



Quarterly Progress Report

Project title: Mandan Deupur Agro Forestry Resource Centre (MD-AFRC) Centre	Project code:
Report by: EcoHimal Nepal	Month: July
Date: April - June	Year: 2020

A. Activities

The following **activities** have been undertaken in the reporting period, 1 April 2020 to 30 June 2020.

1. Coordination with local government and local communities

The project management continued regular communication and coordination with local government and local communities during the nationwide lockdown situation. The following coordination activities have been carried out:

- 5 visits to the project sites were undertaken during the lockdown in the reporting period; special lockdown travel permits from the District Administration Offices in Kathmandu and Kavrepalanchok were obtained for each visit.
- Regular communication and coordination with Ward Offices in ward 11 and ward 3 were undertaken to ensure continued development and functioning of the satellite nurseries during the lockdown.
- Regular coordination continued with the Office of Mandan Deupur Municipality (MDM) for efficient and timely distribution of fruit seedlings. In addition to our distribution, the MDM agriculture section also distributed fruit seedlings to farmers with a 50% subsidy of the normal cost.
- The 17th National Rice Day on 15 Asadh (29 June 2020) was celebrated in coordination with ward 11. The Ward Chairperson, Mr. Madhab Acharya, inaugurated the rice day with the planting of rice seedlings as a chief guest.
- For the inauguration ceremony of the summer season seedling distribution programme, formal invitations were sent to the Mayor, the Deputy Mayor, the Chief Administrative Officer and the Chief of the Agriculture Section. An EcoHimal staff member visited the MDM offices to personally invite the officials.
- The seedling distribution was done in the presence of the MDM Mayor, Mr. Tok Bahadur Waiba. Before the inauguration of the seedling distribution, Mr. Waiba visited the resource centre, where he showed great appreciation of the plantation technique and progress made by the AFRC; he later encouraged the local farmers to take up tree cropping.
- Due to good coordination, and cooperation, senior staff including the Ward Chairperson of ward 11 is frequently visiting the AFRC, monitoring the progress, and providing instant feedback and encouragement.
- In coordination with the Chandeni Mandan Small Farmers Agriculture Cooperative Limited, a virtual training on bio-intensive plantation techniques was conducted using a *Zoom* meeting room; 25 farmers participated in the 3 hour long training, which was facilitated by Mr. Narayan Dhakal.



- To promote bio-intensive technique of fruit cultivation, all 12 ward offices of the Municipality were requested to select 3 to 4 interested farmers to attend the above training; the selection of farmers was personally supported by the 12 ward chairpersons.
- The MD-AFRC management committee continues to conduct regular periodic meetings and making necessary decisions –brief meeting summaries are provided in [Annex 1](#)).

2. Nursery establishment and management at the MD-AFRC

- Regular weeding and irrigation has continued throughout the lockdown in the nurseries through the excellent efforts of the local staff member, Mr. Shyam Shrestha. None of the plants have been lost in this period.
- **The record of the cultivated crops, fruits, nuts, fodder and forage plants in the nurseries, demonstration sites and marginal land has been updated.**
 - **Cereal crops, vegetables and spices:** cultivation of maize, rice, turmeric, ginger, sweet potato, asparagus (Kurilo), bitter gourd, tomato, brinjal (egg plant), pumpkin, etc. is being undertaken at the Centre; harvesting, marketing and consumption of different vegetables, tomato and sweet potato are on-going – please see [Annex 2](#) for a brief description of the crops.
 - **Seedlings in the nurseries:** detailed records of the seedlings in the various MD-AFRC nurseries have been verified and updated – these seedlings are now ready to distribute. A summary of the updated seedling records is shown below.

Table 1: Summary of Seedlings at the MD-AFRC nurseries

#	Plants species	Number of plants
1	Fruits	454
2	Spices	50
3	Forest trees	15
4	Nuts	182
5	Ornamentals	21
6	Cash crops	538
7	Fodder species	522
8	Flowers	100
Total		1882

Further details of these seedlings is provided in [Annex 3](#).

- The survival status of the planted seedlings (fruits, nuts, ornamental tree and spices) at the MD-AFRC has also been updated, and a comparison between survival in 2019 and 2020 undertaken. The findings reveal that the survival of planted seedlings over the 2 years is 80%, which is considered excellent.
- Of the 225 seedlings planted in 2019, 159 are alive and 55 seedlings have died, while all seedlings planted in 2020 are active – as summarized below in Table 2.



Table 2: Summary of Survival Status of Seedlings

#	Particulars	Survival Status of Seedlings				Total
		Active	%	Dead	%	
1	Seedlings planted in 2019	159	74.30	55	25.70	214
2	Seedlings planted in 2020	66	100.00	0	0.00	66
Total		225		55		280
% in Total			80%		20%	

Detail of the plants and their survival status is provided in [Annex 4](#).

- **Plantation of species for fencing purposes:** 585 plants of 8 species have been planted this year (2020) for fencing around the periphery of the Centre. A detailed list of these plants is provided in [Annex 5](#). The plants planted last year for fencing purpose have developed satisfactorily and are now bushes.
- **Plantation to minimize soil erosion at the MD-AFRC:** 760 saplings of 5 species have been planted. The survival status of the planted saplings is satisfactory, and details are provided in [Annex 6](#).
- **Demonstration of System of Rice Intensification (SRI)**
 - Continuing last year’s demonstration, the SRI technique has again been demonstrated at the MD-AFRC on 50 m² land.
 - The 17th “national rice day” was celebrated on 15 Asadh (29 June 2020); a rice plantation practical training was organized, comparing SRI and the traditional method of cultivation. The national slogan for 2020 was “Increase Rice Production for Self-sufficiency and Prosperity”. The event was organized by Mr. Mahendra Sapkota, Chairperson of the MD-AFRC Management Committee, and was inaugurated by the chief guest Mr. Madav Neupane, the Ward Chairperson of ward no 11 of MDM. In total 20 farmers and stakeholders were present at the ceremony - participant details are provided in [Annex 7](#).
 - The participating farmers acquired the knowledge and skills required to practice SRI cultivation methods, which are more economic and more productive than traditional systems - the SRI technology requires less seed, fertilizer and irrigation, and with some extra effort, SRI produces significantly more rice from the same land. The farmers who attended showed great interest in this “new” technology and may replicate on their farms.

3. Establishment of satellite nurseries in 2 more wards

- **The Satellite Nursery (SLN) in Nayagaune (ward no 3)**

The satellite nursery is properly managed in ½ ropani land. The nursery is well equipped with agri-materials, seeds and resources for seedling production, following the provision of necessary agri-materials for establishment, garden management and proper irrigation. In addition, different varieties of seeds of vegetable and other crops have been provided – further details of the agri-materials and seed support provided is listed in [Annex 8A](#).



In total, 5,319 seedlings of vegetables (tomato, chilly etc.), nuts and fruits and fodder and forage crops (chir pine, lapsi etc.) are being produced. Production of vegetables has also started. According to the records of the nursery caretaker, NPR 10,750.00 has been generated in the reporting period from the sale of seedlings and vegetable products – further details of production and sales is recorded in [Annex 8B](#).

Six different varieties of fruit seedlings have been planted - apple (Desert Golden), peach (Juni Pride), pear (Hood), plum (Beauty), Almond (Salimar) and grape. Survival is good, only one peach seedling died, the rest are progressing well. The potential, suitability and feasibility of the different fruit varieties will be assessed and appropriate fruit crops will be promoted based on these trials and local experience.

Unfortunately, the green house constructed at the Nayagaun SLN was destroyed by a fierce wind storm in June, 2020, which seriously affected the seedlings and vegetable production. A temporary structure was constructed using locally available materials (e.g. plastic and bamboo) by the local nursery management committee in order to conserve the seedlings and vegetables that survived the wind storm.

- **The Satellite Nursery (SLN) in Chandeni (ward no 10)**

This satellite nursery is also properly managed on a ½ ropani of land. Necessary agri-materials, seeds and resources for seedling production were provided to the nursery for establishment, garden management and drip irrigation. Additionally, different varieties of vegetable seeds and other crops were also provided - details of the agri-materials and seed support provided is listed in [Annex 9A](#).

1,900 seedlings of vegetable (tomato, chilly etc), fodders (chir pine), nut and fruits are being produced, and growth and development has been good during the reporting period. From the sale of seedlings, the nursery has generated an income of NPR 7,100.00 – details of production and sales is recorded in [Annex 9B](#).

Six different varieties of fruit seedlings have also been planted at this nursery - grape, nectarine, peach (Juni Pride), pear (Hood) and plum (Beauty); all planted seedlings are alive and developing well. The potential, suitability and feasibility of the varieties of fruits will be assessed and appropriate fruit crops will be promoted in future, based on these trials and local experience.

4. Provision of training workshops

a. Provision of trainings and orientations

In this reporting period, due to the COVID 19 pandemic and the nationwide lockdown, training and orientation workshops at community level and at the Centre were limited. However, the project management reached farmers virtually through *Zoom*, telephone communication and individual home visits.

- A virtual training was organized on 9 June in coordination with Chandeni Mandan Small Farmers Agriculture Cooperative Limited of MandanDeupur Municipality using a *Zoom* meeting room. The 3 hour long training on fruits, nuts and vegetable farming applying



bio-intensive methods was facilitated by the project manager. The training highlighted the concept of bio-intensive plantation/gardening, its techniques, merits and demerits, plant health and sustainable production. 25 farmers participated in the training. After the technical session, a wider discussion was undertaken based on questions raised by the participants, during a highly interactive session.

A short report on the virtual training with the list of participants is provided in [Annex 10](#).

Some trainings and orientations were undertaken through visiting farms and through the phone.

39 local farmers were trained on bio-intensive plantation techniques by visiting their houses. Practical demonstrations on pit preparation and planting techniques at the field level was done by the project staff. 3 farmers were orientated on bio-intensive plantation techniques via phone calls. Details of these farmers is provided in [Annex 11](#).

- On the basis of recommendation of the Mayor, and to improve the effective transfer of new technologies in relation to improved plantation techniques, including bio-intensive plantation techniques, the project management prepared and executed an alternative training delivery strategy at ward level focused on lead farmers and field-based demonstration and training. During the lockdown, the project management started these ward level technology transfer home visits with the long term aim of covering the whole municipality. Previous such trainings were focused on ward no 11; during this reporting period, Agriculture Section of MDM was requested to assist in the selection of lead farmers from wards 1 to 12, bar ward 11. In each ward, the selection of at least 3 farmers was finalized to undertake the field based demonstration trainings on bio-intensive plantation techniques; details of the selected famers are provided in [Annex 12](#).

These local farmers were practically trained on bio-intensive plantation techniques, including pit preparation, refilling of the pit and planting. During the training, seedlings of fruits and nuts were provided free of cost to the selected farmers. During the reporting period, 20 farmers had been trained, and 40 seedlings of nuts and fruits were planted through this new strategy.

b. Preparation of training manuals

Utilizing the lockdown period in the most efficient manner possible, 15 simple training manuals (all in the Nepali language) have been drafted, with a few more manuals in the pipeline. Once all crop manuals are prepared, the project plans to prepare a collective manual as a booklet.

The English translation of manuals are provided in [Annex 13 A to O](#).

1. Oyster Mushroom Cultivation - [Annex 13 A](#).
2. Akabare Chilly Farming Techniques - [Annex 13 B](#).
3. Leguminous Fodder Farming Technology - [Annex 13 C](#).
4. Legume Cultivation - [Annex 13 D](#).
5. Ginger Farming Techniques - [Annex 13 E](#).
6. Garlic Farming Techniques - [Annex 13 F](#).
7. Compost Manure Preparation Techniques - [Annex 13 G](#).
8. Organic Bio-pesticide Preparation Techniques - [Annex 13 H](#).
9. Organic Farming - [Annex 13 I](#).



10. Orange Farming Techniques - [Annex 13 J](#).
11. Paddy Farming Techniques - [Annex 13 K](#).
12. Maize Farming Techniques - [Annex 13 L](#).
13. Potato Production Techniques - [Annex 13 M](#).
14. The Organic Certification Process and Procedures - [Annex 13 N](#).
15. Soil Problems and Sustainable Management - [Annex 13 O](#).

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

a. Provision of seedlings

Different varieties of tropical and sub-tropical plants, seedlings and saplings, of fruits, nuts, spices and ornamental trees were purchased and collected from the following quality nurseries:

- a) Everything Organic Nursery, Kavreplanchok
- b) Adarsha Agro Nursery, Chitwan
- c) Joshi Nursery, Makawanpur
- d) Agro Mart, Kathmandu

The local farmers have been provided improved grafted improved varieties of fruits, nuts, and spices for the promotion of high value tree crops. Plant distribution was followed by knowledge and skills transfer on alternative farming technologies, and proper management of the improved varieties through application of bio-intensive plantation techniques.

For the summer plantation of 2020, a total of 2,835 seedlings of 25 varieties of seedlings were purchased from the 4 nurseries above and transported to the MD-AFRC. To date in the reporting period, 1,077 seedlings have been distributed to 53 local farmers, and 37 seedlings have been planted at the MD-AFRC. The remaining 1,721 seedlings are in stock at the MD-AFRC, most of which are undergoing hardening and acclimatization.

Table 3: Summary of seedlings purchased and distributed

#	Particulars	No. of seedlings
A	Seedlings Purchased	
A1	Number of seedlings purchased (25 varieties)	2,835
B	Seedlings Distributed	
B1	Number of seedlings planted at the MD-AFRC	37
B2	Number of seedlings distributed to farmers (visiting AFRC)	1040
B3	Number of seedlings distributed under Ward Level Scheme during bio intensive training.	37
	Sub-Total	1,077
C	Seedlings in Stock (undergoing hardening)	
C1	For the MD-AFRC plantations	5
C2	To distribute to individual farmers	63
C3	For distribution through the Ward level training scheme	118
C4	Seedlings under hardening	1,535
	Sub-Total	1,721



In ward level training scheme (C₃ in the above table), trained farmers are provided with technical skills on bio-intensive plantation techniques and saplings of fruits and nuts for the promotion of high value tree cropping.

Details of seedlings purchased and distributed are provided in [Annex 14](#).

Details of seedlings distributed to local farmers from MD-AFRC are provided in [Annex 15](#).

Details of seedlings distributed to local farmers under the ward level scheme are provided in [Annex 16](#).

- **Seedling Distribution Programme and the Mayor's Visit**

The Seedling Distribution Programme was organized on 7 July 2020 at the MD-AFRC under the Chairmanship of Mr. Mahendra Bahadur Sapkota, Chairperson of MD-AFRC management committee. The respected Mayor of Mandan Deupur Municipality, Mr. Tok Bahadur Waiba, was present as Chief Guest. The bio-intensive plantation techniques were demonstrated and a practical training conducting, during which the Mayor planted an apple tree.

He admired the agro-forestry initiatives and committed to promote the demonstrated practices to the whole municipality. His valuable citations during the programme were:-

- “We have been distributing seedlings of fruits through the agriculture section of the MDM every year and investing a huge amount, and as yet I have not seen an effective result of these plantation efforts. However, I am impressed with the plantation techniques and the plants growth at the AFRC premises. The technology and improved practices clearly makes a difference in plant growth and production. So, I recommend MD-AFRC to conduct ward level training and orientations to transfer the technical knowledge and skills, so all people can benefit and replicate the practices.”
- “I suggest and recommend EcoHimal to discuss a training plan with all ward Chairpersons, and request them to select lead farmers who you should train in proper plantation and bio-intensive techniques”.
- He requested all farmers not to delay in participating in the programme – especially those who have taken delivery of saplings – any delay will affect both the survival and development of the plants.
- He also shared his past experience of successful orange cultivation and wiped out of his productive farm. He shared: “I was the only farmer to grow orange in the village at Nayagaon. I have to distribute oranges free of cost, and then the sales in the name of tasting. The purchasers mostly were villagers and everybody requested for a taste - at least one, sometimes two or three oranges - and finally people used to purchase 1 kg. Another problem was that everybody saw the oranges like a star and wished to enjoy the fruits - but many of them did not the capacity to purchase, so that for them, the best way was to steal them! One day I caught my neighbour's kids red-handed pocketing the oranges from my orchard – they were also my relatives! Interestingly, students also used to steal the oranges, and then sold them at school! It made me sp disappointed, I gave up, and I wiped out the whole garden. From that experience, I make this suggestion to all farmers - convince your neighbours to create a plantation as well - it helps to promote collective marketing, the fight against climate change, and minimizes the problems that I faced”.



A total of 43 farmers participated in this programme, together with staff members of EcoHimal Nepal - Mr. Narayan Dhakal (Executive Director), Anisha Kharel (District Coordinator), Shristi Neupane (Programme Officer), Chhabilal Rana (Programme Officer), Hari Karki (Agriculture Technician), Umisha Khatri (JTA), and Lalita Rawal (Social Mobilizer).

The following major activities were undertaken in the presence of the Chief Guest at the programme.

- MD-AFRC site visit by all participants.
- Welcome remarks by Mr. Mahendra Bahadur Sapkota, Chairperson of the MD-AFRC Committee, and Narayan Dhakal, Executive Director of EcoHimal Nepal.
- A demonstration of the Nepali Bio-intensive plantation system while planting a fruit tree.
- Dissemination of knowledge about grafting, including explanations of the importance of the scion (the upper part of the grafted plant) and rootstock (the root parts of the grafted plant).
- An explanation of the importance of land pre-preparation for all plantations.
- Training of farmers before the plants were distributed.
- Finally, the seedling distribution.

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

The agro-forestry gardens in the 3 selected schools were established before lockdown, and have been developed and maintained well. After field observation of all 3 gardens, it was seen that all plants were alive and developing well. Details of survival status of the seedlings are provided in [Annex 17](#).

7. Broadcast monthly local radio programmes on environmental issues

In this reporting period, 6 episodes have been produced and broadcasted in cooperation with Radio Namobuddha. The radio programme is basically focused on the impact of the COVID-19 pandemic, the nationwide lockdown and its effect on agriculture, food security and agri-product marketing. An overview of the radio programmes is provided in [Annex 18](#).

8. Other activities

Schools have been closed since March 2020 and throughout the reporting period. However, the MD-AFRC management committee in coordination with the Education Section of MDM and the Chandani Secondary School has been conducting online classes in alternative learning for the children using the AFRC training hall. The list of children studying at the AFRC training hall is provided in [Annex 19](#).

B. Difficulties

- The COVID-19 pandemic and the lockdown situation created a challenging environment in which to conduct project activities. Project staff members were sent to their homes for their safety considering the uncertainties presented by the pandemic. Staff members returning to office or field station stayed 14 days in quarantine or self-isolation that was also not easy to manage. Management of local staff members were



contacted over the phone to undertake urgent tasks such as watering plants, weeding, and other maintenance tasks.

- The monsoon weather this year has also not been favourable to the project. Fierce winds seriously damaged the poly houses at both satellite nurseries and destroyed crops and seedlings inside the poly-tunnels. Temporary improvements and replacements have been undertaken for the time being to preserve the plants and crops.

C. Success Stories

- The project management succeeded in continued implementation of the project at the micro level even in the difficult lockdown situation. Despite serious world-wide ramifications of the COVID-19 pandemic and the nationwide lockdown, it was possible to keep the nursery plants alive, and undertake training and distribution of seeds, seedlings and saplings. The local staff greatly supported us in keeping many activities on track.
- The project management succeeded in bringing back both staff members (Hari Karki from Solukhumbu and Umisha Khatri from Updayapur) from their homes in coordination with the concerned line agencies. Both of them were kept in self-quarantine and isolated from social interaction in the Centre for 14 days. All 3 AFRC staff members remain healthy and virus free to the end of the reporting period.
- Coordination, order, procurement, transportation and distribution of the seedlings of fruits, nuts and ornamental trees even in lockdown situation was made possible through hard work and determination – this is considered a major achievement. The project management communicated with local farmers for their demand, collection was coordinated with the different nurseries, the orders were finalized virtually, and special travel permits were applied for and received to accomplish these activities. Through the issuance of special travel permits, two visits by the project manager were undertaken within the lockdown period to Kavre for supervision of the AFRC Centre staff and essential meetings.

D. Deviation from the Working Plan

Due to COVID-19 and the nationwide lockdown, there have been many effects on the project. Planned trainings, orientations, awareness raising activities, and the organic certification process have been highly affected, and has even delayed reporting. However, we are optimistic that at some stage before the end of the year we will be able to accelerate progress and be on track by the end of the year.

E. Next Steps

- Continued home visits to local farmers to observe and monitor the seedling plantations and survival status in coordination with the Agriculture Division of the MDM.
- Further knowledge and skills transfer of bio-intensive plantation to local farmers.
- Field based and monthly trainings and orientations to the farmers along with plantation of the seedlings and saplings applying social distancing and safety measures.
- Continuation of management and extension of the two satellite nurseries.
- Establishment of an outlet centre for organic products, but only if the lockdown and Covid-19 situation permits.



- Continuation of monthly trainings at the MD-AFRC with safety measures and social distancing.
- Education and awareness-raising events on impacts of pesticides and chemical fertilizers and importance of organic fertilizers.
- Finalization of the crop and farm management training manuals and preparation of a booklet.
- Continuation of the radio programmes.
- Construction of a cowshed and procurement of a cow for farmyard manure production, in cooperation with the ward offices and the AFRC management committee.
- Construction of fencing around the southern part of the AFRC Centre, also in cooperation with the ward offices and the AFRC management committee.
- Continued close cooperation and coordination with the local government for the extension of the satellite nurseries.