, etc.), 1349 seedlings of fodder (chirpine, lapsi, etc.), and 652 seedlings of forage crops. In addition, land has been properly prepared for the planting of further seedlings in the near future;
- six different varieties of fruits – apple (Desert Golden), peach (Juni Pride), pear (Hood), plum (Beauty), almond (Salimar) and grape – have also been planted in the nursery as mother plants. The peach seedling has unfortunately died, but the other 5 seedlings are growing well. From this demonstration, parameters like potential, suitability and feasibility of the different fruits will be assessed, and the most suitable fruit crops will be promoted;
- a temporary structure, using locally available materials such as wood and bamboo, has been constructed for the protection of seedlings after the plastic tunnel was destroyed by a heavy wind storm during the 2020 monsoon.

b. **The SLN at Chandeni (Ward no. 10):** the satellite nursery is properly managed by the caretaker, Mr. Shyam Kumar Lama. Necessary agri-materials for nursery establishment, garden management and proper drip irrigation have been provided by the project, as well as different varieties of vegetable seeds and fruits. Details of this agri-material support is provided in Annex 12.

The nursery status is as follows:

- 2,100 seedlings of vegetables and fodder species have been produced, including tomato and chilly;
- more than 6,000 seedlings of onion have been produced and distributed to farmers at a reasonable price, and some 2,000 seedlings remain at the nursery for distribution in the near future;
- 6 different varieties of fruit seedlings have been planted - grape, nectarine, peach (Juni Pride), pear (Hood) and plum (Beauty) - all of which are growing well (ie. survival status = 100%); future potential, suitability and feasibility of the fruit varieties will be assessed, and appropriate fruit crops will be promoted;
- 250 jackfruit seeds in poly bags are being hardened for rootstock;
- radish and different types of green leafy vegetables are also being produced;
- Mr. Lama is skilled at preparing bio-pesticide, liquid manure and Bordeaux pest and mixture, which he prepares as required for the plants in the nurseries.

About Bordeaux Solutions (Source: CAU Farm magazine Vol 6. No. 3)

In the year 1761, Schulthez first used copper sulphate for the seed treatment of wheat diseases, later on Prevost termed it as a fungicide, and in 1882, Millardet in France (Bordeaux University) accidentally observed the efficacy of the copper sulphate against the downy mildew of grapes caused by Plasmopara viticola. When copper sulphate was mixed with a lime suspension, it effectively checked the incidence of the disease. The mixture of copper sulphate and lime was named "Bouillie Bordelaise" (Bordeaux Mixture).

The original formula developed by Millardet contains 5 lbs of $CuSO_4$ + 5lbs of lime + 50 gallons of water, and the end mixture contains a gelatinous precipitate of copper hydroxide and calcium sulphate, which is usually sky blue in colour. Cupric hydroxide is the active ingredient, and it is toxic to fungal spores.

Bordeaux mixture is generally accepted even in organic cultivation. It is easy to prepare and can be locally prepared by farmers themselves.
Preparation of 1 % Bordeaux Mixture

1. *Copper sulphate powder - 1 kg*
2. *Lime - 1 kg*
3. *Water - 100 litres*

One kg of copper sulphate powder is dissolved in 50 litres of water, and 1 kg of lime is powdered and dissolved in another 50 litres of water. The copper sulphate solution is then slowly added to the lime solution with constant stirring - or alternatively, both the solutions may be poured simultaneously to a third contained and mixed well.
Preparation of 0.5% Bordeaux mixture is same as above but reducing the copper sulphate and lime by half of the amount and keeping water 1% for the mixture preparation.
In general, 1% Bordeaux mixture is applied to hardy plant parts such as roots, stem and 0.5% of mixture is applied on leaf/foliage.

Bordeaux paste consists of the same constituents as that of Bordeaux mixture, but it is in the form of a paste as the quantity of water used is significantly less. It is prepared by mixing 1 kg of copper sulphate and 1 kg of lime in 10 litres of water, and the method of mixing solution is similar to that of Bordeaux mixture. It is a wound dresser and used to protect the wounded portions, cut ends of trees etc., against infection by fungal pathogens.

Bordeaux paint consists of 100g of copper sulphate with 200g of lime in 300ml water. It is a wound dresser and also used to protect the wounded portions, cut ends of trees etc., against infection by fungal pathogens.

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c. **The new SLN at Jyamdi (Ward no. 12):** a detailed feasibility study of the proposed site for establishment of a satellite nursery in Jyamdi village of MDM-Ward 12 was carried out by Eco-Himal's technical staff and the MDM social development officer. The location was found to be appropriate geo-structurally, the land is government owned, the total area is ~4 ropani (approx. 610 m^2), and thus it's selection was approved.
Province Parliament Member Mr. Laxman Lamsal inaugurated the community-led satellite nursery on 12 September 2020 by planting a grafted apple sapling. He mentioned during his speech, *"if this SLN initiative succeeds, I will seek the government's financial support, but the precondition is the nursery results must be positive"*. 33 local community members were present at the inauguration – see Annex 13 for a participant's list.

The following progress has been achieved in the reporting period:

- the land was prepared by volunteers from the local community; 11 local farmers contributed the day of 14 September 2020 – see Annex 14 for a list of the volunteers;
- ground levelling, planning, and seedling bed layout and preparation was completed;
- 20 seedlings of 8 varieties were planted as mother plants in the nursery following bio-intensive planting methodologies – as listed below in Table 5.

Table 5 : Seedlings planted

#	Seedling	Variety	Quantity
1	Apple	Dorset Golden	2
2	Apple	Anna	1
3	Peach	Desert Gold	3
4	Plum	Beauty	4
5	Grape	Khyo	4
6	Lime	TL	2
7	Orange	Unsu	3
8	Ginkobailoba	N/A	1
		Total	20

15 community volunteers planted the seedlings on 13 September 2020 – see Annex 15 for details of the volunteers.

Mr. Rudra Prasad Parajuli was selected as nursery caretaker and has taken full responsibility for nursery management. More recently, a 10 member Jyamdi SLN management committee has been formed, as detailed in Table 6 below.

Table 6: The Jyamdi SLN committee members

#	Name	Designation	Address	Gender
1	Mr. Bishnu Prasad Parajuli	Chairperson	MD Ward no. 12	Male
2	Mr. Raju Prasad Parajuli	Vice Chairperson	MD Ward no. 12	Male
3	Mr. Narayan Prasad Parajuli	Secretary	MD Ward no. 12	Male
4	Ms. Sita Bhattarai	Treasurer	MD Ward no. 12	Female
5	Mr. Ram Sharan Bardewa	Member	MD Ward no. 12	Male
6	Mr. Nil Prasad Parajuli	Member	MD Ward no. 12	Male
7	Mr. Sunil Parajuli	Member	MD Ward no. 12	Male
8	Ms. Dilmaya Purkoti	Member	MD Ward no. 12	Female
9	Mr. Dhan Bahadur Tamang	Member	MD Ward no. 12	Male
10	Ms. Sarmila Parajuli	Member	MD Ward no. 12	Female

After further land designing and plotting, nurseries of different varieties of tree crop have been established, and seeds and seedlings planted, as recorded in Table 7 below.

Table 7: Seeds of tree crop varieties sown in the Jyamdi nursery

#	Seedling	Plot number	#	Seedling	Plot number
1	Pomegranate	2	6	Birendra Kalki	41
2	Masal	1	7	Camphor	1
3	Moringa	1	8	Juniper	1
4	Chinaberry	2	9	Pine	1
5	Kalki	1	10	Buddhachitta	1
		4	11	Lapsi (Hog plum)	1

Necessary agri-materials for nursery and plot establishment, garden management and proper irrigation have been provided by the project, as have different varieties of vegetable seeds. Details of the agri-material and seed support is documented in Annex 16.

5. Establishment of an outlet for organic produce

3 organic villages, to which the project is providing support, have been established by the project. Two villages - Sunaulokot Organic Village (Ward no. 10) and Simkhet Organic Village (Ward no. 3) were established in 2019 to promote organic production. In 2020, one more village, Halede village of Ward no. 1 of MDM, has been selected and established as an organic model village and an outlet for organic vegetables.

The project has provided thorough orientations, trainings and capacity building to the local famers associated with organic villages. Since much chemical fertilizer and pesticide is used in the project area, there was great need to firstly generate awareness among the local farmers on the dangers of commercial fertilizer and pesticide and the advantages and benefits of organic farming and organic products. Thus, the project is fully preparing the local farmers to adopt an organic culture.

When the local farmers have fully adopted organic practices, an outlet in each organic village will be established. Due to COVID-19, materialization of this initiative is delayed and will be initiated safely at a more appropriate time.

6. Establishment of an outlet for seed/seedlings outlet centre for farmers

The MD-AFRC is currently resourcing local farmers with seeds and seedlings, and local farmers are regularly visiting MD-AFRC for procurement of the same.

All 3 organic villages have been properly trained to raise seeds and seedlings organically, including in the preparation of organic manures, bio-pesticides and Bordeaux paste and mixtures.

27 local farmers (details provided in Annex 17) have joined as organic vegetable promoters, and have been trained on organic vegetable production, liquid manure preparation and land preparation for vegetable production.

To promote organic production of vegetables in all 3 model villages, the project has provided improved vegetable seeds to 37 individual farmers (18 farmers from Halede village, 5 farmers from Simkhet village, and 14 farmers from Sunaulokot village). Of the 37 recipients, 8 farmers have been producing vegetables for household consumption in their kitchen gardens, and 29 farmers are cultivating vegetables for commercial purposes. Details of the vegetable seeds provided and the recipient farmers is provided in Annex 18.

Output 3: Quality training of farmers in agro forestry and agri-options delivered.

Activities

1. Provision of training workshops

In 2 years of project implementation, the project has organized a total of 32 trainings on different agro-forestry and agri-options, including:

- bio-intensive plantation,
- organic farming,

- nursery establishment,
- fruit farming,
- improved potato farming,
- Bordeaux mixture preparation, and liquid manure preparation,
- paddy disease and management,
- the citrus fruit disease and pest management,
- soil testing and its importance.

In Year 2 (2020), 403 local farmers have benefited from training opportunities. Prior to the COVID-19 pandemic in March 2020, trainings were organized at field level with demonstration and practical sessions for both famers and whole communities, with face to face involvement of the project team with the farmer participants. After the pandemic and subsequent national lockdown, training delivery practices had to change due to travel and social distancing restrictions; to avoid then illegal communal gatherings, virtual trainings were introduced.
To clarify the contents of the virtual trainings, and to ensure a practical element to the trainings, small group farmer trainings were organized, ensuring all preventive and protective measures were followed such as social distancing, compulsory mask wearing and regular hand washing and sanitizing.
Over the 2 years of project implementation to date, the project has provided trainings to 668 local farmers. Details of all participant are provided in Annex 19.

Trainings provided since inception are summarized below. All trainings were facilitated by technical staff members, from the project or collaborating partners.

I. Field based practical trainings with demonstration

- Community based training conducted on 17 January 2020 on organic fruit farming and nursery management technology in MDM-10 was provided to 34 local farmers – this included introduction to fruit farming, its importance, profitability and marketing opportunities, bio-intensive plantation techniques, weeding, cutting and pruning, general orchard management, production of fruit seedlings and nursery management, and organic fertilizer and Bordeaux paste and mixture preparation methods.
- 4 trainings were organized on 2, 5, 6 and 8 February 2020 on improved farming technologies through which 129 local farmers received technical knowledge and skills on chemical and physical properties of soil, organic fertilizers, chemical fertilizers and their impacts on soil and the environment, organic fertilizer preparation, application and management, and the methods for taking soil samples for a pH test.
- Training on creeping vegetable farm technologies, on February 22, through which 34 farmers obtained technical knowledge on introduction of creeping vegetables, improved practices of cultivation together with orchard management and care of vegetables.
- Training on fruit cultivation using bio-intensive plantation techniques was provided to 6 farmers (3 male and 3 female) in Ward no. 7 of MDM on 4 August 2020; the farmers learnt through practical demonstration and practice about planting pit preparation, collection of necessary materials, the correct methodology for filling the pit, and techniques for seedling plantation.

- Training on bio-intensive plantation techniques was provide in Ward no. 12 of MDM on 5 August 2020 to 6 farmers who learnt about bio-intensive pit preparation, collection and management of required materials and seedling plantation techniques.
- A further training on bio-intensive plantation techniques was carried out in Ward no. 3 of MDM 6 August 2020 for 7 local farmers (6 male and 1 female) who received coaching in the preparation of bio-intensive pits, material and seedling management, and planting seedlings using bio-intensive techniques.
  In this training, the Mayor of MDM, Mr Tok Bahadur Waiba fully participated throughout the training session as a trainee and much appreciated the plantation technique; he mentioned about the considerable need for technology transfer between the famers on fruit production, and committed to cooperate with the MD-AFRC when planning local government seedling distribution in the coming years.
- A day long practical training was provided on Bordeaux pest and mixture preparation, and liquid manure preparation to the organic village of Chandeni on 10 August 2020. The training was given to 15 members of Sunaulokot Organic Krishi Thata Pasupalan Samuha, who were divided into 2 groups to maintain social distance and comply with GoN COVID-19 rules and regulations.
- A day long practical training was conducted on liquid manure preparation and use of EM liquid for 7 farmers on 11 August 2020.
- A one-day training on liquid manure preparation was provided in Nayagaun Heele on 12 August 2020 to 11 farmers who learnt about the ways to prepare liquid manure and methods to use it properly.
- A day long practical training on the preparation of Bordeaux paste and its proper use was held on 14 September 2020 in Ward no 10 of MDM, with 7 farmers participating. The focus was on:
  - ✓ identification of the necessary materials for Bordeaux paste preparation,
  - ✓ the importance and efficacy of Bordeaux paste on fruit tree insect and pest control,
  - ✓ methods of Bordeaux paste preparation and its proper use.
- A field based practical training was conducted on vegetable nursery management in Ward 1, MDM (Halede village) on 27 September 2020, for 23 farmers who obtained technical knowledge and skills relating to vegetable nursery establishment and management.
- A field-based practical-cum-demonstration training for 14 farmers on bio-bed preparation, organic farming and disease control was held on 29 September 2020.

All farmers who received seasonal vegetable seeds were oriented on vegetable seedling production and vegetable farming at the time of seed distribution.

II. Virtual trainings

- A virtual training was organized on 9 June in coordination with the Chandeni Mandan Small Farmers Agriculture Cooperative Ltd of MDM. The training was delivered on fruit, nut and vegetable farming applying the bio-intensive method, and was facilitated by the project manager. The training highlighted the concept of bio-intensive plantation, its techniques, merits and demerits, plant health and sustainable production. A total of 25 community farmers participated in this first virtual training.
  A short report of the training is provided in Annex 20.

- A virtual training on the diseases and pests of citrus fruits and their control was conducted on 25 August 2020 for citrus fruit farmers. The training was organized in cooperation with the agriculture section of MDM and facilitated by the project officer, Mr Dipendra Aryal. Participants learnt about different citrus diseases and pests, and integrated pest management for improved control. It was interactive and participants raised genuine questions on their experiences and problems, and solutions were suggested. There were 32 farmer participants, including 2 representatives from Deusa in Solukhumbu District. The main topics of the training included:
  - ✓ the types of citrus diseases and pests, and targeted organic control methods,
  - ✓ the preparation and use of Bordeaux paste,
  - ✓ the need for a soil test.

  A short report is provided in Annex 21.
- A virtual training on soil structure, soil problems and Bordeaux paste and mixture preparation was conducted on 31 August 2020 for 16 farmers who learnt about:
  - ✓ types of soil and their properties,
  - ✓ method of soil sample collection for soil testing,
  - ✓ proper use of agriculture lime,
  - ✓ the preparation and use of Bordeaux paste and mixture.

  A short report is provided in Annex 22.
- A virtual training on the management of diseases and pests of paddy was conducted on 3 September 2020, in cooperation with the local government to raise farmers' awareness and provide possible solutions. The problems faced by the 27 local farmers who participated, together with ways to identify diseases and pests, and integrated pest and disease management techniques were discussed with the farmer participants, who raised many pertinent questions on pests and diseases they faced. Possible solutions and measures were suggested focusing on an integrated bio-pesticide management approach. A short report is provided in Annex 23.
- A virtual training on organic vegetable farming was organized on 8 September 2020, also in cooperation with the local government to promote organic vegetable production in the project area. The status of organic farming in Nepal and different organic approaches were discussed and the 44 farmers who participated, were encouraged to follow organic production methods. At the end of the training, farmers expressed their interest in adopting organic production procedures. A short report is provided in Annex 24.

III. Home visits and phone call support

39 local farmers were trained on bio-intensive plantation techniques through home and farm visits. A practical demonstration on planting pit preparation and plantation techniques at field level was provided with project staff. These and other farmers were further oriented and supported on bio-intensive plantation techniques via phone calls.

IV. Ward level program for capacity building

On the basis of a recommendation from the MD Mayor to ensure effective technology transfer on improved and bio-intensive plantation techniques, the project management prepared and executed an alternative strategy for training delivery - this focused on field-based demonstration and training for ward level lead farmers. The project began ward level technology transfer through home visits to cover the whole

municipality – in each ward, at least 3 farmers were selected for these field-based demonstration trainings on bio-intensive plantation techniques. Details on the selected famers are provided in Annex 25.

As per the strategy, the local farmers were practically trained on bio-intensive plantation techniques pit preparation, proper re-filling of the pit, planting techniques and plantation layouts. During the training, seedlings of various fruits and nuts were provided free of cost to the selected farmers.

V. **Preparation of the training manuals**

Utilizing the lockdown and related travel restrictions in a productive manner, 94 training manuals have been prepared on different aspects of farm management, cropping and cultivation. The project plans to produce these in booklet format in both Nepali (original version) and English. The manuals are edited by the project manager, and shared with experts (including TGT Nepal Project Director Mr. Richard Allen) for proof reading and language editing before the final design and printing. After finalization, the manual will be printed in the Nepali language. An English language version will be available in mid-2021.

2. Post-training promotion of high value tree crops and alternative farming systems and technologies

a. Imported organic fertilizer trial in potato

The project management conducted a trial of organic fertilizer ("Black Wonder", imported from Thailand and distributed by the local vender) in potato farming during the 2nd year. 10 kg of the organic fertilizer was used in the beds of the improved NS variety of potato. A total of 156 potato seed (5 kg in total) were sowed in the t, and compared with a similar numbers of potato using locally produced fertilizer in another plot – thus comparing an improved practice with a traditional practice.

The IPS production in the experimental plot was satisfactory in comparison with the traditional one. In total, 45 kg potatoes were produced from the 5 kg seed in the improved practice plot as against 30 kg in the normal traditional practice. Out of 45 kg potato, 20 kg seed was stored in the cold store for seed, and project staff consumed the rest. The preserved potato seed was sown again in late 2020 with normal compost manure, as after analysis of the production and fertilizer costs, the "Black Wonder" was found to be too expensive even though it is more productive.

b. Experiment of improved potato seed NS variety

Improved potato seed (IPS) production was tested at MDAFRC; a total of 20 kg of NS variety foundation seeds have been sowed. A demonstration of IPS production was done to observe production and resiliency against environmental hazards, pests and diseases.

The result was observed to be positive due to resistance to major diseases, insects and pest, but accurate measurement of production was not possible due to the lockdown.

c. Utilization of local resources

Use of local resources along with innovative technologies was prioritized in the reporting period. The project management experimented with an alternative to poly bags using Sal (Shorea rebusta) leaves which were filled up with soil and organic fertilizer. 84 seeds of bittergoard were sown in these leaf bags, and was considered a great success. In future,

the project will use such bags for the fast-growing seedlings like vegetables and herbs. It is environmentally friendly, biodegradable and an excellent alternative to poly bags.

d. Soil testing and results sharing with local farmers

Before the initiation of soil sample collection, the local farmers were oriented about soil sampling techniques through a field-based practical demonstration. 5 famers from Ward no 11 collected soil samples in line with guidance from our technical staff. The project staff members coordinated with the Agriculture Section of local government to undertake testing at the soil testing lab. of the Municipality Office, which was supported by the project. The initial focus was to check soil pH levels; the results were discussed with the concerned local farmers who were provided with technical recommendations and suggestions on soil improvement. Most of the soil tested acidic, so farmers were requested to use agriculture lime to improve soil condition and crop production.

As a starter, pH tests were carried out on 6 soil samples from 5 local farmers (Mr. Jagat Shrestha, Ms. Ram Maya Shrestha, Ms. Parbati Shrestha, Ms. Bed Maya Bhattrai and Ms. Saraswati Shrestha), and 7 samples from the MD-AFRC. The soil test report of all 13 soil samples is provided in Annex 26. It should be noted that the lab was not functional before our intervention due to logistic and technical issues; these were solved through the use of project resources, and as a result the lab. was operationalized.

e. Drip irrigation

In cooperation with the local government, drip irrigation technology has been introduced in MDAFRC and satellite nurseries. A total of 5 sets of drip irrigation were obtained from the local government; 3 sets have been installed at the MD-AFRC and 2 sets at the satellite nurseries in Chandani and Nayagaon.

f. Provision of seedlings and seeds along with technology transfer

Trained farmers, with enhanced knowledge and skills on alternative and improved farming technologies, have been provided with new and improved species of fruits, nuts, and vegetables for the promotion of high value tree crops and improved vegetable production. These seed and seedlings are being cultivated in the farmers' fields.

The new, improved varieties of the tropical and sub-tropical fruits, nuts, spices and ornamental trees were purchased and collected from the following nurseries:

- Everything Organic Nursery, in Kavreplanchok.
- Adarsha Agro Nursery, in Chitwan.
- Joshi Nursery, in Makwanpur.
- Agro Mart, in Kathmandu.

The local farmers have been mostly provided with grafted improved varieties of these high value tree crops. Plant distribution was followed by knowledge and skills transfer on alternative farming technologies and the mandatory bio-intensive plantation techniques.

The project supported the local government to identify committed farmers while distributing tree crop seedlings throughout the MDM. The local government distributed about 21,350 tree crop seedlings in coordination with the MD-AFRC. Details of seedlings distributed through the local government programme is provided in Annex 27.

g. Seedlings distribution programme and the Mayor's visit to MD-AFRC

A seedling distribution programme was organized on 7 July 2020 at the MD-AFRC. The Mayor of MDM, Mr. Tok Bahadur Waiba, was present as the Chief Guest of the event. Bio-intensive plantation techniques were demonstrated for the participants, and the Mayor planted an apple tree following the preparation of a bio-intensive planting pit. The event was a good opportunity to disseminate knowledge to higher-level authorities, and explain about good environmentally sound plantation practices, and the importance of grafting, resilient rootstock and productive scions, for example – with a view toward influencing policy intervention at the Municipal level.

The Mayor admired the agro-forestry initiatives and committed to support promotion of tree cropping and the practices demonstrated to the whole municipality. His valuable citations during the programme were as follows:

- "we have been distributing seedlings of fruits through agriculture section of MDM every year and investing a huge amount, but I have yet to see any effective results from these efforts. I am impressed with these plantation techniques and the plant growth in the AFRC premises. The technology and better practices clearly make a difference in terms of plant growth and production. So I recommend that the MD-AFRC conducts ward level trainings and orientations to transfer these technical knowledge and skills, so all people can benefit and replicate the practices";
- "I suggest and recommend EcoHimal to discuss the training plan with all Ward Chairpersons and request them to select lead farmers for training in these bio-intensive plantation techniques";
- he requested all the farmers to participate in the MD-AFRC training programmes and to take immediate action on plantation development – do not delay! – as delay will affect the survival and growth of the plants and productivity of the Municipality;
- he also shared his past experience of attempting orange cultivation and how he lost it all. He shared that "I was the only farmer to grow orange in the village at Nayagaon. I had to distribute the oranges free of cost rather than selling them as everyone wanted to test and taste them before buying them. The buyers were mostly villagers and everybody requested for a taste of at least one, sometime two, then three oranges in the beginning, after which they might have purchased just 1 kg. Everybody saw the orange like a movie star fruit and wanted to enjoy them – and some who could not afford them or did not want to pay for them, the best way was to steal them. One day I caught my neighbors' kids red handed pocketing the oranges in the orchard - they were also my relatives! Interestingly, I later learnt that these students used to steal the orange and then sell them at school! I became fed up with this situation and cut all the trees down. From this experience, I suggest all farmers to convince your neighbour to also make a plantation – this will help to promote collective marketing, fight against climate change and minimize the problems that I faced."

3. Provision of monthly farmers training courses at the AFRC.

The MD-AFRC is conducting monthly training to deliver technical knowledge on improved farming techniques to local farmers. Practical knowledge about different topics of farming and climate change is prioritized during these monthly trainings, and knowledge of new farm management practices, diversified production from tree crops, vegetables and fruits has been disseminated to date during the 3 monthly trainings that have been possible during this reporting period due to the pandemic and lockdown.

The monthly training conducted in January 2020 was about collective organic vegetable farming. The training was facilitated by our staff focusing on the importance of collective vegetable farming, improved vegetable farming practices, appropriate vegetables, and manure production and use. 11 local farmers participated – see Annex 28 for further details.

The monthly training conducted in February 2020 was about the use of agriculture lime and organic fertilizers for soil improvement – including the methodology of using agriculture lime in soil, remedies after the use of agriculture lime, recommendations for agriculture lime based on the pH level, and use of organic fertilizers for soil improvement. 25 local farmers participated as listed in Annex 29.

Due to the COVID-19 pandemic and government restrictions on organizing communal meetings and trainings, it has not been possible to organize the monthly farmers' trainings at the MD-AFRC as planned. In the past few months, there has only been one monthly training held under strict social distancing, preventive and protective measures. The training was organized on 1 August 2020, and focused on organic farming, improved farming, and the preparation and use of Bordeaux paste and mixture. The participants' list is presented in Table 8.

Table 8: Participation in the 3rd monthly training

#	Name of Farmer	Sex	Address
1	Mr. Shostik Dotel	Male	MDM-6
2	Mr. Pratik Dotel	Male	MDM-6
3	Mr. Hari Bajgain	Male	MDM-3
4	Mr. Kedar Nath Bajgain	Male	MDM-3
5	Mr. Ramesh Timalsina	Male	MDM-12
6	Mr. Dor Bahadur Budhathoki	Male	MDM-8
7	Mr. Samir Parajuli	Male	MDM-12
8	Mr. Bude Tamang	Male	MDM-11
9	Mr. Hiralal Shrestha	Male	MDM-11
11	Mr. Badri Baskoti	Male	MDM-1

4. Organic Certification

A field observation of the following sites was carried out by staff from the Organic Certification Nepal (OCN) on 12 November 2020: at the Jyamdi satellite nursery (Ward 12), and the Chandani (Ward 10) and Heleda (Ward 1) organic villages, and at the MD-AFRC. Mr Bhola Kumar Shrestha of OCN oriented the farmers about the organic certification process and its importance. A brief report of the field observations by OCN is provided in Annex 30.

After the above field observation, an orientation workshop was organized for the 29 November 2020 to facilitate farmers in starting the basic required procedures for organic certification. The workshop was organized at MD-AFRC under the facilitation of Mr Bhola Kumar Shrestha of OCN. Lead farmers were oriented on organic agriculture, its importance, associated problems, organic product marketing and the organic certification

process. The requirement of maintaining farmers' diaries with regular updates of necessary information, and an internal farm control system, and proper documentation by the individual farmers were clearly explained at the workshop.
The concept of consuming organic food and its positive impact to future generations both in terms of health and environment were discussed in detail. The facilitator further shared the 4 principles of organic farming: **Health, Ecology, Fairness, and Care** as the roots from which organic agriculture grows and develops. These principles express the contribution that organic agriculture can make to the world, and encompass a vision to improve all agriculture in the global context.
17 farmers from 5 different groups and 4 staff members attended the training.
A short report on the organic certification process is provided in Annex 31. The documents required to be maintained by the farmers to develop an internal control system at farm level are provided in Annex 32. The news coverage of this event by the local online newspaper is provided in Annex 33. The news link can be seen at the following:https://radionamobuddha.org/news-details/1432/2020-12-02?fbclid=IwAR3QJ9FBeTzKmCGnazAi7SYLAuxKNIGwst2g8DcecnDu-GnIDhWaVtIclvc

5. Provision of specialist training

A number of specialist trainings (as described in Activity 1 – Provision of Trainings under Output 1), were conducted using external specialists, as follows:

- bio-intensive training organized on 9 June 2020,
- training on diseases and pests of citrus fruits and their control for citrus fruit farmers on 25 August 2020,
- training on soil structure, soil problems and Bordeaux paste and mixture preparation on 31 August 2020,
- training on management of diseases and pests of paddy on 3 September 2020,
- training on organic vegetable farming on 8 September 2020,
- training on organic certification and its process on 29 November 2020.

Output 4: Engagement and coaching of secondary school students delivered.

Activities

1. Monthly training provided to students at 5 secondary schools

In the 2nd year of project implementation, only one training has been conducted at the Chendeni Secondary School. There was participation of 16 students see Annex 34 - for details. The training was on the organic farming situation in Nepal, its probability and necessity along with harmful impacts and damage caused by chemical fertilizers and pesticides on soil and human health, and the benefits of organic production.

Key teachers in 7 schools had been identified to effectively implement the school-based activities - however, due to the COVID-19 pandemic, all schools were closed in March and remain closed to date. It was not therefore not possible to carry out the planned school level activities.
The selected key teachers in the different schools are as follows.

- Mr. Dinesh Nepal – Dedithumka Secondary School

- Mr. Santosh Ghimire – Chandeni Secondary School
- Mr. Dirgha Raj Tamang – Bagdevi Secondary School
- Mr. Prakash Nepal – Indrawati Secondary School
- Mr. Lilanath Neupane – Uma Saha Secondary School
- Mr. Arjun Nepal – Bindabasini Secondary School
- Mr. Jaya Singh Saud – Mahakali Secondary School.

A speech competition was organized in Chandeni Secondary School on the organic farming situation in Nepal, its importance and probabilities. 16 students participated and shared their knowledge and understanding of organic farming.
An educational exposure of 14 students studying at the Dedithumka Secondary School, MDM Ward 9, was organized to the MD-AFRC (see Annex 35 for further details). A short formal session was held where project staff and the MD-AFRC management committee described agro-forestry systems, organic farming practices and the project activities. The students then toured the AFRC and observed all demonstration sites, nurseries and innovations, heard about temperate, sub-tropical, and tropical plants, and joined in a practical demonstration on techniques for filling poly bags. Students were then trained on the physical and chemical properties of soil, on soil erosion and its management, and observed organic farming practices.

Support provided to schools for establishment of school agro-forestry garden
Due to COVID-19 and subsequent school closures, the project could not establish anymore school agro-forestry gardens in year 2. However, monitoring of the agro-forestry gardens established earlier at 3 schools was undertaken regularly; in all 3 gardens, all plants remained alive with satisfactory growth. The detail of the survival status of the planted seedlings is provided in Annex 36.

A feasibility study at the Dwarpaleshwor Secondary School was carried out on 1 September 2020. The school management was orientated about the objective behind the establishment of an agro-forestry garden at the school and the schools' roles and responsibilities before and after garden establishment. After the meeting, the available land in the school premises was surveyed, and plans were drawn up to plant 21 seedlings of various species, including pine, nuts, apple, pear and plum. The school management and responsible teachers have been oriented about bio-intensive plantation techniques, and the school committed itself to prepare the planting pits and organize the necessary materials before January 2021.

2. Afforestation of denuded areas with assistance from students
This activity was planned in summer 2020 at Chandeni and Dedithumka Secondary Schools, but due to the school closures, this was not possible to organize.

Output 5: Awareness of environmental issues and agro-forestry options raised.

1. Awareness raising/coordination with local communities, government & nurseries
The radio programme "Kishan Ko Ujalo Bhabisye" (A Brighter Future for Farmers) has been regularly broadcast for wider level awareness to the local community and other

stakeholders. The programme airs every two weeks throughout the year, and episodes are archived regularly. Audios of the programmes are provided in Annex 37.

A One-day plant clinic was organized in the MDM for the diagnosis of pests, diseases and insect problems and to suggest management options: experts diagnosed the diseases and insect problems brought by the farmers and suggested management options to cope with them. They also took undiagnosed disease and insect samples to the laboratory for a proper diagnosis. The technical report from NPDA (National Plant Disease Associates) is provided in Annex 38.

Different field-based trainings and orientations were also conducted to raise awareness on agro-forestry options and environmental issues. In the reporting period, famers were mostly trained on organic farming, and connecting impacts of chemical fertilizers and pesticides with considerations on human and environmental health.

2. Awareness campaigns to reduce local reliance on use of pesticides

Use of pesticides, comparison of bio-pest and chemical pest, merits and demerits have been communicated to the local community via the radio programmes and during trainings. Farmer field visits, one-to-one talks, and sensitization of the AFRC management committee has continued during this reporting period. An exposure visit of committee members, local government representative and lead farmers to the Deusa Agroforestry Centre in Solukhumbu was successful in observing and experiencing organic farming practices in Deusa. According to the response from the committee members, it was a good experience for them and changed their mindsets. For the wider public, the radio programmes are currently the major means of awareness raising – these include the voices of local opinion leaders.

3. Monthly broadcasts on local radio programmes focusing on environmental issues

In this reporting period, 21 programme episodes have been produced and broadcasted on MD-AFRC issues in cooperation with Radio Namobuddha. The radio programme is also broadcast on two more community radios - Radio Malamchi and Radio Sindhu. These programmes focus on promoting activities at the AFRC to make people aware about the Centres activities on agriculture and environment. The programmes have also covered other issues like climate change, organic farming, pests and diseases, with inputs from experts.

Since the COVID-19 pandemic situation, programmes have included information on COVID-19, it's impact, the nationwide lockdown and the cumulative effects on agriculture, food security and agri-product marketing. More recently, the radio programmes have covered commercial fruit cultivation and its importance, organic farming and the bio intensive technologies, alternative methods of manuring, and climate change and its connection to crop production. A synopsis of the radio programmes is provided in Annex 39.

4. Promotion of good public relations and media cooperation

a) As in the 1st year, the radio programmes are the focal point for good media cooperation. Social sites like Facebook, Instagram, and the website are also being

updated regularly. A document with links to promotional messages and text on social sites is provided in Annex 40.

b) A 3 day workshop on "Do Camp for Agripreneurs", focusing on the entrepreneurial mindset required for stakeholders working in the agriculture domain, was successfully conducted at the King's College in Kathmandu from 17 to 19 February 2020. The entire three-day "thinking and ideas" workshop was designed to help participants create and test human-centered solutions to everyday problems through the process of design thinking. The event was organized in collaboration with more than 3 organizations, as described in the organizer's report in Annex 41.

c) A bi-monthly talk programme has been continued in collaboration with King's College, KrishiPrabidhi, Gandaki Urja, Baliyo Nepal and other institutions, to identify appropriate actions for prosperity. 'Agri-Talks', version 2.0 with the theme 'Agribusiness Career Opportunities for Young Professionals' was also conducted, highlighting the career opportunities for young professionals interested in the agriculture industry, and identifying youth prospects and challenges in agribusiness, to encourage youth involvement and to disseminate information on the available government support systems for young people.

d) EcoHimal Nepal was actively involved in the 3rd Agri Talk as co-organizer with the main organizer King's Collage Nepal, in cooperation with the Institution for Sustainable Actions for Prosperity, Krishak ra Prabidhi, Gandaki Urja, DV Excellus and Baliyo Nepal. The theme of this 3rd Agri talk was *the Agriculture Nutrition Pathway: Income Generation for Improving Health*. Dr. Atul Upadhyay, who has a PhD in Agriculture Science, shared important issues concerning the current status of Nepali agricultural nutrition.

e) MD-AFRC Committee members, local government representatives and lead farmers visited the Deusa AFRC in Solukhumbu for exposure of the different actors.

6.	**Have these activities differed from what you originally planned?**

There is some deviation from the planned activities due to the on-going COVID-19 pandemic and subsequent lockdown and restrictions. The following activities have not been possible:

a) establishment of the outlet centres (for both organic produce and sale of seedlings and seeds),
b) conducting the monthly trainings at the MD-AFRC – 12 meetings were planned, but only 3 have been carried out,
c) organic certification- this process has been initiated but it will take several more months to bring this activity to acceptable operational level,
d) the coaching of 400 students at 7 schools in the 2nd year was significantly affected by the pandemic as all schools have been closed since March 2020,
e) establishment of 4 school gardens in the 2nd year was also planned, but to date only 2 have been established. The establishment of 2 more school agro-forestry gardens will have to wait until schools re-open, hopefully in the early months of 2021.

Despite the pandemic and its considerable impacts on "normal" life, most of the planned year 2 activities have been completed.

7.	**Please describe how these activities have helped you progress towards your planned outcomes?**

Outcome 1: Local Government promotes agro forestry as a mainstream farming system in Kavre District

Indicator 1: The local government's documents changes in regulations and provides incentives to farmers to adopt agro forestry

The local government has been made aware of the significance and value of agro-forestry in MDM. The presence of the Mayor and the Deputy Mayor in tree crops promotional activities, through seedling distribution, MD-AFRC and satellite nursery visits, and their clear realization of the need for improved climate smart tree cropping technologies, has generated a synergy towards adoption of agro-forestry systems. Involvement of all the 12 Ward Chairpersons and elected representatives to promote tree cropping in their respective wards by selecting lead farmers also demonstrates the local government's support for the promotion of agroforestry as a mainstream farming system.

Furthermore, the establishment of a satellite nursery in Ward no. 12 of MD was initiated by the local government with technical and resource support from the project, creating further impetus for agro-forestry adoption. The inauguration of the Jyamdi satellite nursery in Ward no. 12, by Mr. Laxman Lamsal, the Bagmati Provincial Parliament Member, also implies province level support for the promotion of tree crops.

The local municipal government has included agro-forestry in its annual programmes and plan for 2077/78 (2020/21) with the following aspects mentioned on page 8:

- the following slogan has been adopted: "Deupur and Mandan – Agriculture and Tourism",
- aims include: to establish improved agriculture as a dignified occupation with initiatives on agriculture commercialization and diversification, especially towards tree cropping,
- promotion of productive agriculture to generate local employment and income,
- initiation of student focused practical environmental programmes at school level,
- establishment of agri-collection centres as outlet centres,
- allocation of budget for extensive tree cropping in MDM.

The influence of the project is clear in relation to this new local government development plan.

The project provided commitments to the local government in drafting local level policies and plans on agricultural commercialization and agro-forestry. This was planned for 2020, but due to the COVID-19 pandemic, this didn't happen as priorities were diverted.

In addition, the local government in cooperation with the project agreed to establish a soil testing lab – this is now in operation. The municipality is planning to provide laboratory resources support to local lead farmers to enable them to examine the suitability of their farms for tree cropping and agro-forestry adoption. The local government through its agriculture section has also distributed various types of tree crops to farmers at a subsidized rate in all 12 wards of the municipality.

Indicator 2: Local government requests that at least 3 more AFRCs are constructed in other wards

The local MDM government has requested EcoHimal Nepal to establish AFRCs in all 12 wards of the Municipality. Considering this request, the project has extended its programme from the originally planned 3 wards to all 12 wards. In response, the local government, in its annual programming and budget for 2020/2021, has declared that it will co-finance, at a ratio of 50:50, the promotion of improved agriculture in MDM by

transforming traditional/subsistence farming to improved commercial farming. Currently, the project clearly does not have the capacity to fund all the requested AFRCs, but this shows the commitment from the local government, who continue to provide funding to the satellite nurseries that the project has established in different wards.
The Mayor, the Deputy Mayor, the Ward Chairpersons and elected representatives are transparently positive towards cooperation with the project to establish AFRCs in all 12 wards; their 50% commitment would be sufficient for the construction of the necessary infrastructure. Currently, the local government and the project management have reached the following consensus: establish satellite nurseries in all wards than at a later date, as the necessary funds are acquired, transform the nurseries into AFRCs through provision of the required resources and technologies.

Outcome 2: Trained beneficiary farmers are more optimistic about the future of their livelihood

Indicator 1: Higher income levels of trained beneficiary farmers
In line with the project document, most of the trained beneficiary farmers have been resourced with tree crop seedlings. They have been equipped with both skills and resources for their income generation.
Project management carried out a sample review on income generated to date by the farmers trained by the project. A sample of 206 out of 668 trained farmers from 5 wards was taken. The annual income of these trained farmers was measured on the basis of their income from their tree crops that were planted several years ago, since the seedlings of the tree crops provided by the project in the last 2 years are yet to mature and produce. An increase in income is the result of their application of acquired knowledge and skills from the trainings – eg. for feeding, weeding and proper care and management. As presented in Table 9, the average annual mean income of the 206 reviewed farmers has increased to NPR 3,090.

Table 9: Average mean income of trained farmers

Income Generation from Tree Crops in 2020									
	Range of Income (NPR):								
MDM Ward No.	<1000	>1000 to 5000	>5000 to 10000	10000 to 20000	20000 to 50000	50000 to 100000	> 100000	No income	**Total**
Ward 1	0	0	0	0	0	0	0	0	0
Ward 2	0	0	0	0	0	0	0	0	0
Ward 3	1	0	0	0	0	0	0	5	6
Ward 4	4	12	1	1	2	0	0	8	28
Ward 5	0	0	0	0	0	0	0	0	0
Ward 6	0	0	0	0	0	0	0	0	0
Ward 7	0	0	0	0	0	0	0	0	0
Ward 8	0	0	0	0	0	0	0	0	0
Ward 9	0	0	0	0	0	0	0	0	0
Ward 10	6	1	0	0	1	0	0	19	27

Ward 11	43	6	6	0	1	0	0	19	75
Ward 12	25	5	1	0	1	0	0	38	70
Total	**79**	**24**	**8**	**1**	**5**	**0**	**0**	**89**	**206**
Mid-Value	500	3,000	7,500	15,000	35,000	75,000	100,000		
No. of income generating farmers									117.00
Total no. of farmer * mid-value	39,500	72,000	60,000	15,000	175,000	-	-	-	**361,500**
Average Income									**3,090**

The review findings are detailed in Annex 42.

In the baseline, the annual average mean income of the surveyed farmers was NPR 2,886, at a time when the farmers were not all trained. Following the trainings, the average mean income is already a little higher.

Indicator 2: No. of tree crops planted by the trained beneficiary farmers

A total of 61 trained farmers planted 1,025 tree crops seedlings within two years of project implementation. In total, 12 species of tree crop seedlings have been planted. The 61 farmers planted more than one species of tree crop seedling, as listed in Table 10 below.

Table 10: Number of tree crops planted by the trained farmers

#	Species of Seedlings	No. of seedlings	No. of trained farmers receiving seedlings
1	Apple	56	14
2	Lemon	731	36
3	Orange	78	12
4	Jack Fruit	29	16
5	Almond	37	15
6	Sweet Orange	23	5
7	Grapes	28	17
8	Plum	4	3
9	Mango	10	7
10	Litchi	19	10
11	Betel Nut	4	3
12	Avocado	6	2
		1,025	-

Note: the number of trained farmers receiving seedlings is 61. The plants distributed from the Municipality are not included here.

Details on the number of planted tree crop seedlings are recorded in Annex 43.

In addition, 381 local farmers were supported by the Municipality seedling distribution programme with 21,350 seedlings. In total, 442 farmers planted 22,375 fruit and nut tree crop seedlings.

❖ **Output 1: Detailed baseline and feasibility studies completed**

Indicator 1: Baseline survey report delivered

The baseline survey of the project area was completed in the 1st year of project implementation. The quantitative and qualitative data and findings were documented in the baseline survey report which is available on request.

Indicator 2: Feasibility study on marketable crops delivered

The feasibility study on marketable crops was also carried out in the 1st year of the project. The project plan has been adjusted according to the findings – for example, Halede organic farm is established in line with the findings of study.

❖ **Output 2: Establishment of AFRC, Outlet Centres, Satellite Nurseries completed**

Indicator 1: Fully functional AFRC (Year 1) & Outlet Centres (Year 2) in place

a. MDAFRC:

MD-AFRC has been well equipped with all essential assets and capital (land), infrastructure, furniture and other materials for accommodation, kitchen, training and logistic materials, and agri tools. Regular water for irrigation, and a projector and other basic requirements for trainings have been supplied, and a good working environment for staff, committee members, trainees and visitors has now been established at the Centre.

In addition, the management and administrative essentials are in place to ensure institutional sustainability as described below:

- the registration as a community based organization is under process at the local government,
- the Board of Directors are fully functional and held 4 meetings in the fiscal year (2019-2020). Discussions are inclusive, and matters pertaining to institutional development, and programme interventions are regularly discussed, followed by the necessary decisions,
- the MD-AFRC manages and accounted for the fixed assets properly to ensure sustainability – a detailed list of the assets is provided in Annex 44,
- the MD-AFRC operates its social media sites (eg. Facebook) and utilizes the internet facility for dissemination and sharing of progress; see - https://www.facebook.com/profile.php?id=100054576206262
- staff members and board of directors are now more than capable to ensure sound overall administration and management of the organization of the AFRC,
- excellent linkages have been developed and maintained with the local government, and other stakeholders and line agencies at the district level,
- a map of the MD-AFRC with a tour plan has been prepared, illustrating the different demonstration sites, plantation plots, nurseries and infrastructure. It will soon be

printed and displayed at the Centre. A sketch map of the final version is provided in Annex 45.

The establishment and operation of the MD-AFRC has motivated and inspired the local farmers and provided them with enhanced technical knowledge on tree-cropping and new more environmentally resilient farming technologies. Local farmers have observed the improved practices and technologies and are replicating them on their farms. More importantly, the local community have accepted the MD-AFRC as their own property and institution.

b. Outlet Centres

The project has developed pre-conditions to establish outlet centres for organic produce. First and foremost, the 3 organic villages for organic production have been established. Since the project area is highly influenced by chemical fertilizers and pesticides, the project firstly decided to establish organic villages and formed organic groups motivating local lead farmers toward adaptation of organic cultivation and its certification. Organic production of seedlings and produces has now been initiated – this is not an easy task due to the long rooted pesticide and chemical fertilizer culture of the majority of MD farmers.

The project has also encouraged the farmers adopting organic cultivation to first consume the products themselves. Consumption and realization will help them to change their perceptions about organic farming. Once organic production shows a surplus, then farmers will be motivated to market their products at a fair price.

In line with the baseline findings about the appropriate locations for the outlet centres, the project had planned to establish and operate outlet centres in the 2nd year but due to the COVID-19 pandemic and its effects on mobility and project implementation, this has been postponed. Production of organic seedlings, vegetables and other crops in the organic villages is progressing well, and the project will facilitate the organic groups in the near future to establish an outlet centre at Nagarkot, one of the main tourist destinations of the area. Organic vegetable farming with an eye on commercial scale production has been started by the farmers in the Halede organic villages. Such local initiatives will contribute to fulfilling the project's aim of establishing and managing organic outlet centres in MDM.

Indicator 2: Fully operational satellite nurseries in place

Two satellite nurseries are in full operation and one is currently under development - all 3 nurseries are well managed by the caretakers. In this reporting period, 2 nurseries produced seedlings and vegetables and started generating income through sales. The nursery care takers are very responsive and accountable for the operation and management of the nurseries; they are observed to be sufficiently capable in nursery and demonstration site management, and in raising income.

From the sale of seedlings and vegetable products, the Nayagaun nursery has generated an income of NPR 27,750, and Chandeni nursery raised an income of NPR 14,675. Both nurseries are generating sufficient funds to cover nursery operating costs, such as seeds and local materials.

The satellite nurseries are well equipped with necessary land and basic structures (green house, water collection system etc.) and all 3 nurseries have sufficient basic agri-materials for day-to-day operation, and are heading for sustainable operation.

❖ **Output 3: Quality training of farmers in agro forestry and agri-options delivered**

Indicator 1: No. of farmers trained

Local farmers have been educated on agro-forestry and climate smart agriculture practices, and have received specific knowledge concerning on-farm tree diversification for the sustenance of their livelihood. In total, 668 (265 in year 1, and 403 in year 2) local farmers have been trained in agri-options by organizing 32 different training programmes. Due to COVID 19 and the subsequent lockdowns and travel restrictions first introduced on 24 March 2020, virtual trainings were the main delivery system for educating local farmers since March.

The participation of 54% female farmers in comparison to 46% males showed the satisfactory involvement of women in project activities.

Farmers are interested in receiving more than one training. In the reporting period, 79 farmers attended more than one training, 35 more than two trainings, and 405 attended one training. The major areas of the trainings of interest to farmers were nursery management, bio-intensive planation techniques, organic farming, vegetable farming, manure preparation, and climate resilience. A summary of participants by training topic is provided in Table 11, and the frequency of training is described in Table 12.

Table 11: Record of trainees

#	Training Topic	Mode of Training Delivery	Male	Female	Total
1	Bio-intensive plantation	Field-based Practical	14	16	**30**
2	AFRC and its modality	Face to Face	6	1	**7**
3	Bio-intensive bed preparation and vegetable farming	Field-based Practical	2	38	**40**
4	Organic and Nepali bio-Intensive vegetable farming	Field-based Practical	2	26	**28**
5	Community-based organic farming	Field-based Practical	8	11	**19**
6	Organic potato farming technologies	Face to Face	8	12	**20**
7	Community-based organic farming	Field-based Practical	3	11	**14**
8	Community-based organic farming	Field-based Practical	4	34	**38**
9	Community-based organic farming	Field-based Practical	5	8	**13**
10	Community-based organic farming	Field-based Practical	6	2	**8**
11	Community-based organic farming	Field-based Practical	11	18	**29**
12	Organic farming	Field-based Practical	8	11	**19**

13	Community-based organic fruit farming and nursery management technology	Field-based Practical	23	11	**34**
14	Improved farming technology	Field-based Practical	0	20	**20**
15	Improved farming technology	Field-based Practical	4	26	**30**
16	Improved farming technology	Field-based Practical	8	14	**22**
17	Creeping vegetables farming technology	Field-based Practical	0	34	**34**
18	Bio-intensive plantation	Virtual	7	4	**11**
19	Bio-intensive plantation	Via phone, home visit	40	2	**42**
20	Vegetable nursery management	Field-based Practical	16	2	**18**
21	Fruit Farming and bio-intensive plantation techniques	Field-based Practical	3	3	**6**
22	Fruit Farming and bio-intensive plantation techniques	Field-based Practical	5	1	**6**
23	Fruit farming and bio-intensive plantation techniques	Field-based Practical	6	1	**7**
24	Bordeaux pesticide preparation, combination, and liquid manure preparation	Field-based Practical	10	5	**15**
25	Liquid manure preparation and the use of EM	Field-based Practical	3	4	**7**
26	Liquid manure preparation	Field-based Practical	2	9	**11**
27	Citrus fruit disease and pest management	Virtual	24	4	**28**
28	Soil sample collection and Bordeaux pesticide preparation	Virtual	9	2	**11**
29	Paddy disease and management	Virtual	19	9	**28**
30	Organic vegetable farming	Virtual	24	12	**36**
31	Vegetable nursery management	Field-based Practical	21	2	**23**
32	Bio-bed preparation, organic farming and disease control	Field-based Practical	9	5	**14**
		Total Male and Female Trainees	**310**	**358**	**668**
		%	**46.41**	**53.59**	

Table 12 : Frequency of participants in different trainings

#	Particulars	No. of trainees	No. of trainees on the basis of attendances	Remarks
1	Participants attending one training	405	405	405+263=668
2	Participants attending 2 trainings	79	158	79p*2t =158
3	Participants attending 3 trainings	35	105	35p*3t =105
	Total	**519**	**668**	**263**

Further details on the trainees are provided in Annex 46.

Indicator 2: No. of monthly trainings provided at the AFRC

A total of 6 monthly trainings (3 in 2018/19 and 3 in this 2019/20) have been conducted at the MD-AFRC since project inception.

Local farmers have been brought together at these monthly farmer training programmes to carry out collective and collaborative actions to address agriculture and tree crop problems and opportunities – they have obtained technical knowledge on improved farming techniques along with day-to-day practical knowledge about different topics of farming and climate change. Knowledge and good farm management practices have focused mainly on diversified production of tree crops, vegetables and fruits.

Indicator 3: No. of farmers with organic certification

The farm verification and farmer observations, part of the organic certification process, are completed in the 3 satellite nurseries and the 3 organic villages. In total, 17 lead farmers have been trained for the organic certification process and in the necessary record keeping. The project first educated local farmers about organic farming by organizing them as organic village groups – all member farmers are now fully convinced and are ready to follow the required regulations for organic certification. The organic certification procedures have been started this year and will continue until the certification process is complete.

❖ **Output 4: Engagement and coaching of Secondary School students delivered**

Indicator 1: No. of students coached at 5 secondary schools

248 school children (152 female and 96 male) were trained in 2019, but due to the school closures, this year only 16 students have been educated on climate change, its effects and adaptation measures in line with improved agricultural practices. In total, 264 students from 7 secondary schools have been educated in the two years since project implementation.

Table 13 : Details of trained students

#	Training Particulars	Venue	Number of Students		
			Male	Female	Total
1	Training on school-based climate change and adaption	Chandeni SS	10	10	20
2	Training on bio-intensive pit preparation and plantation	Chandeni SS	11	13	24
4	Training on bio-intensive pit preparation and plantation	Umasaha SS	12	18	30
5	Training on bio-intensive pit preparation and plantation	Bindabasini SS	15	16	31
3	Training on bio-intensive pit preparation and plantation	Mahakali SS	9	19	28
6	Training on bio-intensive pit preparation and plantation	Indrawati SS	5	17	22
7	Training on bio-intensive pit preparation and plantation	Bagdevi SS	5	17	22

8	Training on bio-intensive pit preparation and plantation	Dedithumka SS	9	15	24
9	Training on agro-forestry and garden establishment	Chandeni SS	10	11	21
10	Training on plantation of garden seedlings, weeding and garden management	Chandeni SS	10	16	26
11	Training on organic farming situation in Nepal, its probability and necessity along with impacts of chemical fertilizers on soil and human health and benefits of organic production	Chandeni SS	5	11	16
		Total	**101**	**163**	**264**

Indicator 2: No. of school gardens established and supported

The agro-forestry gardens in 3 schools (Bagdevi, Umashaha and Mahakali) have been established. They have been equipped with the necessary materials and resources by the project. All 3 gardens are in good condition and all plants are alive with satisfactory growth. A study at the Dwarpaleshwor Secondary School was completed to evaluate the feasibility of establishing an agro-forestry garden. It was concluded that a garden can be created in the available land within the school premises, starting with the plantation of 21 seedlings of various tree crop species early in 2021.

❖ **Output 5: Awareness on environmental issues & agro-forestry options raised**

Indicator 1: No. of farmers adopting agro-forestry and organic agriculture after 3 years

In two years of project implementation, a total of 519 local farmers have been trained on agro-forestry and organic agriculture. Out of a total of 519 trained farmers, 450 farmers (87%) have applied the technical knowledge on agro-forestry and organic agriculture, acquired from the trainings. Among these 450 farmers, 153 farmers are already cultivating tree crops on their farmland.

Table 14 No. of farmers adopting agro forestry and organic agriculture

#	Particulars	No. of farmers	%
1	Number of farmers trained	519	100
2	Number of trained farmers applying acquired technical knowledge on their farms **(organic vegetable farming, + some also tree cropping)**	450	87
3	Number of trained farmers cultivating tree crops on their farms	153	29

Details of these farmers are documented in Annex 47.

Indicator 2: No. of programmes broadcast on local radio to raise awareness on climate change risks and mitigation measures

Radio broadcasts are an effective means of sharing information, and in the 2nd year of the project, 21 episodes have been produced and broadcast in cooperation with Radio Namobuddha. These 21 episodes were also copied and shared to the public via 2 other

radio stations: Radio Melamchi and Sindhu – each episode is thus broadcast 3 times every fortnight which has reached and benefited a much wider community.

Episodes have focused on various topics under the headings of improved agriculture, climate change and agro-forestry. Programming and topic selection took consideration of the regular public feedback received, which assisted in identifying listeners' preferences, interests and concerns. Project staff provide their own feedback and suggestions which are incorporated while producing each episode.

8.	**Do you expect to meet your outcome targets at the end of the project?**

Due to COVID-19, the planned activities as described in section 6 above, were not all completed thus meeting outcomes and targets will be somewhat delayed. Once the situation in Nepal improves, hopefully by mid-2021, the project management will make every effort to accelerate progress and catch up on the delayed activities. The local community and local government response and feedback is very positive, and we very much hope to meet target project outcomes within the project timeframe. The concern remains, however, on how long the pandemic will last in Nepal, and when the country will receive an appropriate vaccine.

However, local government is very optimistic towards the promotion of agroforestry as a mainstream farming system, and it has started to allocate resources (seedlings, agri-materials and other agri-inputs) to the local famers to promote tree cropping. Expanding the number of AFRCs through the transformation of the established satellite nurseries will be prioritized in coordination with the local government in the coming years. In addition, responses from the trained beneficiary farmers reveal that they are now more optimistic about their livelihood, and are very encouraged and enthusiastic about leading the project towards meeting its targeted outcomes in the original project timeframe.

There can be no denying, however, that the 2nd project year has been hugely affected by the pandemic and we are looking forward for a much improved working situation in the near future to accomplish all planned activities and achieve the project objectives.

9.	**What have you learnt this year and how might this change how you approach the project in the future? If you have undertaken any evaluations or learning exercises relating to this project please describe them here.**

The major learnings in the 2nd year were as follows.

- There is a need to digitalize progress in order to be able to improve review and analysis of incoming data on progress. A semi structured questionnaire (see Annex 48) has been prepared for this digital survey of progress. mWater software will be used for the survey, analysis and data recording. The field level staff members have been trained and have started collecting data from the farmers. A sample size of more than 12% of total beneficiaries is planned.
- Innovative and community led interventions attract the local farmers towards application and adaptation. For instance, the bio-intensive plantation techniques introduced by the project in the local community have been passionately adopted by the trained farmers.
- There is considerable appreciation and praise from experts and members of the local government for EcoHimal's strategy to procure and distribute tested seedlings from reliable and convenient nurseries like Everything Organic Nursery in Kavre. Though the cost of these seedlings is high in comparison to non-tested

seedlings, EcoHimal's strategy to provide the local farmers with quality seedlings is appreciated by the local community and stakeholders. The local government is also planning to cooperate with the project when organizing tree crop seedlings in 2021.

- A different mode of training delivery is always of interest to the farmers. The project management was not entirely convinced that virtual trainings would be effective at the beginning of the lockdown – however, as an alternative means of reaching the farmers and deliver training, guidance and information, virtual trainings proved very useful in this crisis situation.
- If the tree cropping and organic farming is promoted with sensible resources, timely support, and regular capacity building initiatives, local community people, especially the youth and returnee migrants, can be motivated towards commercial farming as an occupation at the local level. A success story of A foreign migrant labour returnee's attraction to agroforestry is documented in Annex 49.

11.	**What has worked less well than you had hoped and why?**

Due to the COVID-19 pandemic and the consequences, planned trainings (especially specialist trainings), awareness raising events on impacts of chemical fertilizers and pesticides on human lives and soil, the establishment of the organic outlet centres, and the organic certification process have been seriously affected and delayed. Hopefully, major steps forward with these activities will be possible in 2021.

12.	**During the project were there any issues relating to safeguarding, fraud or corruption that you became aware of? Include all relating to your organisation, your partners and any institutions you work with (e.g. schools).**

Since project inception, no such issues were brought to our notice.

13.	**We particularly welcome photos, video and audio material that illustrates the work we have supported. If you have any such information please attach it to your email with this report or provide links to where we might view the material (eg on your website or Youtube). Provided link in the annex 40 And Photos are sent separately>ND**

Photos, and audio files (in relation to the Radio Namobuddha programmes and promotions, in Nepali) are attached separately. A synopsis of the radio programmes can be found in Annex 39.

It is possible to find coverage of the work done by EcoHimal on their social media channels, on The Glacier Trust's social media and on www.theglaciertrust.org. Examples of coverage are listed below:

Bio Intensive Plantation Training MD AFRC (YouTube):
https://www.youtube.com/watch?v=pHnuS2ofWeE&feature=youtu.be

Twitter thread on the speed of progress at MD AFRC (@theglaciertrust):
https://twitter.com/theglaciertrust/status/1273715776906805248?s=20

Facebook post: 'Who'd like to try a Bitter Gourd smoothie….'

https://www.facebook.com/glaciertrust/posts/3118459734879931

Facebook post: 'EcoHimal Nepal organised a training on Organic Certification Process in Mandandeupur Agro Forest Resource Centre…'
https://www.facebook.com/ecohimalnepal/posts/3768712566501674

Water management on the farm (TGT website):
http://theglaciertrust.org/project-news/2020/3/4/water-management-on-the-farm

Bitter gourd smoothies from Mandan Deupur (TGT website):
http://theglaciertrust.org/project-news/2020/6/9/bitter-gourd-smoothies-from-mandan-deupur

TELL US ABOUT YOUR PLANS FOR THE NEXT YEAR OF YOUR PROJECT:

14.	**Are you planning to make any changes to your project in the second / third year covered by our grant? If so, please tell us what these changes are and why you need to make them.**
So far we are not planning any changes in the project for 3rd year. In year 3, the project will be implemented as per the original plan of action together with the remaining activities that have been delayed in year 2.	
15.	**Are there any risks to the project or its implementation that you would like to flag at this point?**
The long-time effects of COVID-19 and its duration are currently unknowns, and further necessary actions by national or local governments may further disrupt implementation progress. There is little likelihood that an effective and appropriate vaccine will reach Nepal until the middle of 2012. However, every effort will be made by the project team and the local government to achieve as much as possible, while prioritising public health. Motivating farmers to adopt organic production is a considerable challenge for the project, especially as tourism, which died a fast death in March 2020, is unlikely to pick up at any time in the near future. Project management is ensuring that the team look on this as an opportunity and a time to work hard and think outside the box to ensure that all targets are met. The project is focused on climate change mitigation, promoting a better income for farmers, providing healthy food and a more sustainable environment with greater resilience. The majority of farmers have become very much used to using chemical fertilizer and pesticides, and it is not possible to change the mind-set and attitude without introducing similar or more benefits than their traditional field practices. However, a start has been made in the Municipality with a core of enthusiastic farmers and partners, and this provides the team with the determination mind sets can be changed.	

ABOUT US:

16.	We welcome your comments about your dealings with The Marr-Munning Trust. In particular, we would like to know if you think there are ways we could improve the service we offer organisations like yours:

The Marr Munning Trust have been very supportive of our work and sympathetic to the challenges presented by the COVID-19 pandemic. We and our partners at EcoHimal Nepal would like to thank you for your ongoing support.

DECLARATION:
I confirm that all the information in this report is true and correct and that I am authorised to submit this report on behalf of my organisation:

17.	Name of Person Completing this Form:	Dr. Morgan Philips
18.	Job Title of Person Completing this Form:	Co-director – The Glacier Trust
19.	Date:	31/12/20