



## Mandan Deupur Agro-Forest Resource Centre (MD-AFRC)

### A Half-Annual Interim Progress Report

- covering the period December 2022 to June 2023

#### **Outcome Section**

#### **Outcome 1: Local Government promotes agroforestry as a mainstream farming system in Kavre District**

##### **Indicator 1: Local Government politicians and officials continue to (a) promote agroforestry, and (b) collaborate with MD AFRC and Satellites.**

The local government has promoted agro-forestry as the best solution for sustainable rural livelihoods through tree crop diversification and organized marketing of the produce. In this fiscal year, the local government is prioritizing tree cropping and organic farming, allocating more resources than in 2079/80 (2021/22). The initiatives for agro-forestry promotion included in its Policy, Programme & Budget 2080/81 (2022/23) are (i) establishment of tree crop nurseries for seedling production (point 15, page 11); (ii) establishment of model nurseries and subsidies for the farmers to make them self-employed (point 21, page 11); (iii) promotion of organic farming through applying organic manure, reducing use of chemical fertilizers and serious prohibition in pesticide use, encouraging farmers to use bio-pesticides (point 26, page 11); and (iv) creation of a profile of all farmers (point 16, page 11). These initiatives are highlighted by the local government for intervention and replicates and extends the works and achievements of the MD-AFRC project.

The local government's policies and programmes have been strongly influenced by the project's successes, and have adopted the project's agriculture modalities and approaches. The local government is committed to promoting tree cropping and allocating resources to subsidize local farmers for seedlings, agri-materials and other agri-inputs. The project has sensitized the local government representatives about agro-forestry and motivated the farmers to adopt the techniques introduced by the project. The local government's perception and behavioural practices in relation to organic farming have changed, and appreciation of the value of tree cropping for long-term income generating opportunities has increased.

##### **Indicator 2: AFRC provides services in collaboration with the local government (trainings, seedlings, saplings)**

The involvement of all 12 wards chairpersons and elected representatives in the promotion of tree cropping in their respective wards, and for demand collection and selecting lead farmers is notable and has strengthened their commitment to agro-forestry. Their active assistance in the distribution of seedlings to the farmers, monitoring of progress of the plantations during visits to the farmers' fields, and taking leadership in the transportation and distribution of the tree seedlings in cooperation with MD-AFRC has been noteworthy. For example, Mr. Ram Kumar Parajuli, the Chairperson of Ward 12, allocated a budget of NPR 140,000/ for bio-intensive pit preparation for seedling plantation.

On the basis of progress, all ward chairpersons and elected representatives are now more optimistic concerning improving local livelihoods, and are keen on the establishment of further nurseries to accelerate progress. In addition, all branches of the local governments are supportive of adopting

new more sustainable and appropriate agriculture systems to enhance household income and improve lives through improving resilience.



## Outcome 2: Improved Farmer Livelihoods

### Indicator 1: Higher income levels of trained beneficiary farmers

A sample survey to assess income level of the trained farmers has been carried out by an On-the-Job-Trainee (OJT) to ensure an external independent judgement. 200 local farmers from 4 MDM wards were selected randomly and interviewed; data was collected at farmers' households with physical observation of progress of the farmers' fields. Annual incomes from the tree crops, intercrop and layer crops were recorded.

Out of the 200 farmers, 132 farmers (66%) have generated an income, while 68 farmers (34%) have yet to generate an income. The findings recorded the average annual income as NPR 8,589.23 (£51.08). The data from the survey is recorded in [Annex 1](#).

The total number of farmers trained by the project to the end of this reporting period is 5,218 <sup>1</sup>. Based on the results of the sample survey, the following extrapolation can be made:

- the number of farmers generating income = 5,218 x 66% = 3,444
- the number of farmers on the way towards income generation = 5,218 x 34% = 1,774

Thus, the contribution of agroforestry and tree cropping is already visible to a limited extent while the trees planted in the past 5 years are beginning to fruit and reach maturity. It is also notable that the perceptions of the farmers towards tree cropping have changed, with most of the farmers happy with the benefits of agroforestry and tree cropping, and production of vegetables from intercropping and layer cropping which they perceive as clearly beneficial.

The programme has provided seedlings of high value crops including almond, avocado, apple, macadamia nut, lemon, pear on the basis of farmer demand. Prior to distributing the seedlings, the farmers were trained in bio-intensive plantation techniques through multiple field trainings. Within 4½ years of planting, the fruits and nuts on many farmers' fields have started fruiting – for example, almonds, apples, plums, peaches and lemons have started producing fruits. However, almond husking is a problem for the farmers and this has demoralized some of the farmers – to date, we have not been able to source a reasonably priced de-husking machine, but continue to search. Overall, the production of fruits on their farms has encouraged the local farmers in their steps toward towards sustainable tree cropping as alternative farming system.



## Outcome 3: Increased Practice of Agroforestry and Organic Agriculture

### Indicator 1: Number of farmers adopting agroforestry and organic agriculture after 6 years

Organic farming methods have gained significant attention from the farmers and the local governments as a sustainable and environmentally friendly agricultural practice. The local

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<sup>1</sup> 3,935 farmers trained in Phase I, and 1,283 during Phase II (698 trained in the field and 585 trained through the monthly trainings)

governments now emphasise the adoption of organic farming and discourage the use of chemical fertilizers and pesticides. Many of the local farmers have been trained and are now capable of preparing and using organic manures, bio-pesticides and bordeaux paste and mixtures, and this adoption of an organic culture is a positive change for future sustainability. Both the local government and the project have been endorsing organic farming as an essential step towards promoting ecological balance and improving the livelihoods of farmers. As a result, a weekly organic vegetable market (Haat Bazaar) has been initiated every Friday morning in Nagarkot under the leadership of the local government.

A total of 2,193 (929 from Phase I and 1,264<sup>2</sup> from Phase II) local farmers have been trained in agro-forestry and organic agriculture. Of the trained 2,193, 78% of farmers (1,713) have applied their acquired technical knowledge on agro-forestry and organic agriculture on their farms as presented in Table 1.

**Table 1: Number of farmers adopting agro-forestry and organic agriculture**

#	Particulars	Number of farmers	%
1	Number of farmers trained in agro forestry and organic agriculture	2193	100
2	Number of trained farmers applying acquired technical knowledge of organic farming and tree cropping - <i>the figure includes farmers cultivating tree seedlings and organic vegetables</i>	1713	78.11



Training in organic vegetable nursery preparation to selected farmers of all wards at one of the regular monthly training sessions at the MD-AFRC

<sup>2</sup> Including field-based training and monthly trainings (679+585)

## Indicator 2: Number of farmers with organic farming certificate

The local farmers are growing organic crops individually and collectively in the project area. However, farmers are failing in certain aspects necessary for gaining certification and accreditation as an organic farmer – such as data recording which in most cases is poor to very poor. A mechanism for improving this has yet to be developed. In Phase 1, procedures for organic certification (capacity building on basic process/requirements, internal control system, field inspections) of 21 local farmers was carried out in coordination with Organic Certification Nepal (OCN). Field observations in all organic villages and satellite nurseries were carried out 3 times by the organic certification expert. Initially, 21 farmers were selected for the certification programme; 4 dropped out, but currently 17 farmers are active and following the organic certification norms. The expert conducted a final inspection and recommended more in-depth internal control in farming practices and postponed the organic certification; a few measures are not in the project's or farmer's control – such as when the neighbouring farmer is spraying chemicals - water, wind and insect encroachments are difficult to control. When the farmers' internal control systems are found eligible, and production and products satisfy the specific organic standards, they will be certified. After certification, their products are then furnished with an organic label and are thus branded to assure fair prices. After certification of the 17 active trained farmers, a further 20 farmers from new organic villages will be involved in the same certification process.



### Outcome 4:

#### Indicator 1: No. of tree crops planted by the trained beneficiary farmers

A total of 74,009<sup>3</sup> tree crop seedlings have been planted in Phase 1 and 2 since 2019 in Mandan Deupur Municipality. In Phase II to the end of this reporting period, 32,119 tree crop seedlings have been planted by the local farmers as shown in Table 2.

**Table 2: Planted tree crop seedlings**

A	Fruits and Nuts	Quantity
1	Pecan nut	20
2	Macadamia nut	20
3	Avocado var. Hass	1,960
4	Avocado var. Reed	1,440
5	Lime - grafted	4,300
6	Golden Lime 1	3,500
7	Golden Lime 2	3,250
8	Lemon	5
9	Local Guava var. KG	859
10	Gooseberry var. Banrashi	120
11	Green Grapes	375
12	Black Grapes	285
13	Jackfruit	890
14	Litchi Seedless	800
15	Litchi var. Mujafarpur	2,385
16	Litchi var. Shahi	1,600
17	Mango var. Maldaha	1,500
18	Mango var. Amrapali	1,090
19	Pomegranate var. Bedana Seedless Red	1,310
20	Dragonfruit var. C Hybrid	590

<sup>3</sup> 41,899 seedlings in Phase I and 32,119 seedlings in Phase II to end of this reporting period = 74,009

21	Red guava	940
22	Banana var. Malbhog	150
23	Pomelo var. Bhogate	150
24	Papaya	140
25	Pineapple	45
26	Sweet Orange	220
27	Guava	20
28	Mandarin	2,430
	<b>Sub-Total</b>	<b>30,394</b>
<b>B</b>	<b>Spices, coffee and ornamental plants</b>	
1	Coffee	335
2	Cinnamon	20
3	Nepali Pepper (Timur)	750
4	Cardamom	20
5	Royal Poinciana (Gulmohar)	200
6	Jacaranda	100
7	Dhupi	200
8	Kalki	100
	<b>Sub-Total</b>	<b>1,725</b>
	<b>Total</b>	<b>32,119</b>



A first crop on a young apple tree (*Anna* variety) on the farm of Kumar Bastakoti at Nagarkot village

### Indicator 2: Survival rate

A sample assessment on the survival rate of planted seedlings has been carried out on 60 farms where 2,516 tree seedlings have been planted. 1,813 (72%) seedlings were found to be alive, healthy and growing well, while 695 (28%) had died. In general, the survival rate is satisfactory, as, when combining winter and summer plantings in the Nepali context, a 70% survival rate is considered a success. Data from this assessment is provided in [Annex 2](#).

#### Generalizing the survival rate.

Our survival rate, derived from a small sample study, is comparable to the average Nepalese plantation survival rate which is between 67% to 74%. A full survey would be necessary to record a more accurate result but project resources are limited, and the result is likely to be similar to the

sample survey. Extrapolating from our sample survey (72.06% survival) would record the following number of living trees:

- total number of seedlings planted since 2019: 74,009
- total number of seedlings survived: 53,331 (estimated on the basis of our survey results)
- total number of seedlings that died: 20,678 (estimated on the basis of our survey results).

Currently, therefore, there are at least 53,331 plants growing well in the municipality from the project's efforts.

## Output Section

**Output 1: Complete the Hub and Spoke model - institutionalize the central MD-AFRC (hub), and the 6 x Satellite Nurseries (spokes)**

**Indicator 1: Financially self-sustaining and fully equipped MD-AFRC**

### Financial Sustainability:

A 3 year business plan has been formulated and is being implemented to ensure the MD-AFRC is financially self-sustaining. In the initial stages, the management committee was active and managed many things in an efficient way; however, in terms of income generation, the Committee has not been able to undertake the activities in line with the plan. It appears that the Committee lacks ownership and accountability in terms of its roles and responsibilities for generating income. Efforts from project management in Kathmandu and the local staff are not enough if the Committee is not functioning well. Project management made great efforts towards creating a vibrant and energetic committee, but the committee members do not realize their responsibilities towards the MD-AFRC. Establishing a financially self-sustaining MD-AFRC will be difficult, unless the local management considers their responsibilities urgently. We are now considering an alternative model to ensure sustainability, and this will be discussed with the local government in the near future.

Unfortunately, the MD-AFRC has not generated income as foreseen and planned by the project. A total income of NPR 93,918/- (around GBP 550) has been made in two years as shown in Table 3.

**Table 3: Income generated by the MD-AFRC**

#	Income & Expenditure	2022	2023	Total in NPR	Total in GBP
<b>A</b>	<b>Income from:</b>				
1	Sale of seedlings/saplings	10,580	31,700	42,280	251
2	Sale of agro-products	12,510	0	12,510	74
3	Sale of milk	0	36,928	36,928	220
4	Service provided by improved breed of goat		2,200	2,200	13
	<b>Total Income</b>	<b>23,090</b>	<b>70,828</b>	<b>93,918</b>	<b>559</b>
<b>B</b>	<b>Actual expenditures for:</b>				
1	Production of seedlings/saplings	2,134	7,600	9,734	58
2	Agri-products production	3,560	5,750	9,310	55
3	Rearing of cow at MD-AFRC		21,180	21,180	126
	<b>Total Expenses</b>	<b>5,694</b>	<b>34,530</b>	<b>40,224</b>	<b>239</b>
	<b>Balance</b>	<b>17,396</b>	<b>36,298</b>	<b>53,694</b>	<b>320</b>

### Projection

The project management has approached different nurseries for cooperation and investment on a benefits sharing modality, currently in the discussion and planning phase. In addition, in order to establish different tree crop nurseries, the process to procure 114 kg of seeds of 13 varieties has begun and will be sent to the centre in the near future. The project target is to produce some 50,000 tree crop seedlings and 80,000 saplings, creating an income of more than NPR 500,000.

### **Institutional Sustainability:**

MD-AFRC has been institutionally organized with a local level management committee, and the organization was registered as an Agriculture Group with the local government. However, one year ago, the project management had instructed the committee to register the MD-AFRC as a local NGO at the District Administration Office, but the Committee has yet to do this; the Committee has been unresponsive on this matter recently.

The MD-AFRC has sufficient human resources in place for the trainings, on-site activities, and field visits, and other Eco-Himal supported staff have been drafted in to assist – such as Mr. Keshav Kumar Rai from the Deusa AFRC, who has shared his knowledge and skills in building capacity amongst the staff in nursery establishment, grafting and layering. However, there are problems with staff turnover and all the training and support has not had the desired impact to date.

Initially, the situation was promising but the motivation and dedication of the Committee members seems to have declined, and, currently, we are struggling to motivate the management committee to undertake their duties responsibly, and in a timely and accountable manner.

Adequate physical infrastructures are in place at the MD-AFRC – two new buildings house a training hall, office and accommodation facilities, a kitchen and store; and a new cattle shed and two green houses have been established. There is sufficient space for demonstration plots on different species, as well as agri-materials and irrigation facilities.

The building comprising the training hall and accommodation facilities, as well as a dug well, and two of the green houses were constructed from EcoHimal's internal resources, whereas the cattle shed was constructed with financial support from the local government.

The crop and livestock integration system has been initiated as a resource-saving practice for an efficient recycling of natural resources, such as production of farmyard manure from the cow, her calf and a goat. Irrigation water for the demonstration plots, nurseries and garden is supplied through a water pond and the dug well.

### **Indicator 2: Fully operational 6 satellite nurseries in place**

All 6 SLNs<sup>4</sup> are established and in operation and seedling production has been prioritized by the project, which has provided seeds and agri-materials. The 6 SLNs produced 105.53 tonnes of organic vegetables and 6,013 tree/vegetable seedlings in the two fiscal years, 2021/22 and 2022/23, and have generated a total income of NPR 2,793,800/- (GBP 16,678) as shown in Table 4.

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<sup>4</sup> Three SLNs were established in Phase I (2019 to 2021) and 3 more are now fully established during Phase 2.

**Table 4: Production and sale of vegetables and seedlings at the SLNs**

#	Name of SLN	Vegetable production in 2022 (tonnes)	Sales of seedlings (no. of tree crops & vegetables) in 2023	Income generated in NPR (2022 + '23)	Income in GBP
1	Chandeni (Ward 10)	22.2	2,400	6,87,200	4102.66
2	Jyamdi (Ward 12)	0.00	1,612	-	-
3	Halde, Nagarkot (Ward 1)	18.91	56	385,900	2303.87
4	Jay Laxmi, Bhatpole (Ward 11)	16.42	0	410,700	2450.13
5	Sapta Kanya, Dhaitar (Ward no 8)	23	24	660,000	3940.27
6	Churithumka, Nagarkot (Ward 1)	25	2,000	650,000	3880.57
		<b>105.53</b>	<b>6,013</b>	<b>2,793,800</b>	<b>16,677.5</b>

Project Inputs for the SLNs

The programme continued support for the production of vegetables seeds; a total of 17.25 kg of vegetable seeds (11 different varieties) were provided to the 6 SLNs – more details on this is provided in [Annex 3](#).

**Output 2: Establish 2 Outlet Centres for organic produce****Indicator 1: Outlet Centre established at MD AFRC**

MD-AFRC has been promoted as an Outlet Centre for the provision of seedlings, seeds and agro-products. A revolving fund was established to encourage the management committee and the procurement of vegetables and tree crops seeds and sales at the local level. However, the provided funds have not been properly utilized, and it is evident that the Committee is using the funds for other purposes than originally stipulated. The project management is under discussion to ensure better utilization of the fund and to make the AFRC sustainable. In addition, EcoHimal has established a small fixed revolving fund amounting to NPR 0.57 million rupees from its internal resources to ensure future sustainability.

**Indicator 2: Outlet Centre established in Nagarkot**

Programme strategy: to establish an Outlet Centre under the leadership and ownership of the Churithumka farmer group aiming to sell organic vegetables produced by the local farmers to the local hotels in Nagarkot, a nearby popular tourist area. Linkages between organic agriculture and tourism in Nagarkot will be enhanced to stimulate local organic production, retaining tourism earnings within the Municipality, and improving the distribution of economic benefits from tourism to the local farmers. This will help to create economic opportunities, build resilience in rural communities and enhance sustainable development in both sectors.

Progress: two discussion and planning meetings with the Churithumka Organic Farmers Groups were organized, and a seven member committee has been formed and given the responsibility for undertaking a feasibility study of production potential, market access, opportunities and challenges; they will provide their conclusions and recommendations in the near future, and a clear roadmap and guidelines will then be prepared. Currently, a local government initiative has established a



weekly market (Haat Bazaar) which will be useful for our farmers. This local government initiative is based on the project's concept and initiative of promoting organic vegetable production and marketing, and involves the sale of organic vegetables as a collaborative marketing initiative; the weekly market has been inaugurated in Nagarkot by the local government<sup>5</sup>. It has been a good initiative as it encourages the sale of organic vegetables to the local hotels, guesthouses and households. The local government formalized this initiative in coordination with PGS Certification Farmers Group, the Aapsi Sahayog Kendra, and the Kavre Akikrit Gramin Sasaktikarn<sup>6</sup> project. Our objective of benefiting local organic producers has been addressed by the local government.

The Organic Haat Bazaar operates 2 days a week (every Friday and Saturday), and to date has been well attended by the hotels and organic consumers who have purchased vegetables. The price of the vegetables is fixed by the farmers group in consultation with the hotels, farmers and stakeholders. With the functioning of this Haat Bazaar, the farmers have started to receive a fair price for their products as they are better positioned to collectively negotiate the price for their produce with the regular buyers. Local farmers are also conscious of bringing quality organic products as they have learnt about the link between quality and price, and the importance of grading and quality control.



A very good ginger crop from Saptakannya Organic Farmers Group ready for marketing at the weekly organic produce market (haat bazaar) in Nagarkot

*"Our future is in organic crop production, we have to more focus on organic vegetables production and sale with the approach of sustainability and entrepreneurship where women empowerment should be at the center. We have to encourage, inspire and motivate them in taking forward our municipality to greater heights in the organic sector". Tok Bahadur Waiba, the Mayor of MDM.*

Project inputs into the promotion of organic vegetable production:

The project has formed and institutionalized 10 organic villages (each with its own organic farmer group) comprising 326 organic producers, of whom 56% are women, as documented in Table 5. They have been provided with training, and resourced with agri-inputs (eg. vegetable seeds and agri-materials).

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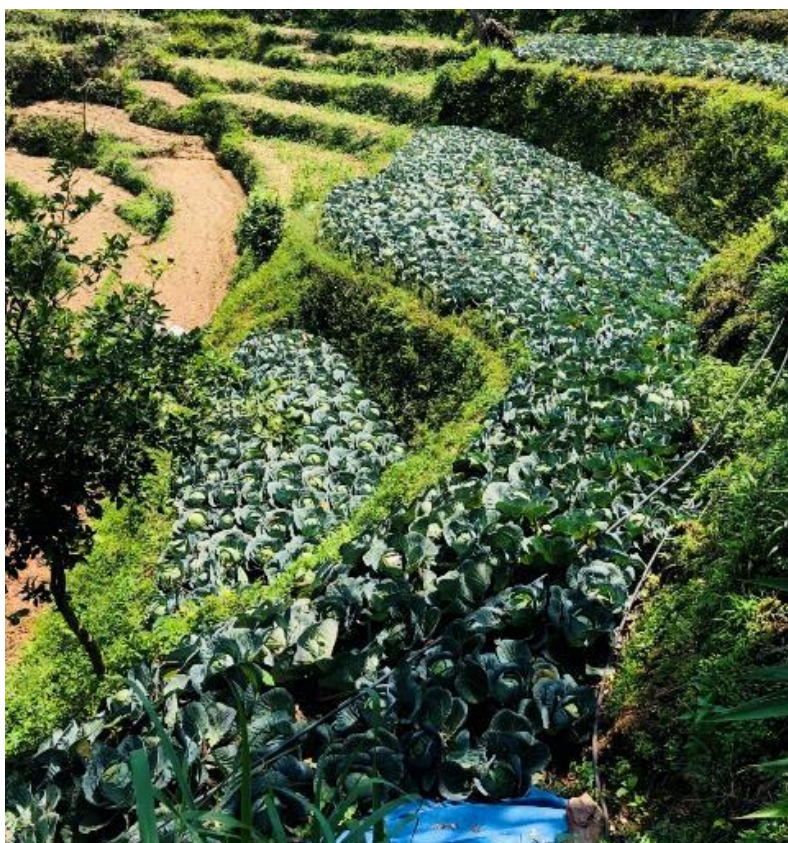
<sup>5</sup> News at

<https://www.kavrepress.com/10831.html?fbclid=IwAR3UVTQuEHwr5qyZR7YmKC9c7SzSimeDEUKQLPyLkLgYmgQRO-dSpf2e35I>

<sup>6</sup> Kavre Integrated Rural Empowerment Project

**Table 5: Summary of Members of Organic Farmers Groups**

#	Organic Group/Villages	Number of Farmers associated as members		
		Male	Female	Total
1	Krishna Mandir, Ward no 8, MDM	21	19	40
2	Aapghari Pipalbot, Ward no 8, MDM	11	29	40
3	Bajrayogini, Ward no 9, MDM	2	23	25
4	Churithumka, Ward no 1, MDM	34	6	40
5	Bayarbot, Ward no 3, MDM	11	4	15
6	Utkrisht, Ward no 11, MDM	5	35	40
7	Radha Krishna, Ward no 11, MDM	16	24	40
8	Halade, Ward no 1, MDM	21	16	37
9	Jaya Laxmi, Ward no 11, MDM	17	2	19
10	Kalidevi, Ward no 3, MDM	4	26	30
<b>Total</b>		<b>142</b>	<b>184</b>	<b>326</b>



A wonderful crop of organic cabbages in Bhatpole village on the farm of a member of the Jaya Laxmi farmer group

Further details of the members of these organic groups are provided in [Annex 4](#).

Support, in terms of agri-inputs and resources, from the project has been continued to all 10 organic villages – most recently, 1,640 packets of seeds (18.32 kg) of different vegetable varieties were provided to 7 groups<sup>7</sup>. From these seeds, around 3.2 tonnes of vegetables were produced, consumed, and the surplus to household requirements was supplied to the market.

<sup>7</sup> Seeds were provided to 7 OFGs: Aapghari, Utkrisht, Bayorbot, Radhakrishna, Pipalbot, Namuna & Churithumka

**Output 3: Deliver training in agroforestry organic farming and adaptation to farmers**

**Indicator 1: Total attendance at farmer training events in Phase 2**

Through 29 different capacity building events and programmes, 698 local farmers have been trained on agro-forestry, climate smart agriculture practices, and on-farm crop diversification for livelihood improvement.

The participation of 62% female farmers in the training reveals a very satisfactory involvement of women in the capacity building events, as shown in Table 6 below.

**Table 6: Field-based demonstration and training record**

#	Training on:	Number of farmers trained		
		Male	Female	Total
1	Biological Pesticide preparation (1 training)	2	28	30
2	Bio intensive pit preparation (1 training)	1	15	16
3	Tree cropping (1 training)	24	4	28
4	Fodder and forages cultivation techniques (3 trainings)	7	55	62
5	Control of Fall Army Worm (1 training)	10	9	19
6	Control of Citrus Fruit Fly (1 training)	19	40	59
7	Layer cropping system (5 trainings)	39	72	111
8	Propagation of fodder and forages (1 training)	2	31	33
9	Plant production in polybags (1 training)	7	23	30
10	Climate Change Adaptation training (1 training)	7	11	18
11	Cutting and pruning training (4 trainings)	38	33	71
12	Nepali Bio-intensive plantation techniques (6 trainings)	85	86	171
13	Negative impact of pesticide (1 training)	9	6	15
14	Negative impact of pesticide (1 training)	9	4	13
16	Kitchen garden cultivation (1 training)	9	13	22
<b>Total</b>		<b>268</b>	<b>430</b>	<b>698</b>
<b>In Percentage</b>		<b>38.40</b>	<b>61.60</b>	



Guidance in fruit tree management and maintenance being provided to farmers of MD-Municipality - seasonal training for Bordeaux paste application and manuring for the winter

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

Twenty three day long monthly trainings were attended by 585 farmers, 77% of them women (as presented in Table 7); the trainings were on climate smart agricultural techniques including organic farming, vegetable production, nursery establishment and management, pest and disease management, bio-intensive cultivation and planting techniques, multi-layer cropping, bio-pesticide preparation and use, and plant propagation with practical work on mulberry and other crops.

**Table 7: Farmers participation in monthly trainings**

#	Training on:	Trained farmers		
		Male	Female	Total
1	Organic Farming	10	30	40
2	Organic Farming	3	22	25
3	Organic Farming	5	9	14
4	Organic Farming	0	14	14
5	Seasonal Vegetable Production	5	4	9
6	Seasonal Vegetable Production	10	11	21
7	Seasonal Vegetable Production	10	5	15
8	Seasonal Vegetable Production	8	12	20
9	Tree crops nursery management, pest and disease management	1	28	29
10	Tree crops nursery management, pest and disease management	30	6	36
11	Tree crops nursery management, pest and disease management	8	13	21
12	Tree crops nursery management, pest and disease management	3	23	26
13	Tree crops nursery management, pest and disease management	1	23	24
14	Bordeaux paste and mixture preparation training	2	23	25
15	Preparation of Bio-pesticide	2	21	23
16	Organic manure preparation training	4	28	32
17	Tree cropping training	5	22	27
18	Effects of chemical pesticides	6	23	29
19	Propagation of forages and fodders	4	29	33
20	Production of seedling on polybag	6	26	32
21	Bio intensive pit preparation	5	30	35
22	Plant propagation through cutting method e.g. mulberry	6	20	26
23	Commercial vegetable cultivation training	3	26	29
	<b>Total</b>	<b>137</b>	<b>448</b>	<b>585</b>
	<b>Total</b>	<b>23.42</b>	<b>76.58</b>	

## Output 4: Educate students at 11 Secondary Schools in the project area

### Indicator 1: No. of students engaged in education programme

A total of 801 school children (64% girls and 36% boys) from 11 secondary schools have been educated on climate change, its effects and adaptation measures in line with improved agricultural practices, as recorded in Table 8 below.

**Table 8: Educated Students Record**

#	Trainings on	Educated Students		
		Boys	Girls	Total
1	School garden in Mahakali Secondary School	17	22	39
2	School garden in Dedithumka Secondary School	5	15	20
3	Bio-intensive techniques in Dwarpaleshwor Secondary School	11	23	34
4	School garden in Janakalyan Basic School	12	15	27
5	Cutting and pruning in Uma Shah Secondary School	12	17	29

6	School garden in Baluwa Secondary School	15	26	41
7	Bio-intensive in Bagdevi Secondary school	12	12	24
8	Organic Farming Technologies in Dedithumka Secondary School	22	17	39
9	Organic Farming Technologies in Tapeswor Secondary School	7	37	44
10	Organic Farming Technologies in Mahakali Secondary School	32	53	85
11	Organic Farming Technologies in Janakalyan School	14	33	47
12	Organic Farming Technologies in Baluwa Secondary School	20	26	46
13	Bio-Intensive Pits preparation in Dwarpaleshwor School	4	22	26
14	Agro-Forestry Garden establishment in Dwarpaleshwor School	11	25	36
15	Climate Change and adaptation in Mahakali Secondary School	8	21	29
16	Climate Change and adaptation in Bhadrakali Basic School	8	14	22
17	Follow up practical trainings (11 trainings) organized in all 11 schools on weeding, irrigation, plantation and cultivation, and agro-forest garden management	76	137	213
	<b>Total</b>	<b>286</b>	<b>515</b>	<b>801</b>
	<b>In percentage</b>	<b>35.71</b>	<b>64.29</b>	



Teaching the children of Dwarpaleshwor School about climate change and the importance of biodiversity.

### **Indicator 2: No. of school gardens sustainably managed and maintained.**

The programme has established 11 agroforest school gardens<sup>8</sup> in 11 secondary schools of Mandan Deupur Municipality as shown in Table 9.

The children have been the main actors in garden establishment and management and are trained and work in teams. They apply both theoretical and practical knowledge regarding types of tree crops, their importance, climate change and its impact, and technologies on growing plants and management of the gardens. We believe that slowly the schools with agroforestry gardens are fostering children's creativity and their inclination towards climate change mitigation.

The trained school children and the schools are responsible for weeding, caring and maintaining the gardens. However, some of the gardens are not managed to a high standard, and there is need for more follow up and intervention to ensure they are seen as model gardens.

<sup>8</sup> 5 agroforest school gardens were established in Phase I, and 6 in Phase 2 to date.

**Table 9: Name list of schools with agro-forest gardens**

#	School Name	Address
1	Mahakali Secondary School	MDM-4, Chainpur
2	Dedithumka Secondary School	MDM-8, Dhodeni
3	Dwarpaleswor Secondary School	MDM-3
4	Pacha Kanya Basic School	MDM-11
5	Uma Shah Higher Secondary School	MDM-10
6	Bagdevi Secondary School	MDM-12
7	Jay Saraswoti Basic School	MDM-12
8	Bhadrakali Secondary School	MDM-1
9	Dedithumka Secondary School	MDM-7, Mahadevsthan
10	Mahakali Secondary School	MDM-2, Nagarkot
11	Bindabasini Secondary School	MDM-10



**Output 4: Awareness on Environmental Issues and Agroforestry Options increased**

**Output 1: No. of programmes broadcast on local radio to raise awareness on (a) climate change risks, adaptation and mitigation measures; (b) organic farming; (c) agroforestry**

12 episodes of the radio programmes between December 2021 and May 2022 were produced and broadcast on environment, climate change, improved agriculture and tree cropping issues in cooperation with Radio Namobuddha. The radio programmes were broadcast by two further community radio stations - Radio Malamchi and Sunkoshi.

The radio programme was incorporated in the programme as an indispensable tool for sharing and communicating important information to the farmers. Radio Namobuddha only produced and broadcasted the episodes, but lacked the ability and trained staff to assess the grassroots level impacts, and collection of responses from the farmers. Considering the effectiveness of the radio programme, it was decided to terminate the service agreement with the radio station in June 2022.

Project management felt an improved solution to outreach was required to create a real impact at the farmer level. Two meetings with ACORAB Nepal (the Association of Community Radio Broadcasters) were organised where discussions took place on cooperation and coordination with local community radio stations. The cooperation however went no further because of the high cost proposed by ACORAB.

Project management is now approaching the local radio station in Dhulikhel directly, for producing and broadcasting the radio programmes to raise awareness of local farmers on agro-forestry, organic farming and climate change risks, adaptation and mitigation. Progress will be updated in the annual report to be produced early in 2024.



**Please note that photos of project activities in the Municipality can be found in [Annex 5](#).**