Interim Report
Integrated Rural Development (IRD) Project Khiraule Solukhumbu Nepal

Submitted to:
Aktion Solukhumbu Nepalhilfe Bonn e.V. Germany

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Country/Region/Locality: Nepal, Eastern Region, Khiraule Village, ward no 1, Mahakulung Rural Municipality

Duration from: **June 2017- June 2021 achievement summary and Half year update from January 2021 to June 2021**

Date of Report Submission: August, 2021

Part I

Summary of Project Achievements during the 4 years Intervention:

The project since June 2017 to June 2021 has succeeded to change the perception and behaviour of local population in Khiraule village. The project started with tree plantation on Monastery land and restoration of local cultural heritage's prayer wheel building which was destroyed by the 2015 earthquake. Integrated Rural Development was the soul of the project design and included as much as possible components such as alternative energy, improved cook stove, safe drinking water, green consumption, tree crop, education, bread improvement, women group support etc. and implemented keeping the environment and climate change in a central focus. The project has since then created structures, skills, resources and technologies to improve the livelihood of local households in sustainable way.

Major achievements for the 4 years period in brief are as follows:

- **Kitchen Garden Promoted at Local Level:** The initial phases of the project were focused on local level transformation. When EcoHimal Nepal in financial support of Nepalhilfe Bonn e.V. carried out a need assessment in 2016, there was hardly any availability of green vegetables. Consumption of fresh vegetables was a rear event. The survey team experienced it first-hand the unavailability of fresh vegetables during survey period. Realizing that need, EcoHimal and Nepalhilfe Bonn e.V. implemented kitchen garden and green house farming in the villages.
  It is a great success of the project that it created an environment of green vegetable's production and availability in the village throughout the year. More importantly, consumption practice of the individuals has been improved resulting in self-initiated kitchen gardens in every household.
  Local people are now capable to establish and manage the kitchen garden to meet their needs of fresh vegetables at the household level. Majority of the households are maintaining vegetables biodiversity in their kitchen gardens. Adaptation of kitchen gardens is further contributing to the availability of fresh vegetables at the household level, unlike of the project's initial situation of the village where green vegetable was hardly ever available. Behavioural changes towards green vegetable consumption by producing it in their kitchen garden is evident. They are even generating income from the sales of surplus production. This is additional helpful for dietary diversification and nutrition supplements. In the 4 years tenure, NPR 78,300.00 was generated by 17 local farmers even though the sales were not the motto. In latest harvest, more than 860 kg vegetables were produced, where 96%

was consumed and 4.06% sold. This shows that villagers have started producing annually more than 1.5 tons vegetables in 2 harvests from their kitchen garden.

- **Demonstration of Off-season Vegetable Farming through Greenhouse Promotion (Poly Tunnel)**: Devoted greenhouses farming have significantly increased the vegetable production even in a relatively small piece of land in a short time span. This low-cost greenhouse technology has been effective especially for off-season vegetable production and contributed in a substantial capacity for the agriculture commercialization.
  In 4 years of project period, annually more than 2 tons of vegetables have been produced in the village. As per the project record, income of NPR 8, 86,780.00 was generated by the local farmers from the sale of surplus production. Self-consumption of more than 3.61 tons of vegetables has fulfilled their nutritional requirements.
  Greenhouse farming is gaining popularity and is highly appreciated spiking the interest of farmers broadly. Local farmers are adopting the low-cost technology for vegetable cultivation. The technology demonstration was initiated from 6 model houses, ensuing the success, and demand of greenhouse from locals kept increasing every year. At present, 41 green houses have been installed and are cultivating different vegetables. The success of greenhouses operator farmers has been encouraging other farmers for vegetable cultivation and consumption leading them to become self-sustained both economically and nutritiously. From last year, the farmers were more motivated and started to install green house in their own investment. Project accomplished its aim of developing positive habit and changing the behaviour of cultivation, along with consumption and surplus sale. Interestingly, a cauliflower of 5 kilogram and a cabbage of 6 kilograms were produced inside the Green house. Cucumber, which is a low altitude crop, was also successfully cultivate inside greenhouse.

- **Sustainable Climate-sensitive Tree Crop Farming**: The project has enabled all local farmers of Khiraule village to enhance rural resilience by training them in environmentally restorative tree cropping especially in bio-intensive techniques. More than 90% (62 households) have been resourced and trained in tree crops diversification. Their skills on plantation have been enhanced introducing less labour-intensive high value crops with long term reliable benefits. People are empowered to utilized marginal and barren land to increase productivity. More than 15,598 seedlings of fruits, nuts, tea and spices have been planted. And, 333 fruit seedlings: apple 115, walnut 195, Blue berry 13 and Cherry 10 are ordered and kept in hardening for upcoming winter plantation.
  Introduction of the tree crop plantation system on vulnerable mountain slopes will assist in climate change mitigation, soil conservation, biodiversity and resilience, minimizing crop failure risks etc. The local famers collectively established a tea orchard of more than 12,000 seedlings up to this summer. The introduction and adaptation towards high-value crops support in boosting livelihoods in Khirarule village.
  The planted fruits – apple, peach, cherry and kiwi started its first fruiting. There is still some time to test the success level of fruits adoption in this climatic condition.

Appropriateness of the fruit's plantation will be assessed further and will be planned and promoted for wider expansion.
Only 5 years back, there was no single fruit tree in Khiraule village during the survey period. Now, majority of households have at least 3 to 4 fruits tree planted. Community are aware on the tree crop as pension crop and interest on tree cropping is increased, however; climatic resilience and adaptation of different fruits are yet to be test and recommend.

- **Forest tree Plantation at Gumba Periphery**:
"A 60 thousand Nepali Rupees worth investment of plantation project failed but taught the working strategies in the village that leaded the forthcoming projects success." The Khirule Monastry is covered by pine trees and surrounding areas are barren. Considering the situation and value of plantation in 2016 summer 1,430 pine seedlings have been planted just before starting of reconstruction of prayer wheel. The plantation was done in the Monastery properties just above the hill. But due to land ownership conflict with the local community, it was destroyed by the animal grazing. However, few plants were saved and are now growing quite well. The project is not really a success but it was a great learning to know the social behavior of the Khiraule community, which allowed us to plan the right strategies for the rest of the project, preventing further failure.

- **Restoration of Prayer Wheel Building**:
The devastating earthquake of 2015 destroyed the monastery and prayer wheel buildings. It was one of the oldest and valuable historic monument around the eastern Nepal. Considering the urgency and importance to preserve it, the building was reconstructed right in the beginning of the project. The strong belief and cultural value of the local community meant we would have to keep the construction in priority. It was successfully constructed in 2017 and handed over to local community preserving the community's aspiration and historic monument. The restoration of local cultural heritage promoted communal unity, spirituality, peace, inspiration and contemplation among local community.

- **Improved Potato Seeds in Khiraule Village**: Locally cultivated potato seeds were found less productive and resilient to the local environment. There was no clear evidence of when the seeds were brought in the village. If we could change only the seeds keeping to a better form, keeping all other conditions constant, 20 % yield would be increased as per our evaluation. Considering this fact, in cooperation with National Agriculture Research Centre (NARC), Potato Development Department project-initiated community varietal selection programme through demonstrations and trail in different stages defining clear traits**.**
Result of those two clear achievements gained from the potato seeds selection programme are:
    1. All local farmers learned practical skills for production of seed due to familiarization with improved practices.
    2. They understood that they can increase the productivity/yields of potato to a large extent using quality seeds and improved production practices.

Without giving pressure to the local farmer to replace the local seeds, improved varieties of potato seeds were introduced, transforming by practical demonstration and trail in their own field. Within three years of intensive trial community were able to choose the variety and cultivated improved seeds.

Three years of effort on improved potato seeds (IPS) demonstration with 37 households was highly appreciated by local communities and adopted improved seeds showing. 850 kg different varieties IPS within 3 years were brought in the village and trailed for varietal selection and resiliency test. All households adopted IPS production mixing with the local seeds. They found improved variety to be more resilient during adverse weather conditions and production was better in comparison to the yields from local potato seeds. Janakdev IPS variety is proved as best variety based on traits such as germination, production, taste, resilience against diseases, insect, frost, hailstorm, drought, etc. After 3 years of intervention, project kept a year's transition period to get the opinion of the farmers on the sustaining result of seeds program.

In the 5th year, community showed interest of seeds production at local level and demanded for the improved seeds of Jnakdev variety. Respecting the changes, the project provided 50kg Janakdev IPS and two farmers were made responsible to produced seeds. The yield records of seeds are yet to be received officially but roughly 280 kg is produced and stored safely for next season. The project's target of changing seeds in farmers direct participation and improve in production has therefor been achieved.

"After completion of improved potato seed (IPS) dissemination in all households, review and follow up of the potato production is carried out continuously by EcoHimal Staff members. The improved varieties are found more resilient to drought, rain and hailstorm in our experience. However; we are still reluctant to completely replace local variety, since we are accustoming with it since long. We have mixed local and all 4 improved varieties from the last harvest, which is also good for us because the resilience and production of one variety complements by others."

Mr Passang Sherpa

- **Improved Kitchen Hygiene supporting environment and women's health improvement: Model Improved Cooking Stove (ICS) Designed, Fabricated and Installed**: On the basis of geo-ecological structure and atmosphere of Khiraule village, full metallic improved cooking stoves (ICS) were designed, fabricated and installed in 69 households. The users have reported around 50% reduction in fuel wood consumption remarkably changing the indoor air pollution. Similarly, users reported significant time savings in cooking, and fetching fuel wood. Reduction in indoor air pollution and improvement in kitchen hygiene supported for a better health especially reducing issues of respiratory and eye problems. Clean Kitchen, less prevalence of smoke related disease, saving time in cooking and fetching fuel wood etc. created more freedom for women to use their time in other productive works rather than being consumed by the kitchen chores. Following the improved model different customise model are developed and installed by the local community on

their own initiation, which is a great achievement in terms of technology transfer and gross achievement.

- **Animal Breed Improvement:** Improvement in bread supports for more milk and meat production. Introduction of improved male breed of buffalo and goat supported cross breading with local animal for a better 2nd generation. Total 56 sibling childbirths (29 buffaloes and 27 goats) were recorded from the cross breeding. Most of them are in good health and adopted well to the local environment. Improved breeding has increased animals' resilience to climate-related stresses and increased the productive performance. Natural difference among non-cross and cross new birth animals were visible where cross bread ones are bigger and healthier. To see the real result, it will definitely take some time but the initial improvement is noticeable in the village. Changing of bread and pure improvements in it takes at least three generation is also necessary for the better evaluation.

- **Agro-forestry Resource Centres**: 2 agro-forestry resources centres (Godim and Thondo) have been established with the aim of providing training and resources service to the villagers and surrounding villages. In total 290 mother-plants[1] of fruits and nuts are planted for resilient test and are growing well till date. Vegetable seedlings' production and cultivation in the greenhouse are in practice. This has just been initiated from this past year, and the structures and resources are at place for demonstration, test and seedlings production. There is many things yet to be done for the better establishment. Seedling production shall start from this year as trial.

- **Develop Farmers Profile:** The profile of a farmer illustrates family members, their involvement and the status of greenhouse farming, kitchen garden and tree cropping. 44 local farmers' profiles have already been updated. Regular update on the profile of each farmer is done on quarterly basis. Rest 25 family's profile is under consideration. This is also an additional step to institutionalize the fruit and vegetable cropping pattern and track progress in every farmer's field.

- **Gender Responsive Activity - Women's Welfare:**
  In the first phase of the project design, water ghatta (Mill) installation was planned to facilitate women's work in making flour by grinding grains. At the meantime, the Shurkhakhola Micro Hydro construction was in consideration. The collective discussion with women group decided to wait a while for the installation of water mill and wait for electricity allowing for a chance to install electric run flour mills.
  The project management in consultation with Nepalhilfe Bonn postponed the existing water flour mill and provided the planned budget of one hundred thousand rupees to the Hurhure Women's Group as soft loan until electricity was in operation. The precondition of the investment was that the women group could invest this money in

[1] The plants that are grown for the purpose of propagation if prove appropriate.

their discretion and utilize the return received from the investment, but the principal amount had to be returned to the project once electricity was set-up in the village. It was a win-win situation for both project and women's group. After completion of Surkhekhola hydropower construction and distribution of electricity at village level, the women group returned the principal amount to the project. With the additional support of NHB, 2 flour mills were installed recently. The performance of the flour mill and women's group's satisfaction is yet to be judged.

- **Alternative renewal energy: Surkhe Khola Micro Hydro power construction:**
  Surkhe Khola Micro Hydro power was the project started before our entry in the village and was in challenging stage. Without external interference there was no hope for the hydro power to moving forward and it was in the verge of collapsing. The legal process was pending, the funds received from local government was misused, committee was itself under the suspicion and seemed totally incapable to work their way forward. With all these in background, a huge conflict among the local committee and incompetence of Surkhe Khola Microhydro Management committee, NHB assigned EcoHimal to takeover and lead the construction. Breaking through all the conflicts and mismanagement of the committee, as well as the unfair game of so-called elite leaders and the prevailing financial crisis was challenging.
  Resolving all the disputes, EcoHimal in the guidance and financial support of NHB succussed to complete the project within a planned time and handed over to the local committee. It proved that "even in an adverse situation, right commitment and guidance will allow you to achieve even the toughest of goals." Now, electricity is available locally within a reasonable price. About 60 households and 5 institutions are benefiting directly in the village. In addition, the local government offices and bung communities are benefiting from this service as other smaller available sources are not reliable for the year-round electricity production. Indirectly about 150 households are benefiting form the service. It has changed the rural life of the community transforming dark to light, education, communication, social connection/linkage etc. It is a paradigm shift in the society from one day to other.

- **Provision of safe Drinking water:**
  Safe drinking water is the basic precondition for a better communal health. Khiraule village is rich in the water source but was unable to provide safe drinking water to all. Many water sources of Khiraule village are registered and took over by other villages such as bung, Sotang but the local community is totally ignorant in this serious issue. With support of NHB, EcoHimal found a secure source and installed safe drinking water system for all villagers. "Each house one tap" principle was adopted during the project design along with water treatment, gray water filter system. Seeking safe water source, legalizing the sources and institutionalization of local community groups was accomplished prior to the construction work. After water quality test and approved of three water sources, the construction started in two phases.
  The First phase was completed in March 2021 and the second phase in June 2021. A few minor tasks, which do not directly hinder the water distribution, remains to be accomplished as it couldn't be continued due to the COVID-19 pandemic second

wave then after heavy summer rain. The water system is providing safe drinking water for 84 households for at least 20 years without any major problems in-between.

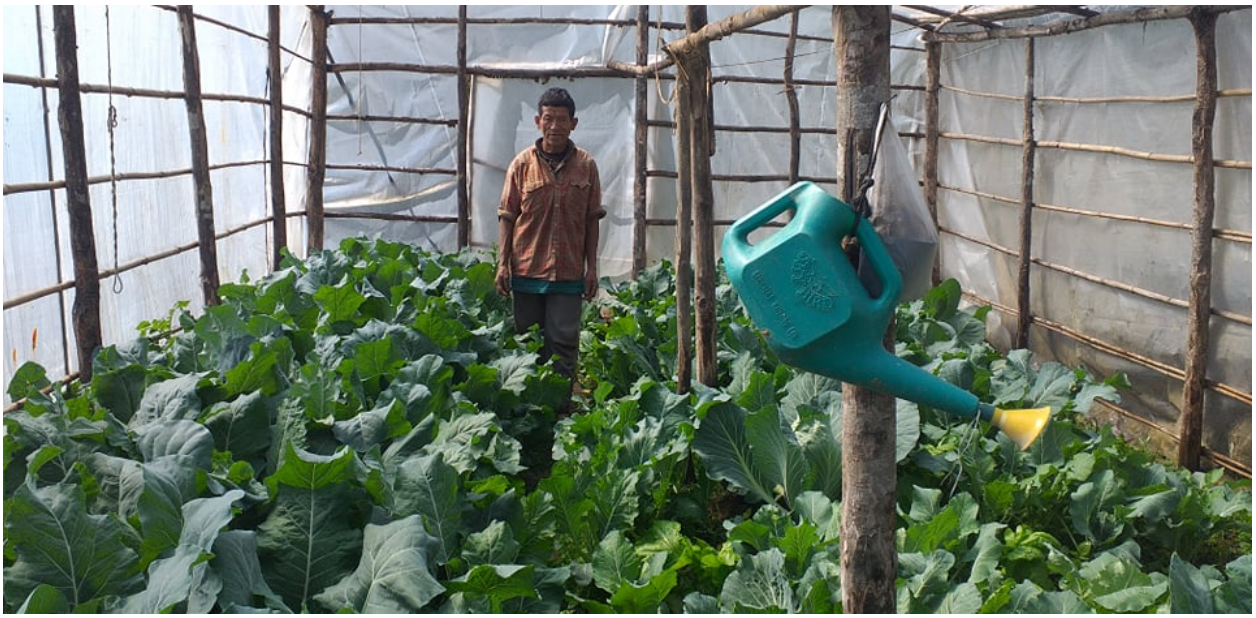
In summary, only with the best wishes, commitment, continuous sincere effort, comparatively small funding and insignificant overhead cost, the Integrated Rural Development Initiative of NHB along with implementing partner EcoHimal achieved a remarkable success. Without any doubt, we can say that there has been a huge investment from the NHB in terms of not just financial contribution but also human resources consultations and cooperation. This will definitely give us full return without losing a single penny. The achievements are more visible than the investment when comparing it in the monetary value.

- **A new assessment Rice cultivation:**
  Crop diversification is always beneficial to the local farmers. Nepal had different climatic zone and numerous verities of crop. Rice (Oryza sativa L) cultivation in Jumla ranges from 2,400 to 3,050 m altitude, which is the highest elevation in the world. The highest elevation at 3,050 m is Chhumjul of Jumla, a record altitude, where rice is cultivated in Nepal. Considering the interest of local people rice cultivation a trial is done with 5 kg seeds Jumla *Marsi* rice in coordinated with the local lead farmer of Jumla. As per the guidance, the seed showing and transplantation plantation by two farmers Mr. Pasang Sherpa and Mr. Pema Gyalzen Sherpa has been done. There was huge hailstorm and damaged some seedling, but was enough left for the trail plantation. Till the reporting the growth of rice is satisfactory. We are waiting for the yield and its suitability.

Part II
Update of the last 6 months (January to June 2021) period:

A. Project Components:

1. Green House Installation for vegetable production:



16 green houses supported in this fiscal year have been installed by all households. In total, 41 green houses have been installed in the Khiraule village through this project.
The local farmers are cultivating seasonal and off seasonal vegetable in the greenhouse. In the reporting period, the most common vegetable that local farmers growing are tomatoes, cauliflower, cabbage, carrot, coriander, broadleaf mustard, cucumber, etc. and some local vegetable like radish.
In this rural village, farmers are generating income from the greenhouses farming. They have been utilizing this improved technology for green consumption and income generation from surplus sale. The trainings delivered by the project have changed the way of local community thinking about vegetable production. All trained farmers are applying the new technologies and practices to their farm. They are not just producing vegetables for consumption also able to sell surplus produces. The details of production, consumption and income generation from the surplus sale is provided in Table 1.

Table 1: Vegetables Production in Green House from Jan-June 2021

S.N.	Varieties	Production in KG	Consumption in KG	Surplus Sale in KG	Income generated in NPR
1	Tomato	814	634	180	26,000.00
2	Chilly	65	62	3	120.00
3	Coriander	88	88	0	-
4	Carrot	55	55	0	-
5	Beans	20	20	0	-
6	Brinjal	20	20	0	-
7	Cauliflower	93	83	10	800.00
8	Mustard Greens	15	15	0	-

9	Radish	2	2	0	-
10	Broccoli	12	12	0	-
11	Cucumber	65	55	10	800.00
	Total	**1,249.00**	**1,046.00**	**203.00**	**27,720.00**
		%	**83.75**	**16.25**	

Note: Income of NPR 8, 86,780.00 has been generated by the local farmers from the sale of surplus production in last 4 years. The local famers produced annually more than 3.61 tons of vegetables and fulfilled their nutritional requirements.

In the last 6 months, 29 households cultivated 11 varieties of vegetables in green houses and produced 1,249 kg vegetables. Out of the production 83.75% is consumed themselves and 16.25% surplus production sold and generated some income NPR 27,720.00 in this reporting period. Cultivation of tomato among other vegetables is preferred by the local farmers. Detail of production, consumption and income generation is provided in Annex 1_Sheet 2.

The model greenhouse promotion has been adopted by the local farmers. The success has been encouraging other farmers for vegetable cultivation in greenhouses, consume green, leading to self-sustained both economically and nutrition intake. Greenhouse production and promotion is successful to feed green, organic and fresh vegetables to the local population. The initiative is contributing year-round consumption of vegetables and nutrition of the family.

2. Potato seed production - Review and follow up

In coordination with National Potato Development Program, 50 kg improved potato seeds (IPSs) purchased, transported and distributed to project area. 2 households had farmed the IPSs. All 4 households harvested the production. The production was good, produced about 280 kg IPS and stored for next season.

3. Kitchen Garden at local households: Enhancing Family Nutrition for improved livelihoods of Local households in Khiraule village.

39 households with 184 population are cultivating vegetables in their kitchen gardens. They have and are producing vegetables and consuming fresh from their gardens. Regular follow up and monitor was done by the technical staff and provided necessary technical support.

All the benefited families are capable in maintaining vegetables biodiversity in kitchen garden. Promotion of kitchen gardens and its regular follow-up is

contributing in availability of fresh vegetables at the household level.

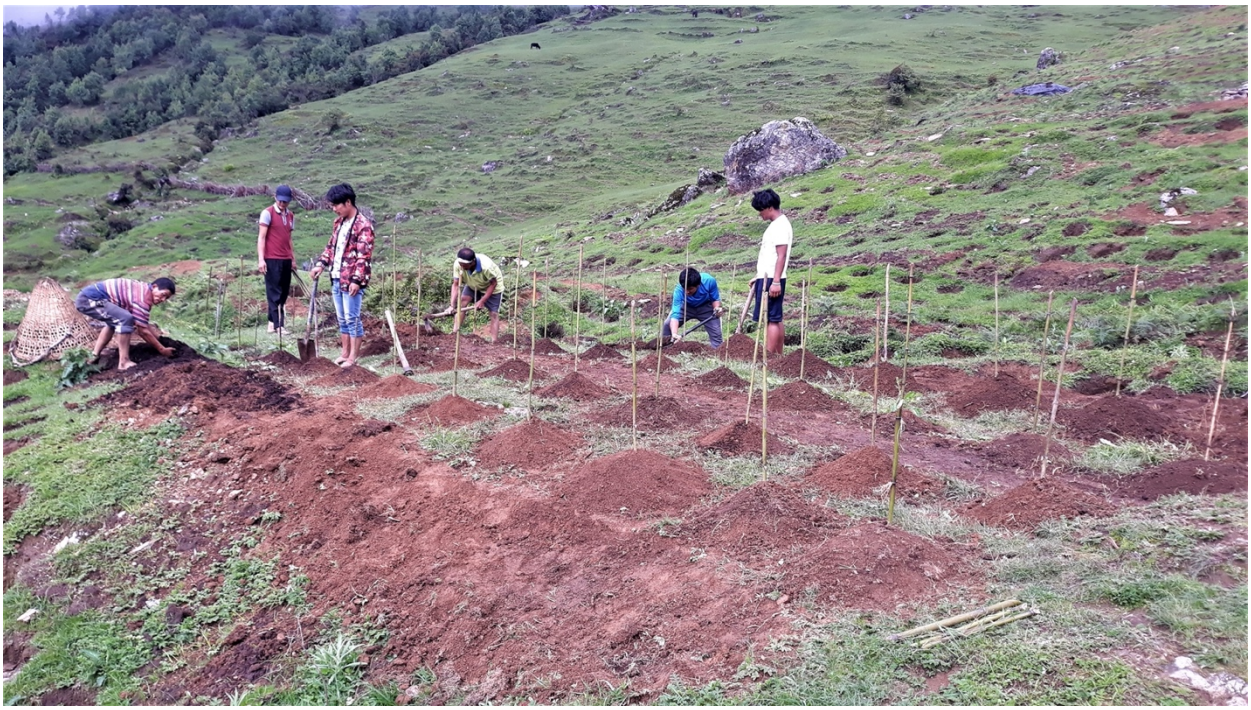
In the reporting period, 10 vegetable varieties have been produced by 39 farmers. In total, 862 kg vegetables produced where 827 kg consumed by the families and 35 kg sold
The consumption and selling surplus production detail is provided in table 2:

Table 2: Kitchen Garden; vegetables production, consumption and sale from Jan-June 2021

S.N.	Varieties of Vegetables	Production	Consumption	Surplus Sale	Income in NPR
1	Cabbage	428	398	30	0
2	Mustard Greens	87	87	0	0
3	Cauliflower	25	25	0	0
4	Carrot	65	65	0	0
5	Beans	17	17	0	0
6	Chilly	0	0	0	0
7	Garlics	210	205	5	300
8	Coriander	10	10	0	0
9	Tomato	1	1	0	0
10	Radish	19	19	0	0
	Total	**862**	**827**	**35**	**300**

Details of individual farmers is provided in Annex 1_Sheet A
The villagers have started producing annyally more than 1.5 tons vegetables in 2 harvests from their nutrition garden. In the 4 years tenure, NPR 78,300.00 cash income is generated by 17 local farmers.

4. Tree cropping (fruits, nuts, forest and fodders) at community level



44 local farmers are cultivating tree crops (fruits, nuts and cash crops) in their farmlands. The survival status is assessed and oriented the respective farmers for any discrepancies.

Till the date, 15,598 seedlings of 28 species of fruits, nuts, tea and spices have been planted in the project area. The number of seedlings includes varieties of tea, fruits and nuts as given in Table 3.

Table 3: Seedlings plantation in Khiraule Village

S.N.	Seedlings Details	Number of Seedlings
1	Timur cultivation (2 plantations)	2,500
1	18 species of seedlings planted by the individual farmers	2,098
2	Tea Seedlings of 4 varieties (Gumchi, Triyasi, Athahatar & Phuk Chhiring) – Tea Garden under ownership of Paurakhi Agro Farmers Group.	10,511
3	Walnut and pear seedlings planted in Tea Garden	127
4	Seedlings planted during winter plantation by 8 farmers	68
5	Seedlings planted in 2 resource centres (Godim and Thondo)	294
	Total	**15,598**

2,098 seedlings have been planted by the individual farmers (*Survival record of 68 seedlings planted by 8 farmers is not taken*). Out of them, 1,081 (51.95%) are alive and growing well but 1,014 (48.33%) planted seedlings died as given in table below.

Table 4: Summery of fruits and nuts planted by farmers

S.N	Tree Crops Varieties	No of plants cultivated	Alive	Deceased
1	Chenango Strawberry Apple	68	43	25

2	Floroda Home Pear	9	3	6
3	Pear/Warlet	16	8	8
4	Almond	37	20	17
5	Almond Pepper	13	11	2
6	Apple/ Fuji	17	5	12
7	Kiwi	192	153	45
8	Rainier Cherry	14	8	6
9	Minnie Royal Cherry	28	13	15
10	Cherry Bing	34	6	28
11	Almond Pear	3	2	1
12	Walnut	67	42	25
13	Tea Gumti	861	381	480
14	Tea/ Tagada	727	387	340
15	Apple/Greeny	2	2	0
16	Apple/ Gala	3	3	0
17	Montmorency cherry	7	3	4
18	Peach	3	2	1
	Total	**2098**	**1090**	**1014**
			51.95	**48.33**

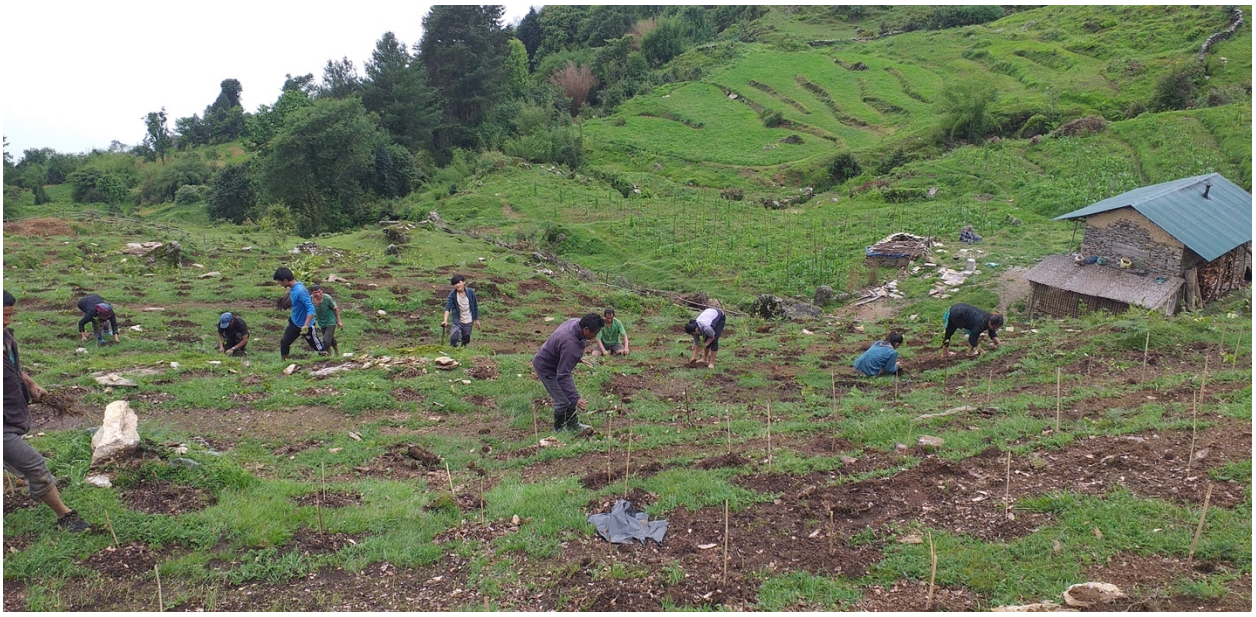
Detail is provided in Annex 1_Sheet C.

Tea Plantation:

In coordination with National Tea and Coffee Development Board (NTCDB), tea seedlings from Nuwakot District procured and transported to the project site. The project management shared about tea plantation progress of last year and requested to recommend appropriate area for seedlings procurement as per the geo-climatic condition of Khiraule village. NTCDB referred to their district branch, Nuwakot. We carried out coordination with the branch chief and ordered the seedlings. As per the requirements, he booked the seedlings from the remote village having about 2,300 m altitude.

When the seedlings were ready, the branch chief coordinated us. It was the time of prohibitory travel restrictions imposed by the Government due to 2nd Wave of COVID-19. A vehicle was managed for transportation fulfilling different formalities for agriculture goods transportation and sent to plant collection site. The same vehicle sent to project site with seedlings to catch-up the right time of plantation. It was a challenging time in terms of management but worked out and farmers were able to plant in a regular schedule time.

A tea orchard has been established. 10,511 seedlings of 4 varieties (Gumchi, Triyasi, Athahatar & PhukChhiring) planted. Tea Garden is under ownership of Paurakhi Agro Farmers Group.



Monitoring of Szechuan pepper plantation:

Due to various external circumstances, the survival status of Szechuan pepper is not satisfactory.

In the first phase 1,500 seedlings planted by 23 farmers, out of that only 9.87% (144) are able to service. Similarly, in the 2nd lot 1,000 seedlings planted in 2019/20 winter season. Again only 73.20 % (732) are survived till the reporting period.

Detail is provided in Annex 2.

Rice Cultivation on trial:

After construction of drinking water local people showed the interest of rice cultivation in trial to utilized the surplus water from Aale source. The Jumla *Marsi* rice 5 kg seeds in coordinated with the local farmer in Jumla, brought and trained two farmers and project staff for seeds showing and transplantation technique from seedbed to field. As per the guidance, the seed showing and transplantation plantation by two farmers Mr. Pasang Sherpa and Mr. Pema Gyalzen Sherpa has been done. There was huge hailstorm and damaged some seedling, but was enough left for the trail plantation. Till the reporting the growth of rice is satisfactory. We are waiting for the yield and its suitability.

5. Agriculture Resource Center Establishment and Management

a. Godim Resource Center:

- A vegetable nursery established and production is ongoing in the greenhouse.
- More than 204 fruits and nuts seedlings are planted in the centre. The details of plants is presented in the table 5 below:

Table 5: Seedlings planted in Godim Center

S.N.	Varieties of Fruits	Number of plants cultivated	Alive	Deceased
1	Apple Gala	51	47	4
2	Apple Fuji	34	27	7

3	Apple Strawberry	26	26	0
4	Peac Alabrata	5	5	0
5	Kiwi	12	11	1
6	Italian Pine	3	3	0
7	Renier Cherry	1	1	0
8	Almond	2	2	0
9	Bing Cherry	2	2	0
10	Royal Cherry	2	2	0
11	Walnut	5	5	0
12	Peach	61	54	7
	Total	**204**	**185**	**19**

b. Thondo Resource Center:

- Different varieties of vegetables have been produced inside the greenhouse.
- Different type's vegetables seedlings produced from nurseries and distributed to local community people.
- 92 seedlings of fruits and nuts planted in the centre. Out of planted seedlings, 83 are alive and 9 died as provided in Table below:

Table 6: Seedlings planted in Thondo Resource Center

S.N.	Varieties of Fruits	Number of plants cultivated	Alive	Died	Status of plants
1	Apple Gala	7	7	0	Healthy
2	Apple Fuji	4	4	0	Healthy
3	Red Bariet Pear	4	4	0	Healthy
4	Pear Camice	11	11	0	Healthy
5	Walnut	27	23	4	
6	Cherry Bing	7	7	0	Healthy
7	Kiwi Male	2	2	0	Healthy
8	Kiwi female	12	12	0	Healthy
9	Peach	18	13	5	
	Total	**92**	**83**	**9**	

6. Animal improved breed service record assessment:

Till the date, male buffalo has 39 services. 29 buffalo gave births where 3 newborns died. 26 are good in health. (Detail of improved breeding is provided in Annex 3)

3 male goats have provided 41 services (Detail is provided in Annex 4) till the date since they started the services. 27 have already given births where 4 died due to various external circumstances.

B. Other activities:

1. Installation of internet facilities in Khiraule:

After several correspondences with NHB and internet services provider SWIFT NET, an agreement conducted between NHB and EcoHimal.
2 virtual meetings with management of internet services provider conducted and discussed the cost and installation procedure. Similarly, a meeting with internet service provider, internet management committee and EcoHimal conducted and discussed about land management, installation of tower and feedback on draft agreement. Both parties agreed to carry out the installation activities as soon as possible. (The meeting report is provided in Annex 5). Till the reporting period the tripartite agreement has been finalized and ready for the implementation.
A local partner, Khiraule Internet Management Committee under the chairmanship of Mr Karma Sherpa formed beginning of the year is being made responsible for local level management and arrangement for tower construction and planned connections.
The tower installation works will start within few days. A land survey was done by the swift net and the land management is done committee.

2. Meetings with local government and stakeholders

3 meetings with Mr. Sagar Kirati, the Chairperson of Mahakulung Rural Municipality, in Kathmandu are conducted. In the meetings, the project manager discussed about the role of local government in Surkhekhola micro hydro transmission line expansion to Cherem and Gaikharka villages. In one meeting, there was presence of Mr. Gembu Shepa, the political leader and district Chairperson of NCP Moist, in the meeting.
A systematic discussion on transmission line expansion was carried out. He committed to support in this mission.
Similarly, 5 meetings were conducted with local beneficiaries, youth leaders working in different countries such as Tanjania, Japan etc. together with the NHB chairperson Mr. Namgel Sherpa and Municipality Chief Mr. Sagar Kirati. The discussion was focused about the fund management and other different possibilities. The local leaders are trying to rise fund locally and abroad. Similarly, the local government has committed about 6 hundred thousand rupees. Community people are ready to collect 36 thousand rupees per households. The cost of transmission is calculated roughly about 4.4 million rupees.

C. Project Monitoring

A monitoring visit in Khiruale village was conducted from March 8-10, 2021. During the visit, green houses, kitchen garden and seedlings plantation monitored and provided feedbacks to the project staff and the beneficiary's farmers.

Due to COVID-19 2nd wave, the planned 2nd monitoring visit in May, 2021 postponed. After that, no visit is possible till reporting period. The project management is planning monitoring visit in August, 2021.

D. Problems and challenges

- COVID-19 2nd wave hampered the project implementation. The regular physical monitoring by project management was not possible. It lacked guidance and pursuing the project staff. Considering the gap in the upcoming project and the

latest performance of the technical staff, the contract is terminated from 16th July 2021 until further notice.

Next Steps

- Installation of internet tower house and internet facilities
- Continuation of ongoing activities of kitchen garden and greenhouse veg farming.
- Established and Institutionalization of model resource canters serving wider public covering at least Mahakulung Rural Municipality (proposal is submitted and under consideration).
- Cooperation and facilitation for Surkhekhola micro hydro transmission line expansion to Cherem and Gaikharka villages