

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 2019

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 AgroForestry Resource Centre (AFRC)
3.	Amount of Grant Awarded:	£55,658 (over three years)
4.	Period Covered By This Report:	1 st December 2018 – 30 th November 2019

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?
<p>Output 1. Detailed baseline and feasibility studies completed</p> <p>1. Coordination with local government and local communities</p> <p>There has been close coordination with local government and local communities from the inception of the project. The following activities were carried out in cooperation with local government, concerned line agencies and local community:</p> <ul style="list-style-type: none">• Feasibility study and selection of land for AFRC: We assessed land at nine different locations and selected Timilsinagaun as the most appropriate location to establish the Mandan Deupur Agro-Forest Resource Centre (MD AFRC). Ward chairpersons of Mandan Deupur Municipality (MDM) ward's 10 and 11 along with Social Development Officer, Mr. Ganesh Prasad Parajuli and local community members were all highly engaged and supportive throughout this process and ensured that the best location for the MD AFRC was selected. The land is owned by Community Forest Users Group (CFUG) of Bokse Samudayik Ban. See Annex 7 for more information on this process.• Project sharing with the Local Government authority: A project initiation workshop was held at Mandan Deupur Municipality offices in the presence of Mayor Mr. Tok Bahadur Waiba. The following persons were in attendance: Mr. Mohan Adhikari, Chief Administrative Officer MDM; Mr. Madhav Neupane, Ward chair of MDM 11; Mr. Bishnumani Nepal, Ward chair of MDM 10; Mr. Narayan Prasad Lamsal, Ward chair of MDM 7; Mr. Niramal Raj Gautam Municipality office engineer; Mr. Richard Allen, Co-Director, The Glacier Trust; Mr. Hira Lama, Station Manager of Namobuddha Radio, Dhulikhel; EcoHimal staff members Anisha Kharel, Sharmila Shrestha, Sadhana Banjade and Narayan Dhakal were facilitated the workshop. The sharing was focused on details of the project documents, implementation modalities, budget, and role of stakeholders together with the success story of Deusa Agro-Forest Resource Centre.	

The PowerPoint presentation given by EcoHimal as part of this workshop is included in [Annex 8](#).

- Agreement between MDM and EcoHimal Nepal was conducted and submitted to Government of Nepal, Social Welfare Council (SWC). Agreement is in [Annex 9](#).
- SWC approved the project. See [Annex 10](#).
- After finalization of land location, ward 11 office provided recommendation letter to district forest office and MDM for land use permission. On the basis of recommendation from ward office and district forest office MDM gave permission for EcoHimal Nepal to establish AFRC. (MDM's letter of permission is in [Annex 11](#)).
- **Land clearance and levelling at MD AFRC:** To prepare the project site for construction of AFRC buildings, plant nursery and demonstration plots a bulldozer was required to level land for the buildings and to create terraces. The cost of land levelling (approximately 100 thousand nepali rupees) was covered by ward office 11 of the local government.
- A request letter has been submitted to MDM ward no 11 office for funding to construct a well at MD AFRC to improve water management. The ward chairperson, Mr. Madav Neupane is supportive and the request is currently under consideration.
- **Monitoring from local government authority:** Eco Himal hosted a joint visit of Mayor and local stakeholders to the MD AFRC after site finalization.
- Ward chairperson of ward 11 and his team visit MD AFRC frequently to monitor progress and provide feedback.
- Four meetings have been held with Community Forest Users Group (CFUG) of Bokse Samudayik Ban to discuss the project. CFUG committee members, Mr. Narayan Tiwari; Mr. Mahendra Sapkota, secretary; and Mr. Sudarshan Dahal are frequent visitors.
- Regular communication and cooperation with chairpersons from MDM ward's 10, 11, 12, 3 and 7 have allowed preparations for the establishment of two satellite AFRC nurseries to be made. Two trainings and a feasibility study to locate suitable land were carried out and two sites were finalised.
- Cooperation with agriculture department of local government is working well. Eco Himal are supporting them to install equipment and operate a soil testing lab. The equipment were purchased several years ago, but due to absence of technical expertise, it was stored and not in use. Soil Ph testing has started and soil test workshop for farmers is planned for coming January 2020.
- Connections have been made with 'Kavre Integrated Coffee estate private limited' with a view to establishing a resource and knowledge sharing agreement.
- Coordination and participation in formulation of Integrated Development Master Plan workshop organized in Chandeni village.
- A one-day training on potato cultivation and organic pest management has been organized in collaboration with the local government agriculture department. The local government is very positive for further cooperation in promotion of sustainable and improved agriculture practices.

- Plant pathology clinic has been organized jointly with local government and 'Nepal Plant Disease Associates Private Limited'. The clinic was for diagnosing the disease and insect problems of crops and vegetables in the area.
- Eco Himal organised a field trip to Deusa Agro Forestry Resource Centre (AFRC), Solukhumbu for farmers and project staff. Deusa AFRC was established by EcoHimal and The Glacier Trust in 2013 and is a best practice example on how to enable climate change adaptation and organic agro-forestry in Nepal.

2. Create and annually update farmer database

Database of farmers have been created and updated regularly after conduction of each training. Initial profile of trained farmers is in [annex 12](#).

3. Undertake study to ascertain best AFRC location

Eco Himal together with The Glacier Trust Co-Director, Mr. Richard Allen, conducted three field visits for feasibility study of nine different sites in wards no 10, 11 and 12 of MDM.

The following criteria were used to assess suitability of each potential location:

- Aspect of land (which direction it faces);
- Quality of soil;
- Water availability and irrigation potential;
- Wind direction;
- Altitude appropriate for plants and nurseries;
- Road access;
- Cost of renting land,
-

Local government, community people and other concerned stakeholders supported in this process. We specifically appreciate the support of the Mayor, Vice-Mayor and Chief Executive Officer of MDM and chairpersons from wards 10 and 11. MDM Social Development Officer and Raju Nepal, secretary of ward no 10, contributed and coordinated visits to potential sites.

Additionally, local community people especially Mr. Bishnu Sapkota and Mr. Gokarna Nepal representatives of Chandeni Small Farmer Agriculture Cooperative; Mr. Suman Nepal; Mr. Subash Nepal and Mr. Sushil Nepal requested us to visit their private farmland and were ready to provide free of cost for AFRC. This kind offer was carefully considered, but we concluded that it would be better to locate MD AFRC on public land.

After collaborative study with local government and stakeholders, land managed by Community Forest Users Group (CFUG) of Bokse Samudayik Ban at Timalsina Gaun was selected as the site for MD AFRC.

Findings from the feasibility study are reported on in [Annex 13](#).

The brief feasibility study memo is in [Annex 14](#).

4. Feasibility survey/study to ascertain best high value crops for target area

Eco Himal have conducted focus group discussions, individual opinion collection, stakeholder consultation and baseline survey to ascertain the best high value crop. All types of vegetable (tomato, potato, cauliflower, ladyfinger, beans, cabbage and broadleaf spinach), mango, lemon, lychee, jackfruit, pomelo (bhogate) and guava were found to be appropriate for this area.

Output 2: establishment of AFRC, outlet centre and two satellite nurseries

1. Construction of MD AFRC office.

- Survey, design, drawing and cost estimation of pre-fabricated building was done by an engineer, utilizing internal human resources of Eco Himal Nepal. The drawings are provided in [Annex 15](#).
- Three quotations from construction companies were obtained, analysed and selected. 'Om Shree Shivashakti Engineering Works' was selected on the basis of following criteria:
 - cost-effectiveness,
 - trustworthiness,
 - quality assurance and
 - reliability
- The MD AFRC building has been constructed as per the design
The constructed building has a training hall; a small office room, a staff room, a kitchen and WC. Basic decoration and furnishing has been provided in all rooms as per the need. An 'Eco-san'¹ system has been installed in the WC to utilize urine and faeces for manure. Similarly, a simple grey water management system has been installed as a model for demonstration purpose and to collect grey water for plant irrigation.

The planned budget was limited and not enough to complete office arrangement. To complete the basic arrangement EcoHimal Nepal managed additional internal fund for building construction, office set up and interior management. In total, NPR 477,846.00 (In words four hundred seventy seven thousand and eight hundred forty six rupees only) has been invested from internal sources. Detail of internal support from EcoHimal Nepal is in [Annex 16](#).

2. Land preparation and establishment of AFRC nursery.

❖ Land planning:

With the help of consultant Mr. Yam Malla, MD AFRC land has been divided into 18 different small plots for the purpose of demonstration and nurseries. The detail of land use is as follows:

- | |
|--|
| • plot 1– building, greenhouse and fruit trees; |
| • plot 2 – fruit trees; |
| • plot 3 – timber and spices; |
| • plot 4 – layer cropping – fruits and nuts (multi-sectional layering) with single digging bio-beds; |
| • plot 5 – citrus plants orchard with grey water management and eco-san manure demonstration; |
| • plot 6 – fruits and nuts; |
| • plot 7 – fruits and nuts intercropped with cash crops (turmeric/ginger) – at present, pomegranate seedlings are growing; |
| • plot 8–fruits; |

¹EcoSan is an environmentally friendly sanitation technology, which acknowledges human urine and faeces as valuable resources for agricultural sustainability. In EcoSan toilet, urine and faeces can be collected separately for the use in agricultural field which is fruitful from both environmental and economic point of view. The collected urine can either be used in agriculture or in compost preparation. The use of urine in compost increases degradation rate of compost and enhances its nutrient content.

- plot 9 – coffee with shade plants;
- plot 10 – coffee with fruits plants;
- plot 11 – bamboo plantation;
- plot 12 – cereal crops demonstration;
- plot 13 – forage (grass) with fruits plants;
- plot 14 – mango block intercropped with cash crops;
- plot 15 – lychee;
- plot 16 – jackfruit;
- plot 17 – multi-purpose and ornamental plants;
- plot 18 – spices and fodders

Detail of land use and plants is in [Annex 17A](#)

Richard Allen, Co-Director, The Glacier Trust, conducted a soil test at the MD AFRC land. Report is in [Annex 17B](#)

❖ **Nursery establishment:**

Considering the local need and demand, forest trees, fruits and vegetable nurseries have been established at MD AFRC:

- Bio-intensive method of farming is applied for seedling production;
 - A greenhouse² constructed for the purpose of nursery management;
 - Seedlings production of fruits (mango, Indian blackberry, jackfruit, wood apple, pineapple, guava, orange, etc.);
 - Seedlings of fodders and shade plants such as camphor tree, Saracaasoca tree, Sandal wood, Ginkobiloba mountain ebony, Emili etc;
 - Seedling and sapling of ornamental and multipurpose plants;
 - Seedlings of cauliflower, cabbage and tomato;
 - An irrigation system with electric motor pump and pipe has been set up
- Details of seedlings growing in nurseries are in [Annex 18](#).

Together with nursery demonstration plots, vegetable production has been established at the centre.

The status of plantation and production is as follows:

Table: Vegetable nurseries

	Name of Varieties	Number of bio-intensive beds prepared	Area/seedling/plants produced	Production	Remarks
1	Radish	1	9 m ²	5.00 kg	
2	Soybean	1	0.5 ropani (264m ²)	0.00 kg	Destroyed wild rabbits
3	Long been	2	7 plants	10.00 kg	
4	Been (Chaumase)	1	10 plants	8.00 kg	
5	Cucumber	1	20 plants	18.00 kg	
6	Coriander	1	1m ²	12 fistful	

²A green house with 22.5 feet length and 38 feet width constructed

7	Pumkin	1	3 plants	5 kg	
8	Garden Cress (Chamsur Saag)	1	1m ²	0.00 kg	Not successful
9	Sponge Guard	1	5 plants	20.00 kg	
10	Okra	1	1m ²	0.00 kg	Not successful
11	Brinjal	1	25m ²	15 kg	
12	Tomato	1	15m ²	3.00 kg	
Total		11			

3. Purchased of nursery and polytunnel tools/equipment and planting materials:

The MD AFRC is on the border of tropical and sub-tropical zones. It therefore has the potential to accommodate varieties from both zones.

- Varieties of tropical and sub-tropical plants seedlings/ saplings were purchased/collected from following nurseries:
 - Everything Organic Nursery;
 - Gorkha organic farm and research centre;
 - K.B. Nursery, Udhog;
 - Love Green Nepal; and
 - In coordination with consultant Mr. Yam Malla, seeds, seedlings and saplings were purchased from various nurseries in Kavreplanchowk, Chitwan, Sindhuli and Kathmandu;
 - Most of the plantation has been done by applying bio-intensive plantation farming techniques.
 - In total, over the reporting period, 1,656 plants have been planted.

Table 2: Details of planted seedlings in AFRC

S.N	Plants species	Number of plants	Remarks
1	Fruits	53	
2	Herbs	29	
3	Spices	37	
4	Forest tree plants	208	
5	Nuts	4	
6	Ornamental plants	16	
7	Cash crops	16	
8	Fodder	93	
9	Forage	1,200	
Total		1,656	

Detail is in [Annex 19](#).

- Basic tools for nurseries and polytunnel have been purchased. The details of purchased tools and equipment are as follow:

Table: Details of purchased nursery and polytunnel tools/equipment

S.N	Nurseries and poly tunnel tools purchased	Number	Remarks
1	Pruning saw	2	
2	Sketcher	2	
3	Hajari (watering can)	2	
4	Wheel Barrow	2	
5	Shawal	3	
6	Digging hoe	3	

7	Plants cutting knife	2	
7	Gaichi	4	
8	Gal	3	
9	Weeding sets	2	
10	2 litre hand sprayers	1	
11	16 litre sprayer	1	
12	Soil Hagar	1	
13	Plastic tunnel (sets)	1	
14	Poly bag Kg (4/7 and 10/10 inch)	24	
15	Water pump for irrigation	1	

- In addition, tools have been distributed to the satellite nurseries. MD AFRC management committee is made responsible for proper use of those tools at the satellite nurseries. The distributed tools and equipment are as follows:

S.N	Tools/equipments purchased and distributed	Number	Remarks
1	Soil Hagar	1	
2	Sketcher	2	
3	Pruning saw	2	
4	Hajari (watering can)	2	

These agri-tools and equipment have been provided to the satellite nurseries³ of Ward no 3 (NayaGaun) and ward no10 (Chandeni).

4. Establishment of nurseries in 2 other wards

Intensive feasibility study of appropriate area for establishment of satellite nurseries was carried out by Eco Himal. The original plan was to establish satellite nurseries in ward no 10 and ward no 12, hence MD AFRC was established in ward no 11.

During the project initiation workshop, the Mayor requested us to extend the concept of agro-forestry in other wards of MDM, not only limiting in 3 wards. He recommended us to establish a satellite nursery in ward no 3. As per the recommendation by chief of local government, a feasibility study was carried out. The land and geo-climatic area was found suitable. Two days of training on satellite nurseries establishment was conducted in ward no 3 to promote agro-forestry. As a result, satellite nursery establishment process initiated. Likewise, on the basis of recommendations and suggestions from ward chairperson, feasibility study of two land areas – *Thamdanda* and *Ganeshthan* was carried out. Out of two potential sites, *Ganeshthan* has been selected to establish satellite nursery. (Feasibility study report is in [Annex 20](#))

5. Establishment of an outlet for organic produce.

One finding from the baseline survey hinted at the necessity of an outlet for agri-produces at local level. 88% of local farmers responded with a requirement for an outlet centre to channelize their produce to the market with fair price and stability⁴. However; the major challenge is producing organic product. Even at the MD AFRC it was too difficult to save plants with bio-pesticide alone due to so much use of chemical pesticide in the surrounding area. This presents both a challenge and an opportunity for further progress towards the project goal.

Establishment of an outlet is planned for 2020; this will help to give farmers more confidence in the use of organic methods.

³Satellite nursery in ward no. 3 of MDM is work-in-progress. And nursery in ward no 10 is under process.

⁴Responses of surveyed farmers are documented in baseline survey report.

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

The need for a resource centre/outlet centre to make seedlings of fruits, nuts, vegetables, fodders and forage available has been expressed by the majority (83%) of local farmers⁵. A trial seed outlet system has been established at MD AFRC. Seedlings are under production at the centre.

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

1. Provision of training workshops

Several trainings and workshops on agro-forestry and agri-options – bio-intensive plantation, organic farming, nursery establishment, fruit farming and improved potato farming have been conducted. In total 265 participants have been trained. The details are in [annex 20A](#).

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

Trained farmers have been provided with improved and new species of fruits, nuts, and vegetables for the promotion of high value tree crops. Knowledge, skills, alternative farming technologies and seedlings/seeds of high value tree crops and vegetables have been provided for cultivation in farmer's fields.

During the reporting period, 22 trained farmers have been supplied with tree crops and 17 trained farmers have been offered seeds of improved vegetables. (Detail is in [Annex 21](#))

For the purpose of post training promotion of high value tree crops along with intercrop and multi-layer farming, MD AFRC has managed a stock of seeds and seedlings to provide to local farmers.

Demonstration of intercropping of maize, bean, soybean and kidney beans is in progress to show and educate local farmers.

To promote alternative farming systems and technologies, demonstration site of rice cultivation has been established and promoted. Rice cultivation was done following **System of Rice Intensification** (SRI) method to cope with water shortage. Production of rice was satisfactory; the findings are as follows:

Table: Production of rice through SRI

S.N	Particulars	SRI	Traditional methods
1	Number of shoots from a rice sprout	44	34
2	Number of shoots with good production (better spikelet)	35	30
	Number of shoots with less production (poor spikelet)	9	4
4	Rice production	23Kg	No comparison available

Note: It is less labour and water intensive. Farmers were impressed from the demo.

⁵Responses of surveyed farmers are documented in baseline survey report.

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

MD AFRC is conducting monthly training to bring farmers together to carry out collective and collaborative action to address agriculture/tree crop problems and opportunities. The local farmers are getting technical knowledge on improved farming techniques along with day to day practical knowledge about different topics of farming and the impacts climate change. Knowledge and practices on farm management, focusing on diversified production of tree crops, vegetables and fruits, have been improved through a monthly farmer training program, held at MD AFRC on the 16th of each month.

During the reporting period, three trainings have been conducted. In July, September and October it was not possible due to crop cultivation, heavy rainfall and flooding. Dashain and Tihar festivals also disrupted the training programme.

MD AFRC has already become a hub for discussion and interaction among local farmers about forestry, agriculture, environment along with visual learning and practicing. The monthly training will be more institutionalized in the coming period.

4. Organic Certification

The organic certification has not yet been possible, certification is a lengthy process, but initial work has been done with multiple farmers. Organic farming oriented farmers were identified through the baseline survey. 9.4% of farmers were found to already be applying organic farming techniques, however field verification has not yet been done. There may be more.

There are only three organic certified famers (Hari Shrestha; Udaya Narayan Shrestha; and Lokhnath Neupane) but detailed information about their farming methods is yet to be collected. Initiation of organic certification of local farmers is planned for upcoming year.

5. Provision of specialist training

Mr. Yam Malla has been hired as a specialist for land planning and recommendation of plants and herbs for the area. Mr. Yam Malla has also conducted two trainings with an emphasis on climate change resilience. Coordination and discussion with other potential agriculture experts has been carried out to plan specialist training on tree cropping, climate change and special genres of agriculture. More trainings from specialists are planned for the upcoming years.

Output 4: Engagement and coaching of secondary school students delivered

1. Monthly training provided to students at 5 secondary schools

Children studying in secondary grades have been trained on climate change and agricultural practices. 10 trainings have been conducted in six schools. With the vision of green school, school-based climate change adaptation (CCA) and school garden establishment and management trainings have been organized in close coordination with respective schools.

The children have been trained on:

- concept of climate change;
- cause of climate change;
- effect of climate change on agriculture;
- role of young generation in CCA;
- improved farming and plantation techniques;
- introduction of school garden and its importance.

All the training has covered both theoretical and practical aspects.

In total, 249 school children in six schools have been educated as follows:

S.N	Schools	Number of training	Number of students
1	Chandeni SS ⁶	4	91 ⁷
2	Bindabasini SS	1	31
3	Mahakali SS	1	28
4	Indrawati SS	1	23
5	Bagdevi SS	1	22
6	Indrawati SS	1	25
7	Umashaha SS	1	30
Total		10	248

2. Support provided to schools for establishment of school agro-forestry garden

Along with technical knowledge and education, trained school children in a school have been supported to establish school gardens. Garden establishment is planned in five schools.

During the reporting period, a garden in Chandeni Secondary School has been established. 10 seedlings (Ashoka -2, Jack fruit-4, Black pepper-1, Java Plum -1 & Dragon fruit -2) were provided to school children for plantation. Seed money for plantation and garden management is provided to five schools.

2. Afforestation of denuded areas with assistance from students

A sample afforestation of denuded land of Chandeni secondary school was successfully done. Afforestation of denuded areas surrounding the schools will be continued in summer 2020. School children in coordination with respective schools will be mobilized for plantation.

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

1. Awareness raising/coordination with local communities, government and nurseries

A radio programme was broadcasted to widen awareness levels in the local community. A plant diseases and pest identification camp was planned in November, but due to festive and harvest time it was shifted to December. It is a new programme for this area and will be the first time it has happened here. This has been planned together with local government and 'Nepal Plant disease associates', an expert company for plant diseases.

Coordination with nursery has been done with great success getting right plants, seed and seedling, learning and also sharing.

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

Use of pesticides, comparison of bio-pest and chemical pest, merits and demerits have been communicated to the local community via radio program and trainings. The MD AFRC management committee have been sensitized to the issues around pesticide use and have become advocates for better practices in their local areas. Farmers field visit and one to one advice has also been conducted by MD AFRC staff to improve awareness and understanding. An additional exposure visit by MD AFRC committee members, local government representative and lead farmers to Deusa Agro Forest Resource Centre in Solukhumbu has planned to improve knowledge and experience of organic farming practice. Due to festival time it was postponed to December 2019.

3. Broadcast monthly local radio programmes on environmental issues

⁶Secondary School

⁷In case of Chandeni secondary school, a student has participated < 1 training. He/she is counted as participant more than once and included in total number.

Production and broadcasting of radio programmes on MD-AFRC issues started in July 2019 in cooperation with Radio Namobuddha. The radio program promotes the activities of MD AFRC to make aware people of the centre and its services. Secondly, the radio program covers climate change; organic farming; pest and disease management with expert input from MD AFRC staff. An overview of radio programme is in [Annex 7](#).

3. Promotion of good public relations and media cooperation

- Radio program is one of the major programmes for media cooperation. Social sites like Facebook, Instagram is being done continuously. A bi-monthly talk program has been organize in collaboration with Kings College, Krishi Prabidhi and institution for suitable actions for prosperity. It is one of the platforms to bring practical problems to the academic field. It will be continue for coming year.
- Media Coverage of plant clinic:

<https://www.facebook.com/100040903457092/posts/170128727693908/?d=n>

Links to facebook and website are kept in media and promotion section.

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

Except for the following, there has been no deviation from the planned activities.

- We originally planned to implement the project from December 1st 2018;
- It took longer to find land in an appropriate place for the MD AFRC than expected. We were however able to start on January 1st 2019;
- Organic certification could not start this year
- The planned exposure visit of committee members, lead farmers and government representative to Deusa AFRC was postponed until December 2019.
- Plant diseases and pest camp planned together with local government and NPDA is postponed to December 2020.

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

Indicators 1: Local Government documents change in regulations and provides incentives to farmers to adopt agro forestry

The project has shared the concept of agro-forestry with local government as the best option for agro-ecological development in Mandan Deupur Municipality. The local government is positive towards new concept and ready to help promote agro-forestry.

Cooperation of local government and the project is in progress to:

- formulate and execute relevant policies and guidelines for agro-forestry sector;
- train famers in tree cropping;
- adapt to the impacts of climate change;
- facilitate income generation and employment opportunities to farmers.

Local government has already requested Eco Himal and The Glacier Trust to promote agro-forestry across the whole municipality. The Municipality is willing to co-finance the promotion of agro forestry as a mainstream farming system in the municipality. They have indicated a desire to fund 40% of this investment. The Glacier Trust is not yet able to find the 60%

needed to match this and we want to establish MD AFRC as a proof of concept before seeking these funds.

Local government provided necessary land and levelling resources free of cost to establish MD AFRC. Securing this level of support so early in the project is a significant achievement by Eco Himal.

Local government has distributed various types of tree crops at a subsidized price to all wards of the municipality. Likewise, a soil test lab has been established to promote tree crops in line with the nature of soil in different wards. Formulation of essential regulations along with necessary amendments in existing documents will be prioritized in upcoming year.

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

Local government has requested expansion and establishment of one AFRC to all 12 wards but it is beyond our capacity with the present resource and capacity. The Mayor is very convinced with the mission and vision of the project and requested to cover as many wards as possible. We are lobbying to the ward chairpeople to start their own initiatives with resources available to them.

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

Indicators 1: Higher income levels of trained beneficiary farmers.

Local farmers are encouraged and empowered with technical knowledge and skills. The responses from the trained farmers are positive; they are hopeful towards starting tree cropping for income generation. Farmers started visiting MD AFRC and the learning process has started. Trained farmers income has not yet been assessed as it is too soon for the learnings from training to have been fully implemented on farms.

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

Farmers have shown a keen interest in tree plantation. During training, many farmers have learned the bio-intensive plantation technique. Many farmers have planted trees and vegetables after training.

Output 1: Detailed baseline and feasibility studies completed.

Indicators 1: Baseline survey report delivered

Baseline survey in project area has been completed. Required quantitative and qualitative data along with necessary information have been documented.

Secondary school students helped with the baseline survey and learned the on-the-ground reality of their village and agriculture in the process. The household visits, focus group discussions (FGD) and interviews/discussion with local government and relevant stakeholders with different tools and techniques were included in the baseline survey process. The baseline survey report is in [Annex 1](#).

Indicators 2: Feasibility study on marketable crops delivered

Feasible and marketable crops identified through baseline survey are;

Fruits: Bhoghate, Guava, Mango, Jackfruit, Papaya, Banana and Lychee
Fodders: Kimbu, Katmero, epill, Nepiyer
Timber: Chilaune (English name), Sal (English name) , Pine
Others: Coffee

Feasibility study on marketable crops has been conducted. It concluded that tomato, potato, cauliflower and dragon fruit as marketable crops. A detail of study is included in baseline survey report.

❖ **Output 2: Establishment of AFRC, Outlet Centres, Satellite Nurseries completed**
Indicators 1: Fully functional AFRC (Year 1) & Outlet Centres (Year 2) in place

MD AFRC has been established as independent institution. Both physically and technically the centre is ready for service delivery. Physical structures are in place and management committee is fully functional. Tree cropping and nursery demonstration plots are established. Capacity building of Management committee members in adaptation and application of improved agriculture and forestry practices is enhanced.

The establishment and operation of MD-AFRC has motivated local farmers towards inspiration with enhanced technical knowledge in improved tree-cropping, plantation of varieties of seedlings (fruits, nuts, multipurpose tree species) and introduction of new farming technologies at community level. Farmers observed the improvements in resource centre and have spontaneously adopted the technologies and practices promoted. Community people are accepting resource centre as their own property and institution.

Physical Facilities;

MD AFRC is managed with basic infrastructure such as training hall, training tools and assets needed for the daily operation and service delivery. (List of fixed assets is in [Annex 2](#))

Service Facilities description

Monthly in-house trainings are arranged as A regular program. A committed management committee (management committee members name list is in [Annex 3](#)) is carrying out its managerial and monitoring responsibilities. It has been promoted as outlet of seed and seedlings of tree crops and vegetables. Improved seeds and seedlings are made available to local farmers through MD AFRC.

Indicator 2: Fully operational satellite nurseries in place

Close coordination with local government for establishment of sustainable satellite nurseries was carried out since project inception phase. The Mayor of MDM is satisfied with the project concept and recommended establishing a satellite nursery in ward no. 3, rather than ward no. 12 as previously planned.

Ganeshthan of ward no 10 and Hile Thaldanda of ward number 3 have been fixed for satellite nursery establishment that are planned to establish in the coming year. As pre preparation, local farmers surrounding of Hile Thaldanda in Ward no 3 have been trained on satellite nursery establishment and management. Basic agro-tools and equipment are in place.

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

Indicators 1: No. of farmers trained

In total 265 local farmers have been trained on:

- bio-intensive plantation;
- AFRC and its modality;
- organic farming;
- potato farming techniques;
- nursery establishment;
- organic farming and climate change;
- a draft agroforestry manual is prepared.

Table: Detail of trained farmers

S.N	Training Particulars	Venue	Number of trained farmers			Remarks
			Male	Female	Total	
1	Demonstration Training on Bio-Intensive Plantation	MD-AFRC	14	16	30	
2	Orientation on AFRC and its modality	MD-AFRC	6	1	7	
3	Training on Bio-Intensive Bed Preparation and Vegetable Farming	MD AFRC	2	38	40	
4	Organic & Nepali bio intensive vegetable farming	MD AFRC	2	26	28	
5	Community based organic farming	MDM 8	8	11	19	
6	Organic potato farming technologies	MDM 7	8	12	20	
7	Community based organic farming	MDM 3	3	11	14	
8	Community based organic farming	MDM 11	4	34	38	
9	Community based organic farming	MDM 11	5	8	13	
10	Community based organic farming	MDM 11	6	2	8	
11	Community based organic farming	MDM 3	11	18	29	
12	Training on Organic farming	MDM 11	8	11	19	
Total			77	188	265	

Detail is in [Annex 4](#)

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

Regular monthly training on improved agriculture practices, tree cropping and climate change has been established with a fixed schedule of 16th of every month. Three training workshops have been conducted with great interest of the community.

Indicator 3: No. of farmers with organic certification

The project has started to establish a culture of organic farming by educating local farmers⁸. When the farmers are convinced and start organic farming, the organic certification procedures will begin. This year has been the year of organic education and awareness-raising among the local farmers.

Output 4: Engagement and coaching of Secondary School students delivered

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

In total, 248 school children (152 female and 96 male) have been educated on climate change, its effects and adaptation measures in line with improved agricultural practices. Children studying in seven secondary schools have engaged with the learning programme so far, developing their technical knowledge and skills.

⁸ MDM 11 is recognized as highly pesticides and chemical fertilizers induced area. Local farmers are using non-organic materials without concerning its impacts on soil and human health.

Table: Detail of trained Students

	Training Particulars	Venue	Number of Students		
			Male	Female	Total
1	Training on School Base climate change and adaptation	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	Bindabasin i 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 seedlings in Garden, weeding and garden management	Chandeni SS	10	16	26
Total			96	152	248

Detail of participants is in **Annex 5**

Indicator 2: No. of school gardens established and supported

A small school garden has been established in Chandeni Secondary School, MDM 11. Establishment of a garden in Dedithumka Secondary School, MDM 9 is ongoing. School children have learned the importance of a school garden but the required land has not yet been allocated.

Coordination with other schools is ongoing with the aim of establishing gardens in each one.

The concept of school garden has increased awareness of fruits and vegetables and knowledge about sustainable agriculture.

Output 5: Awareness on Environmental Issues & Agro forestry options raised

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

Use of chemical fertilizers (CFs) and pesticides is very serious in the project area. Intensive interventions are required to change the mindsets and practices of local farmers. Training, orientation and awareness raising workshops have been effective and started dialogue. 121 local farmers have already been made aware of the importance of organic farming and effects of CFs and pesticides.

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

An effective coordination and cooperation with Radio Namobuddha has been established. More than 10 episodes have been produced and broadcasted. Radio has been efficient in improving knowledge and awareness. It has been an appropriate medium that has facilitated communications with community and beneficiaries. Programmes are produced with regular feedback from listeners to ensure topics of interest are covered. The feedback and suggestions provided by project staff have been incorporated while producing each episode.

A translated document with an outline of broadcasted episodes is in [Annex 6](#).

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

Considering the progress of first year, community response and local government positive support we are in a way to meet target project outcome.

- The centre is established and has started its regular activities
- Local government is supportive and always cooperative
- Local community are positive and participating in the project activities
- MD AFRC management committee has formed and is working together effectively with EcoHimal staff.
- Most of the activities planned for the first year are accomplished with good community, stakeholder and local government cooperation.
- No such hindrance are seen in the near future

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.

This is the year of set-up and rapport building. The major learning is:

A remarkable support of local government providing land free of cost and further support on land cleaning and levelling. It was a long process to get government land since there are long and lengthy formalities to fulfil. But due to our good working relationships and coordination it was fulfilled within stipulated time.

Different method of farming is always interest of the farmers:

We have introduced bio-intensive farming method for tree plantation, nursery establishment and vegetable farming. Farmers have adopted immediately and started the GB technique. Now it is one of the topics among the farmers: if somebody shares problems about crop or tree, immediately trained framers asked them “do you apply GB method”.

Having established demonstration plots at the MD AFRC we have gained first hand experience of the challenges and opportunities for farmers in this location. We are learning how to deal with issues such as soil acidity, erratic monsoon rains, wild rabbits and insect pests.

Since it is the first year we have not done any formal evaluation yet. The Glacier Trust have visited the project area on a regular basis, both our Nepal based Co-Director, Richard Allen and UK Co-Director Dr. Morgan Phillips have visited on at least two occasions each.

For upcoming years there is no changes in the planned project activities. More cooperation with local government is planned.

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

- Due to long process on land acquisition the centre setup took longer than expected.

<p>The land was received from the local Community Forest User Group, but it had to be approved by local government officers at the local ward office. After the approval from ward office it then had to go through Municipality council meeting, district forest office and Social welfare council. Even though this happened smoothly, it took time; causing some delay.</p> <ul style="list-style-type: none"> - The regular monthly training was late starting as a consequence of the above. Training did however start in June; several training events were postponed however due to farmers not having time during key cultivation and harvesting periods and religious festivals. - Due to heavy rain and soil runoff problem, agricultural production at MD AFRC was harder than anticipated. These challenges mirror those that farmers in the area are experiencing due to climate change. It is an important learning for us. 	
12.	<p>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).</p>
None.	
13.	<p>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 (e.g. on your website or Youtube).</p>
<p>Links to Facebook posts:</p> <ol style="list-style-type: none"> 1. https://www.facebook.com/ecohimalnepal/posts/2865392683500338?_xts__[0]=68.ARCYclP3skW-KIHGnKxQZRFQShv6F-3ZK-WHHZrx8RTCqW62b4HP1bf59Nqil-EaXKAAHosJ-7IKRiA8Ad0ftaosvUKJJOI_EFIF-qpKbYMttDW3EIVzHyo2xf2KegRax557XWytTpLYMoF8p0QstpSD68yEIsVdc5OGqBvBdrnT43_xMeCQkfDUZKYdMyJoKA4jKqOEwffogGhH800xDihtHLYmSQStdXNSOUkf7H0qBI6qAdJtdEoddCVu42d2kXo5Li9IG7BBpL6SPntPrjUt2dwXjFhKoGduxJRQQOMlMpnISwnO5oqGDPORtbmXz8J5O-PqxMm8C_qPcUcbswBlq&_tn_=-R 2. https://www.facebook.com/ecohimalnepal/posts/2862271250479148?_xts__[0]=68.ARB87ZxTxusqfmgrgG6Z5PD9OCaduWAWyKXuzv37odvls2VS8_V2BgYWLwXtpCHe0brxnY8PlpeCxJ8_h52l8Q4C6_pN_6HOph8Fo_qFkv8UlWwJny2vXi5otiiPDur5b5FcdyMx9gQdwGubUy-sP89g9YaVZDv6v9EB3i-R42DMI38q_52q3-enByuANPY9zoHK8YYjKKvAH0EzqPqFAs4-YQfpL4iBmxXEhlv1BRpVTP8iUGfpV2oDDnk1ZeF9eNT_GjEBiydqAtAYXyHBxbyrKbsDQ2qz62H_fe6BCe3dfpbaYfkzb_qQjffHWiQ1CY-5UtJJeWrgHb01gagG0Q4ThQ&_tn_=-R 3. https://www.facebook.com/ecohimalnepal/posts/2814212495285024?_xts__[0]=68.ARBqc8CFWARqlnk62gSxIV9sW3TeZYd2766RIkc7hAV4tDsb-H4PTXv9PpkAacqGID5TaHg-jZ37jz8lz_Rp-FKsaGA3-SrEP2fZhOGODOHRWwa7Nh-fo-BtvR3GsMpcocpM3YZ1f-iJA0sPIxJVyshlz2Im35QDcMEIUZXHVjo8kwjSQBvKqm2n42bqblfMNkO8R7nla8jTaz7jtk-zxCAU0DfV_FeYQViSPtmXNjgf3UAJ1PFBigr_aDNvzDnCqdU9KrMZdhDxna-Hqmn5WAEyJmN-F7gSbGx-kD8oQJPWVa0EAKhBzkZlsz-ABMx5xn40fKNKz2i19G4jVwEINzA&_tn_=-R 	

4. <https://www.facebook.com/ecohimalnepal/photos/a.929598800413079/2721840354522239/?type=3&theater>
5. <https://www.facebook.com/ecohimalnepal/photos/a.929598800413079/2721833917856216/?type=3&av=929150163791276&eav=AfbtllZMqW8vhpPcfWE8r72PBtLL9qYL98prMoiC flfYZyOnoCmi92cOkrG2Pbw3FU&theater>
6. <https://www.facebook.com/afrc.deusa/posts/454490668819662>
7. <https://www.facebook.com/photo.php?fbid=449331629335566&set=a.119911325610933&type=3&theater>
8. <https://www.facebook.com/hari.karki.3150/posts/1157590014425505>

Website:

1. <https://www.ecohimal.org.np/project/mandan-deupur-agro-forest-resource-center>
2. <https://www.ecohimal.org.np/news/local-women-trained-in-climate-change-adoption-practices>
3. <https://www.ecohimal.org.np/news/training-on-school-based-climate-change-adaptation-and-school-garden-establishment-cum-management>

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.
<p>So far we are not planning any changes in the project for second and 3rd year. The project will be implemented as per the original plan of action as per the project document. Underspent funds from year 1 will be utilised in year 2 and 3 to increase</p>	
15.	Are there any risks to the project or its implementation that you would like to flag at this point?
<p>The project is focused on climate change mitigation and adaptation, promoting farmers income and providing healthy food and environment with greater resilience. The use of chemical fertilizer and pesticides has become habitual for the majority of farmers here over the past three decades. The biggest challenge for MD AFRC is to change these deeply entrenched habits. It is only possible to change mindsets and attitudes of the farmers by highlighting and proving the benefits and advantages of switching to organic methods. This takes time, but initial engagement with farmers and key influencers in the community is positive.</p> <p>Strategically, cooperating with local government and provide similar initiative is planned for the upcoming year. Activities like plant clinic camp, functionalization of municipality soil testing lab in our initiation are activities started now.</p>	

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:
<p>The templates for reporting are very useful.</p> <p>We look forward to receiving feedback on this report and would appreciate introductions to any organisations doing similar work.</p>	

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:	Mr. Narayan Dhakal Dr. Morgan Phillips
18.	Job Title of Person Completing this Form:	Exec. Director, Eco Himal Nepal UK Co-Director, The Glacier Trust
19.	Date:	30 th December 2019