

Darwin Initiative Main Annual Report

To be completed with reference to the “Project Reporting Information Note”:
(<https://www.darwininitiative.org.uk/resources-for-projects/information-notes-learning-notes-briefing-papers-and-reviews/>).

It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2022

Darwin Initiative Project Information

Project reference	26-008
Project title	Market-led Approach to Sustainable Management of Agrobiodiversity for Livelihood Outcomes
Country/ies	Nepal
Lead partner	Local Initiatives for Biodiversity, Research and Development (LI-BIRD)
Project partner(s)	Annapurna Rural Municipality; Rupa Rural Municipality; Pokhara Metropolitan City; Ministry of Land Management, Agriculture and Cooperative; Lekhnath Chamber of Commerce and Industry; Machhapuchhre Development Organization (MDO); Panchadham Agriculture Development Cooperative; Jaibikshrot Samrakchan Abhiyan (JSA); Rupa Lake Restoration and Fisheries Cooperative; Phewa Watershed Ecosystem Management Board; Lake Conservation and Development Authority (LCDA); Seed Change (formerly known as USC Canada); The Bazaar; and Bread for the World (BftW)
Darwin grant value	£ 240,223 (NRP 33,871,443)
Start/end dates of project	1 June 2019 – 31 May 2022
Reporting period (e.g. Apr 2021 – Mar 2022) and number (e.g. Annual Report 1, 2, 3)	April 2021 – March 2022 Annual Report 3
Project Leader name	Ram Bahadur Rana
Project website/blog/social media	www.libird.org
Report author(s) and date	Ram Bahadur Rana, Tejaswee Shiwakoti, and Indra Paudel 30 April 2022

1. Project summary

The Lake Cluster of Pokhara Valley (LCPV) includes basins of nine lakes (Phewa, Kamalpokhari, Gunde, Khaste, Neureni, Dipang, Maidi, Begnas, and Rupa) of Pokhara valley, located at the central section of Lower Himalaya (28°08'02" N 84°59'18" E). The LCPV together has 261.6 km² of basin with 8.97 km² of water cover (Figure 1). The area was declared the 10th Ramsar Site of Nepal on 2 February 2016. It is endowed with rich agricultural, wild, and aquatic biodiversity.

The project entitled “Market-led Approach to Sustainable Management of Agrobiodiversity for Livelihood Outcomes” focuses on generating alternative livelihoods for wellbeing of smallholder

farmers in a Ramsar site of the LCPV, through a scalable place-based marketing approach (Unified Landscape Branding – ULB) for agrobiodiversity-based products. The focus of the project is marketing of agrobiodiversity including fish products contributing to livelihood outcomes, which in turn assists wetland habitat conservation. Local agrobiodiversity offers various benefits to farmers, such as nutritious and safe food, resilience to bio-physical shocks and climate changes, and promotes local culture. Despite these benefits, loss of agrobiodiversity, fish species and wetland habitat, and pollution remain concerns in the LCPV. Low productivity of local agrobiodiversity crops and fish species, low consumer awareness regarding nutritive value of local agrobiodiversity, limited diversification of marketable agrobiodiversity products, and government policy favouring modern varieties are some of the underlying causes of loss of agrobiodiversity.

In recent years, there has been an increase in demand for certain local agrobiodiversity products. For instance, historically valued products such as the aromatic rice Jethobudho, the medicinal rice Anadi and the delectable fish Sahar (*Tor putitora*) have become more lucrative with demand out-stripping supply. Nutritious grains such as finger millet, foxtail millet, and buckwheat can have a revival in a health conscious marketplace with investment in processing and supply chains. New fruit crops such as avocado and kiwi can be a good fit for the LCPV area as climate resilient fruits requiring low labour demand, and the popularity of these fruits in urban markets.

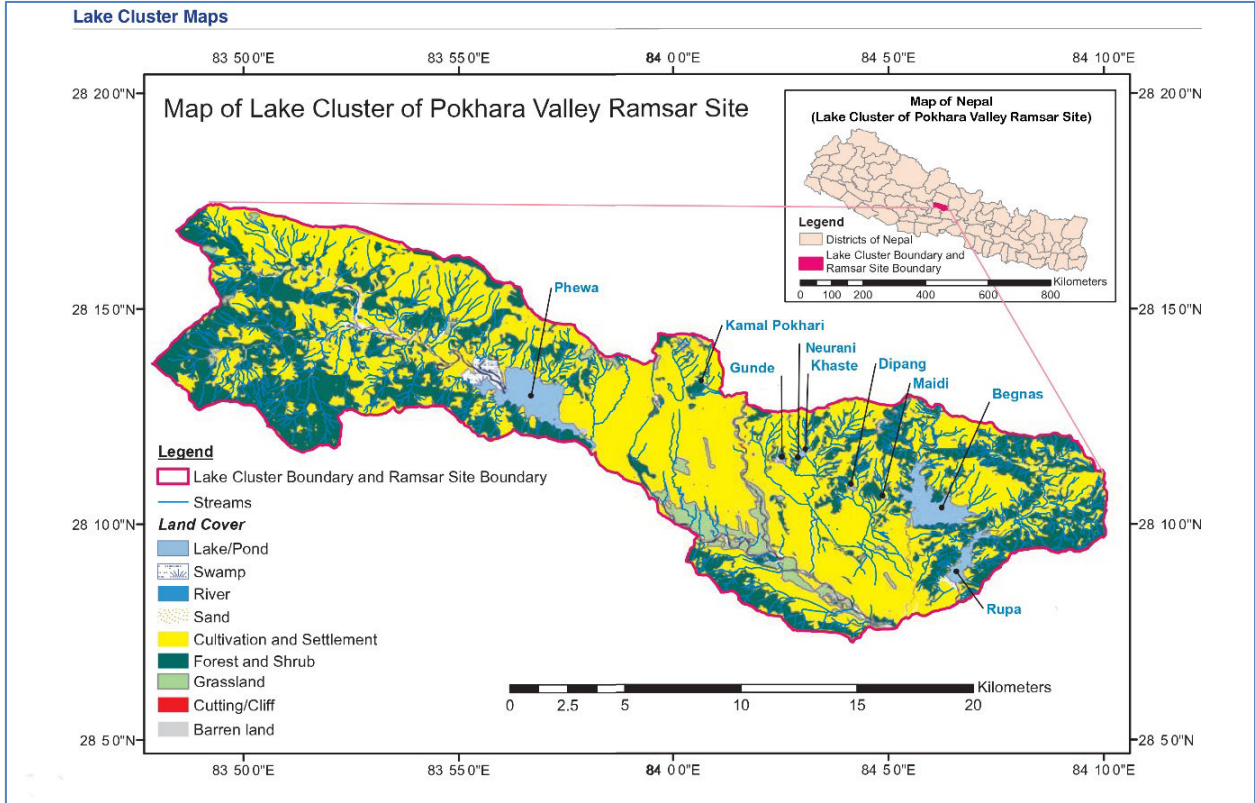


Figure 1. Map of Lake Cluster of Pokhara Valley (LCPV-DI) Project Working Area

During 7-11 July 2018, a series of consultation meetings were organized with local communities and cooperative members to identify interventions to address the above problems and to exploit new opportunities. There was overwhelming demand to link agrobiodiversity products to market to improve people’s livelihoods. Hence, after analysing problems and opportunities, the project decided to capitalize on increasing demand of agrobiodiversity products in regional markets by sourcing products from local producers thus directly contributing to their livelihoods. The project scales up the market-led approach of Unified Landscape Branding (ULB), where local fresh produce and processed products from the LCPV are marketed under a unique place-based label – a Unified Landscape Brand – in local, regional, and national markets to generate income. A

certain percentage of profit generated will be reinvested in watershed and biodiversity management in the region thus creating a self-sustaining mechanism for conservation of natural habitat of lakes, which is at the centre of wetland biodiversity.

The working sites include wards of Pokhara Metropolitan City, Rupa Rural Municipality, and Annapurna Rural Municipality of Kaski district in Gandaki Province, Nepal (Figure 1). The project is working with 47 farmer groups and cooperatives reaching 4050 plus households. Smallholder producers are encouraged to apply Good Agricultural Practices (GAP¹) while producing 'safe and locally produced' crops, vegetables, fruits, fish, etc., attracting premium price in the market.

2. Project stakeholders/ partners

LI-BIRD, as the project lead, has been partnering with a dozen organizations (Listed in Darwin Partner Institutions in Cover Page of the Annual Report) representing public, private, cooperative, civil society, and network-based organizations. These partners were identified for fulfilling specific tasks in the project, and their engagement has been ensured accordingly. All partners participated in the inception meeting (18 July 2019) followed by the project launching workshop (19 July 2019) in Year I, and partners were extensively engaged in Year I and Year II field activities. These partners have been engaged in the project based on their expertise. Compared to other partners, we have worked intimately with Provincial Government entities, Pokhara Metropolitan City, and Annapurna Rural Municipality during Year III of the project primarily focusing on sustainability of the project results. The specific role of different partners is highlighted in Table 1.

For the reporting period (April 2021 – March 2022), one partners' meeting and two Project Steering Committee meetings were organized. The project has the following mechanism to ensure active participation of partners in the project activities:

- **Project Partners Meeting (PPM):** Though the project planned to hold three PPM per year but due to the COVID-19 pandemic (Second wave) and lockdown of the country from 29 April 2021, only one partners meeting was organized virtually on 4 August 2021, where the project's planned activities and budget was shared with the partners (Annex 4.1). Several informal meetings with selected partners were organized during the reporting period.
- **Project Steering Committee Meeting (PSC):** The project planned to hold four PSC meetings per year but due to COVID-19 pandemic and restriction on travel and general gathering, we managed to organize only two meetings. The first PSC meeting was organized virtually on 10 August 2021, and the second PSC meeting was held on 26 November 2021 in physical presence of the following members: Secretary of Ministry of Land Management, Agriculture and Co-operative (MoLMAC) as Chair; Representative from Annapurna Rural Municipality (member); Secretary from LI-BIRD (member); Executive Director of Machhapuchhre Development Organizations (member); Chairperson of Rupa Lake Restoration and Fisheries Cooperative (member); Senior Agriculture Officer, Pokhara Metropolitan City (member); and Programme Specialist from SeedChange (guest), and CEO of Lake Conservation and Development Authority (LCDA) (guest) as invitees (Annex 4.2). The meeting was chaired by Secretary of MoLMAC where the project team presented the achievements of Year II²; detailed activities and budget for Year III; and the progress update followed by discussions, and question and answer session (Figure 2 in Annex 4.16).
- **Annual Review and Planning Meeting (ARPM)/Travelling Seminar:** Since it was the final year of the project, instead of organizing ARPM we focused on organizing Travelling Seminar cum inauguration of Panchase Biodiversity Information Centre at Bhadaure Tamagi in the project area involving high-level government officials to showcase the project achievements (11 March 2022). The Panchase Biodiversity Information Centre was inaugurated by

¹ Good Agriculture Practices (GAP) is a voluntary standard for food safety, quality control, environment friendly and worker welfare friendly standard which ultimately contribute for sustainable agriculture.

² A brief presentation on Year II achievements was made for the benefit of MoLMAC Secretary, Dr Hari Bahadur KC, because he has recently joined the Ministry, so it was important to provide the project update.

Honourable Minister Chandra Bahadur Buda, Ministry of Land Management, Agriculture, Cooperatives and Poverty Alleviation (MoLMACPV) and the event was attended by high level government officials from the provincial ministries, vice-chancellor of Gandaki University, representatives of political parties, and LCPV-DI partners. A total of 80 participants comprising 37 women and 43 men attended the event (Annex 4.3).

Partners in the project performed specific tasks and their engagement was primarily governed by a match between the project events/activities and the expertise partners offered. Formal Letter of Agreement (LoA) was signed between LI-BIRD and partner organization/individual consultant outlining their services, and terms and conditions of engagement (sample LoAs included in Annex 4.4). A brief description of partnership arrangement, and engagement of partners in project activities for Year III is presented in Table 1.

Table 1: Engagement of different partners in project activities, 2021/22

SN	Partners	Roles/Responsibilities	Duration
1	Pokhara Metropolitan City (Public Sector)	<ul style="list-style-type: none"> Foxtail millet promotion; Coffee, local rice and fruits promotion in LCPV area; Co-finance activities Co-financing of Agriculture and Livestock Strategy for Ward No 19, and Multi-year Investment Plan for Ward No 13; Co-financing Annapaat Agro Pvt Ltd 	Throughout the project
2	Rupa Rural Municipality (Public Sector)	<ul style="list-style-type: none"> Foxtail millet promotion; Coffee, local rice and fruits promotion in LCPV area; Co-finance activities 	Throughout the project
3	Annapurna Rural Municipality (Public Sector)	<ul style="list-style-type: none"> Foxtail millet promotion; Coffee, Shiitake mushroom and vegetables promotion in LCPV area; Operate Collection Centre; Establish Biodiversity Information Centre at Bhadaure; Co-finance activities 	Throughout the project
4	Jaibikshrot Samrakshan Abhiyan (JSA) – Network organization	<ul style="list-style-type: none"> Provision of local resource persons (Kul Chandra Adhikari hired for Good Agriculture Practice (GAP) promotion in coffee; and Puspa Subedi hired for providing technical training to bee-keeping farmers in LCPV-DI project area) JSA-operated Biodiversity Information Centre to perform as an outlet for selling locally produced agrobiodiversity products 	Throughout the project
5	Rupa Lake Rehabilitation and Fishery Cooperative – (Cooperative)	<ul style="list-style-type: none"> Lekhnath Dhakal hired as local resource person for organizational development of fishery cooperatives, and provide technical support to Lake Management Committees and Fishery Development Cooperatives of LCPV area 	Throughout the project
6	Machhapuchhre Development Organization (MDO) – (Civil Society)	<ul style="list-style-type: none"> MDO is responsible for social mobilization and coordination of farmers' groups and cooperatives for biodiversity conservation, increase production of agricultural products, and market linkages 	Throughout the project
7	Panchadham Agriculture Development Cooperative	<ul style="list-style-type: none"> Panchadham Agriculture Development Cooperative is responsible for establishing and operating a Biodiversity Information Centre (BIC) at Bhadaure, Annapurna Rural Municipality 	Throughout the project
8	Lake Conservation and Development Authority (LCDA) – (Public Sector)	<ul style="list-style-type: none"> LCDA is a key institution of Gandaki Province formed for conservation, development, expansion and promotion of lakes of Gandaki Province Indra Prasad Adhikari and Ran Bahadur BK hired as government resource persons to provide orientation on Ramsar Convention, SDGs, CBD, ITPGRFA, etc. to decision makers at local institutions. 	Throughout the project

3. Project progress

3.1 Progress in carrying out project Activities

In Year III, the project consolidated project activities by continuing capacity building actions of cooperatives and farmer groups, and strengthening partnership with government agencies for sustainability of the project achievements.

Output 1: Increased income and employment opportunities to smallholder farmers through the production and sale of agricultural biodiversity-based products at local and regional markets

Promotion of safe, healthy, and organic-oriented agriculture production in the project area has been the main strategy to deliver Output 1. The activities conducted in Year III of the project are presented in Table 2.

Table 2: Major activities carried out for achieving Output 1

SN	Activities	Date	Male	Female	Total
1	Vegetable seed distribution	11 Aug 2021 24 Nov 2021 23 Feb 2022	231	351	582
2	Oyster mushroom training	9 Oct 2021	6	7	13
3	Mustard seed distribution (forage for honey bees)	12 Nov 2021	24	23	47
4	Kiwi fruit/farm management training	3 Jan 2022	23	6	29
5	Exposure visit of Shiitake mushroom grower	23 Jan 2022	14	5	19
6	Kiwi seedling distribution (gap filling)	29 Jan 2022	11	1	12
7	Bio-pesticide preparation training	2 Feb 2022 23 Feb 2022 7 March 2022	11	56	67
8	Shiitake mushroom spawn distribution	14 Feb 2022	15	4	19
9	Bee keeping training (refresher training)	17-18 Feb 2022 6 March 2022	12	29	41
10	Foxtail millet seed distribution	26 March 2022	62	24	86
11	Review and reflection workshop of Cooperatives in LCPV area	29-30 March 2022	28	9	37
	Total		437	515	952

A total of 886 (women=430; 49%) farmers (except fishery cooperatives) were directly supported by the project in Year I, whereas this number increased to 1041 in Year II, with 594 women farmers comprising 57% of targeted beneficiaries. Finally in Year III, 952 individuals were supported through different activities, including 515 women farmers (54%). The project has been able to serve at least 50% women across the years, which was committed in the proposal.

Packaging house – Annapaat Agro Private Limited

Although the establishment of packaging house in Pokhara with private investment was the major activity planned for in Year II, the process could not be initiated until September 2020, due to the COVID-19 pandemic and subsequent lockdown measures adopted by the Government of Nepal. We are pleased to report that a packaging house called Annapaat Agro Private Limited has been established and operationalized during the reporting period (Annexes 4.5 and 4.6, and Figure 3 in Annex 4.16). Producers in the LCPV area are bringing agro-products like Pokhareli Jethobudho rice, foxtail millet, shiitake mushroom, fresh vegetables, fruits, etc. to Annapaat Agro for marketing. Annapaat Agro functions as processor and wholesaler. All raw materials and products are cleaned, graded, processed, packaged, and then marketed through different retail outlets. The number of farmers bringing agro-products and the volume of products being brought will increase over the years. With the establishment of Annapaat Agro, farmers' woes to marketing their produce have been resolved, and farmers can expect a fair price for their produce.

Output 2: Increased consumers awareness and knowledge about the value of local biodiversity based food products

With the easing of COVID-19 pandemic restrictions, the project team were able to conduct interaction programmes with hotels and restaurants to promote local agrobiodiversity products and food recipes on 26 April 2022 involving 13 reputed hotels in the Lake Side, Pokhara. Different recipes were prepared and served to hotel guests and their verdict sought. The event was a great

success with hoteliers agreeing to include foxtail millet and finger millet recipes in their menus immediately, and they have agreed to include Pokhareli Jethobudho, *Himali Dal* and other products in the near future (Annex 4.7). Another round of interaction with Chef's Association has been proposed to develop a standardized menu involving local agro-products. This will be accomplished before the end of the project in May 2022.

Twenty-nine schools and Montessori were visited to increase conservation awareness and to promote agrobiodiversity products amongst children. Out of 29 academic institutions visited, 13 have agreed to include local agrobiodiversity products in their daily mid-day meals, with foxtail millet being the star product to be tested across all institutions (Table 3).

Table 3: Number of institutions approached for consumer awareness programme

SN	Institutions	Number Reached	Positive Response	Proposed Local Items
1	Hotels and restaurants	18	13	Pokhareli Jethobudho rice, foxtail millet, finger millet flour, Rato Anadi rice, <i>Himali dal</i> , shiitake mushroom, <i>gundruk</i> , <i>timur</i> , etc.
2	Montessori, schools and colleges	29	13	Foxtail millet, fresh vegetables, local pulses, local fruits, etc.

A recipe booklet on foxtail millet was developed and widely shared amongst consumers through retail outlets. The booklet highlights the health benefits of consuming foxtail millet, and provides step by step guide on preparing a variety of dishes (porridge, pudding, salad, and *bhat*) from foxtail millet (Annex 4.8).

Output 3: Local stewardship and capacity for the conservation and management of biodiversity and lake ecosystem enhanced

The market study conducted in Year I indicated that hotels, restaurants, and homestays around the LCPV areas were eager to collaborate and support the concept of Unified Landscape Brand (ULB). However, the COVID-19 pandemic and subsequent lockdowns (March – August 2020 and April – June 2021 partial lockdown) have significantly affected hotel and restaurant businesses, which made it impossible for the project to organize networking programmes to highlight the ULB products. Having said that, the project was able to support the packaging house, Annapaat Agro Pvt. Ltd., with processing machines and packaging items, which will ultimately contribute to institutionalizing ULB approach in the long run. From the beginning of 2022, all travel and gathering restrictions have been lifted thus giving impetus to hospitality business. The project team managed to conduct a series of informal meetings with hotel owners/managers, chefs, and store-keepers convincing them to include local products in their regular menus. Consequently, on 26 April 2022, the project was able to organize a recipe preparation and food testing programme involving 13 hotel chefs, store-keepers, and managers. An overwhelmingly positive response has been received from the participants, which is expected to result in supplying local food items to these hotels/restaurants in coming months.

During the reporting period, two Project Steering Committee (PSC) meetings were organized (10 August 2021 – virtual meeting; 26 November 2021 in-person meeting) where project activities, budget, and progress made were shared, and the budget and activities for Year III was approved.

In Year III, the project managed to complete work on Panchase Biodiversity Information Centre (BIC) at Annapurna Rural Municipality, and the centre was inaugurated by Honourable Minister Chandra Bahadur Buda on 11 March 2022 (Figure 4 in Annex 4.16). The BIC has a collection of posters and video highlighting popular and rare orchids, crop/varieties, and demonstration of miniature replica of indigenous tools used by famers. The BIC also serves as a Collection Point of fresh vegetables and other agro-products for Annapaat Agro. With targeted publicity, the BIC will be able to attract foreign and domestic visitors, school children and university students for field visits/research, and visitors from Pokhara on weekends, which will revitalize homestays, eco-tourism, and rural economy of the area.

The project organized a number of capacity building events, i.e., orientation programmes to local leaders, and representatives of organizations, especially focusing women leaders (n=133; women=75; 56%). These orientation programmes were designed to empower women leaders with relevant information on national and international policies, conventions, and programmes to support their decision making process in their work sphere (Table 4).

Table 4: Capacity building on national and international policy

SN	Activities	Date	Male	Female	Total
1	Orientation on Climate change, biodiversity, and nutrition	24 September 2021	8	6	14
2	Orientation on National and International policies provisions of Ramsar, CBD, and SDG	27 December 2021 11 February 2022 22 March 2022	40	79	119
	Total		48	75	133

No additional conservation area was allocated in Year III as we already exceeded the upward revised target (40 ha) for this indicator in Year II itself (42.5 ha).

Local people and their agencies, especially cooperatives, are the stewards of biodiversity in the LCPV area. Hence, capacity building of these institutions was an important element of the project so that these institutions can discharge their duties efficiently and effectively and better serve their constituencies. In Year II, intensive capacity building interventions were undertaken comprising of specific training, coaching and mentoring, and regular monitoring and support, which were directed to achieve progress against the six indicators for all the cooperatives. The cooperatives were monitored based on the following indicators: 1) Timely audit; 2) Women representation in Board of Directors of cooperative; 3) Policies for cooperatives; 4) Functional computer-based account keeping system; 5) Manager and Accountant for cooperative (part-time or full-time); and 6) Progress in implementation of business plan as per the cooperative's objective. These indicators were selected based on the issues identified in the Need Assessment Study of Cooperatives in Year I of the project. In Year III, no intensive support programme was offered rather regular monitoring and backstopping support on demand were provided, and the final progress is presented in Table 5.

Table 5: Progress made against the indicators for achieving Output 3

SN	Name of Cooperative	Timely Audit	Women in BoD*	Policy preparation	Account Software	Staff	Business plan
1	Shree Namuna Pragarik Krishi Sahakari Sastha, Arba, Pokhara-13	Yes	Yes, Total=9 (M=5, F-4) =44%	3 policies prepared and endorsed	Yes	Yes, 1 Staff 1=Male	Working as per the business plan
2	Nageshawor Krishi Sahakari, Bajhapatan, Pokhara-13	Yes	Yes Total=9 (F-9) =100%	3 policies prepared and endorsed	Yes	Yes, 1 Staff 1=Female	No
3	Khaste Matasya Tatha Krishi Sahakari Sasntha, Bhalam Pauja Pokhara – 26	Yes	No Total=11 (M-7, F-3) =27%	7 policies prepared and endorsed	Yes	Yes, 4 Staff 2=Male 2=Female	Drafted plan (Fish production plan applied)
4	Maidi tal Matsya Tatha Krishi Sahakari Sanstha, Pokhara-31	Yes	No Total=11 (M-8, F-3) =27%	2 policies prepared and endorsed	Yes	Yes, 2 Staff 2=Female	Prepared five years plan
5	Dipang Matsya Tatha Krishi Utpadan Sahakari Sanstha Ltd., Pokhara -27	Yes	Yes Total=9 (M-6, F-3) =33%	8 policies prepared and endorsed	Yes	Yes, 4 Staff 2=Male 2=Female	Yes; conducting business as per the plan

SN	Name of Cooperative	Timely Audit	Women in BoD*	Policy preparation	Account Software	Staff	Business plan
6	Gunde Batabaran Samrkchhan Tatha Matsya Sahakari Sanstha Ltd., Pokhara-26	Yes	Yes Total=11 (M-7, F-4) =36%	2 policies prepared and endorsed	Yes	Yes, 1 staff 1=Male	Yes
7	Deurali Organic Krishi sahakari Sastha, Bhalam, Pokhara-20	Yes	Yes Total=11 (M-7, F-4) =36%	8 policies prepared and endorsed	Yes	Yes, 2 Staff, 2=Female	Yes
8	Pragatishil Krishi Utpadak Co-operative Limited, AnnapurnaRM-03	Yes	Yes Total=11 (M-4, F7) =64%	4 policies endorsed and others in the process	Yes	Yes, 1 staff 1=Male	Yes
9	Machapuchhre Utam coffee production co-operative, Annapurna RM-1	Yes	Yes Total=11 (M-7, F4) =36%	3 policies prepared and endorsed	Software installed; used partially	Yes, 2 Staff 1=Male 1=Male	Yes
10	Nirmal Coffee Utpadhak Sahakari Sastha Limited, Pok-21	Yes	Yes Total=11 (M-7, F-4) =36%	No progress	No	Yes, 1 Staff 1=Male	No
11	Rupa Lake Restoration and Fisheries Coop, Rupa RM-6	Yes	No Total=15 (M-12, F-3) =20%	5 policies prepared and endorsed	Yes	Yes, 22 Staff 17=Male 5= Female	Yes
12	Panchdham Krishi Co-operative Limited, Annapurna RM-4	Yes	Yes Total=11 (M-3, F-8) =73%	7 policies prepared and endorsed	Yes	Yes, 2 staff 1=Female 1=Male	No
13	Khusi Namuna Multipurpose Cooperative Ltd.	Yes	Yes Total=9 (M-5, F-4) =44%	3 policies drafted	No	Yes, 1 Staff 1= Male	No
14	Harpan Fewa Matasya Sahakri Sastha Ltd.	Yes	Yes Total=9 (M-6, F-3) =44%	3 policies drafted	Yes	Yes, 4 Staff 1=Female 3=Male	No

* Mandatory women representation on the BoD is 33%.

After two years of constant support, monitoring and supervision, these cooperatives have made significant progress in five out of six indicators (Table 4). Noticeable positive changes were observed on following indicators: 1 (timely audit; 100%), 2 (women representation in BoD: \geq 33%; 79%), 3 (organizational policies; 93%), 4 (software-based accounting system; 86%), and 5 (hiring manager and accountant; 100%), whereas less stellar performance was recorded for indicator 6 (business plan formulation and implementation; 64%). Preparation of business plan and implementation is easier said than done, so it's not surprising that these cooperatives have struggled in this indicator. Women representation in decision making position in cooperative, lack of policy documents, lack of software-based accounting system, and lack of business plan were some of the issues identified in Year I report, so concerted efforts were made to change the situation in Year II and Year III. Consequently, we have observed that these cooperatives have maintained the momentum and continue to make progress, as evidenced by the Review and Reflection Workshop of Cooperatives organized on 29-30 March 2022 (Annex 4.9).

Output 4: Policy framework developed for scaling up market-led approaches for agrobiodiversity management for improved livelihood outcomes

Conducting a feasibility study of Unified Landscape Branding (Payment for Ecosystem Services - PES) in other two biodiversity rich ecosystems was the major task undertaken to achieve Output 4. The project team visited two major reservoirs (Indrasarowar reservoir in Makawanpur district:

3 – 8 Sep. 2021, and Jagdishpur reservoir in Kapilvastu district: 13 – 15 Sep. 2021) and interacted with key stakeholders. The feasibility study concluded that opportunities abound to replicate PES in these ecosystems but some issues need to be resolved such as strengthening local institutions to coordinate the process, drafting of policies and guidelines to operationalize PES in local context, resolving ownership issues of public property between local government and provincial government, clarity on roles and responsibilities of different stakeholders, etc. for local communities to benefit from the PES mechanism (Figure 5 in Annex 4.16).

LI-BIRD and the Ministry of Land Management, Agriculture, Cooperative and Poverty Alleviation (MoLMACPV) of Gandaki Province renewed their Memorandum of Understanding for another five year on 16 March 2022. The MoU has a broader scope encompassing knowledge exchange, good practices and technical assistance in areas of sustainable conservation, management and utilization of agrobiodiversity, promotion of safe foods through promoting organic and ecological agriculture, etc. The MoU provides a strong foundation to jointly develop programmes and projects to scale up the LCPV-DI project learnings in other similar environments (Annex 4.10; Figure 6 in Annex 4.16).

The project produced seven publicity materials, which include two informative leaflets on Foxtail Millet, and Panchase Biodiversity Information Centre; two videos (Orchid Information, and Agrobiodiversity Management); two field guides to identify local crop species, and orchids; and one strategic document – Agriculture and Livestock Strategy for Pokhara Metropolitan City.

One travelling seminar cum inauguration of Panchase Biodiversity Information Centre was organized on 11 March 2022 to showcase the project-related achievements and to influence policy makers for collaborative works on agrobiodiversity research and development initiatives (Annex 4.11).

3.2 Progress towards project Outputs

The overall progress of the project can be termed ‘satisfactory’ because we have made significant progress in achieving Outputs 1, 2, 3, and 4 despite the COVID-19 pandemic and subsequent lockdowns. Given the context when people were losing jobs, and household income was shrinking, the project was still able to increase household income and create some new jobs albeit not at the scale we envisioned under normal circumstances. Hence, except for the economic indicators (income increase and employment opportunities created), the project made excellent progress across the board. For measuring output indicators, the project has maintained household-level database of all beneficiaries including the following information: area under keystone crops (logs for Shiitake mushroom, number of hives for honeybee, etc.); total production; amount sold; and income received.

3.2.1 Increased income and employment opportunities to smallholder farmers through the production and sale of agricultural biodiversity-based products at local and regional markets

The project has made some progress towards the output 3.2.1. The output level indicator 1.1 (at least 25% import substitution of food items by 50+ hotels, restaurants and homestays) could not be achieved at all because of the continuous shutdown of hotels and restaurants businesses (March 2020 - December 2021). However, at the beginning of 2022, the project team interacted with hoteliers and they have decided to include local agrobiodiversity products like foxtail millet and finger millet recipes in their regular menus. Although no concrete result can be reported here, we have made progress towards achieving the indicator 1.1. The indicator 1.2 was dropped as reported in Year I Annual Report and subsequent communications with Darwin Initiative. The indicator 1.3 (at least 3,000 HHs increase area under, and productivity of, local crops and varieties) has been achieved. The operationalization of Packaging House – Annapaat Agro Private Limited – has been achieved, and the company came into operation from 2 October 2021, which directly contributes to achieving indicator 1.4 (at least 3,000 HHs use ‘unified landscape brand’ to access regional and national markets, with annual business of £ 400,000/year by project’s end, which might take another two years to achieve the target due to COVID-19 pandemic disruption). The Table 6 shows the comparative number of HHs and average income realized in 2019, 2020, and 2021. Some of these products are already marketed through

Annapaat Agro. Analysis of the figures in the table indicates that the number of farmers involved in cultivation and production of keystone crops/fish has surpassed the project target (3,500 HHs). The corresponding increment in income for 2022 from the base year 2019 was 38%.

Table 6: Number of households and income realized by farmers in LCPV area

SN	Keystone Species	Year I (2019)		Year II (2020)		Year III (2021)	
		HHs (No)	Income (NPR)	HHs (No)	Income (NPR)	HHs (No)	Income (NRP)
1	Rice (Jethobudho)	-	-	1	700,000	18	2,240,100
2	Coffee	417	2,834,460	430	3,299,620	430	3,877,200
3	Foxtail Millet	28	60,775	84	156,080	96	219,351
4	Fresh vegetables	242	3,952,312	242	4,900,287	259	6,933,365
5	Kiwi	0	0	32	0	32	0
6	Honey	106	650,300	138	991,213	115	1,330,400
7	Shiitake mushroom	1	500,000	45	671,400	24	2,637,250
8	Fish	1147	40,536,358	3422	40,229,054	1854	46,880,078
9	Annapaat Agro	-	-	-	-	-	3,048,101
	Total	1941	48,534,205	4394	50,947,654	2828	67,165,845

Source: LCPV-DI database 2019/20, 2020/21, 2021/22; 1 GBP = 155 NPR

Note: Kiwi plantation done in Year I and Year II but the production will be realized after 3 years of plantation

3.2.2 Increased consumers awareness and knowledge about the value of local biodiversity based food products.

The indicators 2.1 (Year 3=30,000 individual are made aware of lake pollution through FM radio) and 2.2 (12 episodes of Unified Landscape Branding – ULB for consumer awareness in regional market) were already achieved in Year II by airing of 12 episodes/programmes through regional FM station (Annapurna FM Radio). The FM radio programme raised awareness regarding lake pollution and measures taken by provincial government, and shared the concept of the ULB and its purpose among the consumers around LCPV area. Other episodes included: importance of biodiversity; role of local crop on food and nutritional security; climate change; importance of wetlands; functioning of cooperatives; importance of organic farming; promotion of high value crops like Shiitake mushroom and honeybee; and promotion of local crops like foxtail millet and Jethobudo. In Year III, the project produced a video programme on agrobiodiversity management, which was aired through national TV, reaching hundreds of thousands audience (Annex 3; video link provided). The project was unable to achieve indicator 2.3 (10 schools implement conservation education) as schools remained closed for most parts of Year II and Year III due to the COVID-19 pandemic. However, the project team visited 29 different schools and Montessori and 13 of them have agreed to include local agricultural products (foxtail millet, fresh vegetables, and fruits) in their mid-day meal programme. Indicator 2.4 (consumers pay 10% premium to locally produced safe food) already achieved, as consumers are already paying premium price for local products like Jethobudo rice, foxtail millet, and local fish.

3.2.3 Local stewardship and capacity for the conservation and management of biodiversity and lake ecosystem enhanced.

The indicator 3.1 (community managed Biodiversity Information Centre - BIC and sale of Unified Landscape Branding products generates GBP 10,000 for biodiversity conservation fund – Year III target) was largely achieved with 86% target met as Rupa Lake Rehabilitation and Fisheries Cooperative set aside NPR 1,222,484 (GBP 7,887) and BIC contributed NPR 109,840 (GBP 708) as Biodiversity Conservation Fund from their profits. Since Annapaat Agro (packaging house) operations was delayed by more than a year due to continuous lockdown, it may take at least two more years before the company starts contributing to Biodiversity Conservation Fund.

The indicator 3.2 (i.e., at least 100 local leaders and stakeholders are aware about national and international policies provisions of Ramsar, ITPGRFA, CBD and SDG) was fully achieved with 133 local leaders (56% women), especially women empowered (Figure 7 in Annex 4.16).

The project has achieved the upward revised indicator 3.3, i.e., designated area protected as habitat increase from 5 to 40 ha, 42.5 ha brought under conservation area in Year II. Hence, no additional area was designated as conservation area in Year III.

The indicator 3.4, i.e., Local government increased budget allocation and support of conservation of biodiversity by 50% from baseline figure (Year III=50%) has been achieved. In partnership with the project, Pokhara Metropolitan City (PMC) has allocated NPR 300,000 each to Ward No. 13, 15 and 19 to promote organic agriculture (organic villages) in their areas. The PMC has also contributed NPR 750,000 as co-funding towards purchase of a mini-truck for Annapaat Agro to ferry agricultural products from the LCPV area to markets in Pokhara and Kathmandu. Similarly, Agriculture Development Department of Gandaki Province and Annapurna Rural Municipality contributed NPR 1,100,000 and NPR 150,000 towards construction of Panchase Biodiversity Information Centre respectively (Annex 4.12). Consequently, the project was able to surpass the co-funding target of GBP 77,000 and actually received GBP 97,457, an increase of 27%. The government entities are increasingly setting aside budget for biodiversity conservation actions.

The indicator 3.5, i.e., Capacity strengthening of 14 cooperatives achieved for conservation and development goals, was largely achieved measured across six different parameters (Table 5). These local institutions are engaged in biodiversity conservation, and production and marketing of local agricultural products. They have direct role in local stewardship, and strengthening capacity of these cooperatives helps in enhancing conservation and management of biodiversity. Review and reflection workshop revealed that all 14 cooperatives have made significant progress in five out of six parameters. The only parameter that needs further work is business plan implementation, which may warrant longer term engagement to fully realize this objective.

3.2.4 Policy frameworks developed for scaling up market-led approaches for agrobiodiversity management for improved livelihood outcomes

The indicator 4.1 (Feasibility study of expanding Unified Landscape Brand – ULB in 2 lake ecosystems) was achieved and the feasibility report is attached (Annex 4.13). The indicator 4.2 (evidence from agro-ecotourism and unified landscape branding generated and shared with at least 200 key stakeholders through policy briefs, fact sheet, travelling seminar) was achieved as the project supported the establishment of a packaging house – Annapaat Agro Pvt. Ltd. – which is marketing the ULB products to local, and national markets under the ULB Logo (Annex 4.14). LI-BIRD has already signed a broader 5-year MoU with the Ministry of land Management, Agriculture, Cooperative and Poverty Alleviation, Gandaki Province on 16 March 2022 that provides a basis to scale up market-led approaches for agrobiodiversity management for livelihood outcomes related to indicator 4.3 (government endorses the guideline for ULB). LI-BIRD has been approached by Ministry of Agriculture and Livestock Development (Federal Government) for the revision of the National Agrobiodiversity Bill where there is an excellent opportunity for the application of DI experience/lessons learned to positively influence the Bill/Act. Similarly, LI-BIRD has been requested to review Nepal's NDC targets and commitments by the Climate Change Management Division under the Ministry of Forest and Environment (Federal Government), as a result, Nepal's NDC commitments/targets now include the promotion of agrobiodiversity as one of the commitments/targets, especially under the changing climate.

3.3 Progress towards the project Outcome

The outcome indicator (0.1) states that at least 70% increase in the income of 3,000 smallholder farmers (50% women-managed households) from the sale of agrobiodiversity products by the end of the project (Year 3=3,000). The project managed to exceed the target number of households, i.e., 4394 in Year II and 2828 in Year III, however, 70% increase in income was only partially realized, with 38% increment from the base year (Year I; 2019), which is still a significant achievement given the subdued economic environment due to COVID-19 pandemic (Sub-section 3.2.1 Table 6). The project has maintained a database of the beneficiaries from producing the keystone crops. The number of households, area, production and income generated by the beneficiaries in 2019 (Year I; base year) and 2021 (Year III; reporting year) were collected and shared in the following Tables 7 - 12.

Table 7: Area, production and income generation of foxtail millet in 2019 and 2021

Foxtail Millet	Parameter	2019 (n=28)				2021 (n=96)			
		Area (Ropani)	Prodn. (kg)	Sold (kg)	Income (NPR)	Area (Ropani)	Production (kg)	Sold (kg)	Income (NPR)
	Mean	1.1	41.6	38	2,338	0.9	34	34.7	3,089.5
	Max	3	120	120	11,400	4.0	265	243	20,250.0
	Min	0.25	3	4.5	300	0.25	6	3	250.0
	Total	31.1	1165	1024	60,775	88.85	3263.5	2467	219,351

Note: 1 Hectare = 19.65 Ropani; 1GBP = 155 NPR

Table 8: Number of logs, production and income of shiitake mushroom in 2019 and 2021

Shiitake Mushroom	Parameter	2019 (n=6)				2021 (n=24)			
		Logs	Production (kg)	Sold (kg)	Income (NPR)	Logs	Production (kg)	Sold (kg)	Income (NPR)
	Mean	130	171	167	83,333	699	205	210	119,875
	Max	700	1015	1000	500,000	2500	2200	2000	1,000,000
	Min	7	0	0	0	12	2	7	0
	Total	777	1023	1000	500,000	16789	4924	4411	2,637,250

Table 9: Number of hives, production and income of honeybee in 2019 and 2021

Honeybee	Parameter	2019 (n=106)				2021 (n=115)			
		Hives (no)	Production (Ltr)	Sold (Ltr)	Income (NPR)	Hives (no)	Production (Ltr)	Sold (Ltr)	Income (NPR)
	Mean	3	5	3	17,576	4	7	5	12,396
	Max	19	165	150	205,000	75	160	150	400,000
	Min	1	0	0	0	1	0	0	0
	Total	294	707	500	650,300	467	812.5	588.5	1,330,400

Table 10: Production and income generation of fish in 2019 and 2021

Fish	2019 (n= 4; HH engaged 1477)			2021 (n=6; HH engaged=1854)	
		Production (kg)	Income (NPR)	Production (kg)	Income (NPR)
	Mean	29097	10,134,089	34521	7,813,346
	Max	56664	18,563,840	44784	16,510,003
	Min	286	100,100	1090	385,000
	Total	116,388	40,536,358	129825	46,880,078

Table 11: Area, Production and income generation of fresh vegetables in 2019 and 2021

Vegetables	Parameter	2019 (n=239)			2021 (n=259)		
		Area (ropani)	Production (kg)	Income (NPR)	Area (ropani)	Production (kg)	Income (NPR)
	Mean	1.3	720	16,537	2.1	1109	27,070
	Max	4.7	4415	260,300	11.3	8360	423,750
	Min	0.1	20	0	0.7	88.5	0
	Total	299	172104	3,952,312	541	287208	6,933,365

Note: 1 Hectare= 19.65 Ropani

Table 12: Production and income generation of coffee in 2019 and 2021

Coffee	Parameter	2019 (n=417)		2021 (n=430)	
		Production (kg)	Income (NPR)	Production (Kg)	Income (NPR)
	Mean	977	566,892	1421.6	861,600
	Max	1215	704,700	2500	1,450,000
	Min	147	85,260	150	90,000
	Total	4887	2,834,460	6397	3,877,200

Comparative analyses of these tables reveal that increase in income varied greatly across keystone crops or species. For instance, the least increment (16%) was observed for income from fish sale, whereas the highest increment was observed for Shiitake mushroom (431%). Across all the keystone crops/species, the project was able to make a positive impact on income growth: foxtail millet (261%), honey (105%), fresh vegetables (75%), and coffee (37%). Having said the above, the project still could not fully achieve 70% increase in income because income

from fish, which contributed the highest weightage (73%) to the total income registered the least increment (16%) largely due to shortage of fingerlings during lockdown period.

Table 13: Number of self-employed and new employment generated in 2020/21

SN	Area of Employment	Total	Male	Female
1	Pokhareli Jethobudho rice	0	0	0
2	Foxtail millet farming	0	0	0
3	Fresh vegetables production	8	5	3
4	Honey production	2	1	1
5	Shiitake Mushroom	3	2	1
6	Tractor operator	2	2	0
7	Cooperatives	42	28	14
8	Annapaat Agro Pvt. Ltd.	7	5	2
	Total	64	43	21

For Outcome indicator (0.2) i.e., 200 new jobs/self-employment (60% women) created from the production and marketing of the local crops and species (Year 3=200), the major shortfall has been observed in this indicator, with only 64 new jobs created (32% of the set target) (Table 13). In case of self-employment generated from production of keystone crops, the project team agreed a threshold of NPR 200,000 (GBP 1,200)/year, which is more than the minimum official rate for wage earners. Having that number as a threshold, only a few individuals qualified as self-employed in 2021, which highlights that raising income at par with wage employment through agriculture, especially for smallholder producers, is a highly challenging target to achieve.

Many youths are provided with self-employment opportunities, i.e. bee keeping, kiwi farming, shiitake mushroom cultivation, and vegetable farming (Figure 8 in Annex 4.16). However, the scale of operation is an issue with smallholder producers, and unless they operate at certain scale they may not be able to interact with the market and accrue income to impact their livelihood outcomes.

The outcome indicator (0.3) (i.e., Local government establish mechanism for supporting conservation of biodiversity through their regular plans and programmes) has been achieved. The provincial government has already established Lake Conservation and Development Authority (LCDA). The project is working closely with the LCDA and the resource persons from the organization are being hired to provide orientation training to local leaders on different international conventions and treaties.

3.4 Monitoring of assumptions

The outcome level assumption “Newly elected council of metropolitan continues to prioritize ‘Agrobiodiversity Heritage Area’ programme initiated by previous council” holds true for the project. The project has received overwhelming support from the local and provincial government bodies and policy makers. This created opportunities for programme synergies, resource leveraging, learning, and achieving the project goal, which the project capitalized for achieving project outputs and outcomes, despite a very challenging work environment created by COVID-19 pandemic and subsequent lockdowns in Year II and Year III of the project operations.

The COVID-19 pandemic has disrupted two output level assumptions 1.2 (Hotels and local business associations continue to cooperate in the conservation efforts) and 2.2 (Agrobiodiversity products which are ULB assured are readily available in local and regional markets). In the case of assumption 1.2, hotels and restaurant businesses remained closed (subdued activities) from April 2020 till December 2021, negatively impacting the project in achieving its economic targets. Tourism business is the major preoccupation in Pokhara, so hotels and restaurants (institutional buyers) comprise the major market segment for Annapaat Agro Pvt. Ltd., and it is difficult to substitute that market. In the case of assumption 2.2, due to the pandemic, operationalization of packaging house was delayed by almost a year, so instead of mid-Year II the operation shifted to mid-Year III. Again, a shift in this assumption negatively impacted the operation of Annapaat Agro (Packaging House), which was envisioned as driver of economic growth and employment generation for smallholder producers in the LCPV area. Thus, negatively impacting economic indicators at output and outcome levels.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

Positive Impact on Biodiversity: The two main impacts indicated on biodiversity conservation are: (i) conservation of local crop and fish diversity in the LCPV area and (ii) designate protected wetland area for conservation. The project has played significant role in revalorizing foxtail millet, a Neglected and Underutilized Species (NUS) in Nepal. With LCPV-DI project support the number of locations, number of farmers, area and production of foxtail millet have substantially increased thereby conserving NUS crop in the area (refer Table 7 above).

Noticeable impact on biodiversity has been the allocation of wetland area for conservation purpose by different lakes of Pokhara Valley. In Year I, with the project's facilitation, these lakes set aside 28.5 ha land for conservation, another 14 ha of wetland was allocated in Year II, bringing a total of 42.5 ha as designated protected wetland, which is twice the original target.

Positive Impact on Poverty Alleviation: The project's results in terms of poverty alleviation is less stellar than its biodiversity conservation record primarily attributed to subdued economic environment resulting from COVID-19 pandemic and subsequent lockdown measures adopted by the government. Nevertheless, hard work (business plan preparation; training on honey bee and bee hive support; shiitake mushroom training and spawn support; training on fresh vegetables production and seed support; coffee seedling support and management training; training on kiwi production and sapling support; training support to fishery cooperatives on netting, and fingerlings support, etc.) put in by the project staff, local resource persons, and consultants have started paying dividends with farmers realizing increased income from agrobiodiversity-based products (Tables 7 – 12 above). By Year III (project's end), smallholder producers through the production and sale of agrobiodiversity products were able to increase their income by 38% from the baseline Year I figures (Sub-section 3.2.1 Table 6). Likewise, the project was able to add 64 new jobs (33% women) (Table 13) directly contributing to poverty alleviation. With the full-fledged operation of Annapaat Agro (1-2 years), results on impact on poverty alleviation (income and employment) will be more impressive, as the project has accomplished all the ground works needed for economic take-off.

4. Project support to the Conventions, Treaties or Agreements

The LCPV-DI project directly contributes to four conventions: Ramsar Conventions on Wetlands, Conventions on Biological Diversity (CBD), Convention on the Conservation of Migratory Species of Wild Animals (CMS), and International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

Nepal has a long history of the wetland conservation. The LCPV is the largest Ramsar site in Nepal. According to the National Ramsar Strategy and Action Plan (2018-2024) of Nepal, the LCPV provides cultural wetland ecosystem services from Nepal. The LCPV have religious-cultural, aesthetic/ecotourism, spiritual, recreational, socio-economic, and educational values. According to the National Ramsar Strategy and Action Plan (2018-2024), the existing institutions including sectoral ministries, intergovernmental bodies, and research institutions are actively working in knowledge generation, dissemination, and management of wetlands in Nepal. There also exist many strategies and policies that guide wetlands management. Some of the practices important for Ramsar implementation are: i) Integrated Watershed Management Approach, ii) Integrated Water Resource Management Approach, iii) Integrated Lake Basin Management Approach, iv) Cooperative Management of Lakes, and v) Payment for Ecosystem Services.

Among these practices, the LCPV-DI project is supporting and advocating the importance of cooperative management of Lakes and Payment for Ecosystem Services as envisioned in National Ramsar Strategy and Action Plan (2018-2024). Lakes managed by cooperatives are seen to be successful than the ones without cooperatives. From the need assessment study done in Year I, it was apparent that most of the cooperatives were not aware about the cooperative strategic plan. Therefore, in Year II the project provided training to agriculture and fishery cooperatives on financial management aspects (18-20 February 2021) and Basic Account and financing matters (21-23 February 2021) to the board of directors and management

committee members of the cooperatives in the LCPV area. In Year III, the project continued the provision of technical backstopping support, regular monitoring and update of cooperative operations, and review, reflection and learning through workshop (29-30 March 2022). The project helped the cooperatives internalize the importance of Payment of Ecosystem Services mechanism. The fishery cooperatives have agreed to allocate 10% of their net profit to Biodiversity Conservation Fund (BCF), which will be used for conservation activities in upstream communities (watershed). The initiative has gained momentum with one cooperative setting aside certain percentage of cooperative's net profit, allocating GBP 7,887 in BCF, and Biodiversity Information Centre allocating GBP 708 in BCF (Sub-section 3.2.3).

Nepal signed MoU in 2008 and is a Non-Party to the Convention on the Conservation of Migratory Species of Wild Animals (CMS). The LCPV-DI project contributes to the habitat conservation of Lake Cluster of Pokhara Valley, which is home to migratory birds. The fishery cooperatives active in the area have set aside 42.5 ha of wetland as nesting and feeding grounds for migratory birds and other wild animals. The project has been active in awareness raising activities regarding the importance of conserving the habitats for migratory birds and wild animals.

Nepal's commitment to the CBD is for the reduction in the rate of loss of biodiversity. Taking this into consideration, the LCPV-DI project is working on conserving the biodiversity through awareness programme, encouraging communities to allocate designated conservation sites, facilitating farmers to conserve local crop varieties and their wild relatives, conserve fish species diversity, and provide necessary technical support and facilitate access to financial support where needed. The main objectives of CBD are: i) Conservation of biological diversity; ii) Sustainable use of its components; and iii) Fair and equitable sharing of benefits derived from its use.

The National Biodiversity Strategy and Action Plan 2014-2020 (NBSAP) aims to provide a strategic framework for the conservation and management of Nepal's biodiversity. The NBSAP progress is assessed against 58 national indicators for meeting the 20 Aichi Biodiversity Targets (ABT), which falls under five strategic goals. While some progress has been made by the Government of Nepal, there is still a lot to be done. Some of the ABT in which LCPV-DI project is working include: i) Raising awareness on biodiversity conservation among community people and school children; ii) Promoting sustainable agricultural production using Low External Input Use technologies (Organic-oriented or conservation and ecological farming practices); iii) Conservation of local crops and fish diversity by popularizing their special traits (nutritional value, taste, cultural value, safe production technologies, etc.) to general public; iv) Establish market linkages to local crops and fish species so that producers derive equitable benefits from their production and sale; and v) Knowledge generation on biodiversity through action research in the field and publication of results for wider sharing.

Promotion of Pokhareli Jethobudho, Anadi rice and foxtail millet are linked to Article 6 of the ITPGRFA i.e. Conservation and Sustainable Use. There are many provisions but it can be linked to 6.2.e i.e. promoting, as appropriate, the expanded use of local and locally adapted crops, varieties and underutilized species.

5. Project support to poverty reduction

The twin goals of the project are biodiversity conservation and livelihood improvement. The project supports smallholder farmers and disadvantaged people to improve their living condition and livelihoods. Inadequate income generating opportunities or less knowledge regarding such opportunities amongst rural population present a major issue. The project has been working to resolve the issue by transferring knowledge and skills, and generating self-employment opportunities to farmers, and wage employment through cooperatives and private investment in value chain (Annapaat Agro Pvt. Ltd. – processing industry). The project is making direct contribution to poverty alleviation by increasing household income and generating new jobs in the project area. The result has been well captured in Sections 3.5 (Positive Impact on Poverty Alleviation) and 3.3 (Progress towards the Project Outcome).

We present the innovative interventions introduced by the project for poverty alleviation targeting smallholder farmers (i.e., Bee-keeping, Shiitake mushroom, Kiwi fruit), which fetched good income (Tables 8 and 9), except for Kiwi fruit that takes at least three years for fruiting. The

project has demonstrated that even smallholder farmers can generate decent income from these interventions (Highest earner for Shiitake mushroom: GBP 6,452 per annum, highest earner for honey bee: GBP 2,581 per annum). However, the above interventions need high investment upfront, which smallholder farmers find difficult to invest. Hence, the project has been co-funding the costs while also negotiating with local and provincial governments for matching grants for such interventions thereby lowering the financial burden on smallholder farmers.

Except for honeybees, other two interventions, though lucrative, require longer gestation period (1-3 years) to generate income. Another challenge for smallholder farmers is to find a reliable marketing channel with guaranteed fair price for the produce. With the establishment and operationalization of Annapaat Agro Pvt. Ltd., farmers' marketing problem will be resolved gradually with establishment of proper supply chain thereby motivating farmers to produce without having to worry about the marketing and payment aspects.

6. Consideration of gender equality issues

The project is working on reducing inequality as it strengthens economies and builds resilient societies. The project team has become more proactive in including women in skills-oriented trainings, material support and decision making positions. Consequently, the number of women participants has increased from 49% in 2019 to 57% in 2020, and 54% in 2021. The project has introduced specific interventions (honeybee, shiitake mushroom, fresh vegetables, and Kiwi fruit) that target women, youths, and migrants who are often disadvantaged in accessing information, opportunities and resources (Figures 9 in Annex 4.16).

The project is making direct contribution to gender equality by persuading cooperatives to include more women in decision-making positions (Board of Directors and Managers), consequently a positive outcome has been observed with higher number of women assuming decision making positions in 11 out of 14 cooperatives, with three cooperatives yet to reach Government mandated threshold of at least 33% women representation (Table 5). Besides promoting fair representation of women in decision-making positions, the project is also making efforts to strengthen their capacities through including them in major trainings, events, exposure visits, and policy orientation programmes. The project took concerted efforts to strengthen the capacity of local leaders, especially women leaders, on national and international policies provisions of Ramsar, ITPGRFA, CBD and SDG (75 out of 133 participants were local women leaders; 56%).

7. Monitoring and evaluation

The systems and processes employed internally to monitor and evaluate the project during Year III of the project include:

Activity-to output monitoring: The project team organized frequent virtual meetings in the initial months of the second lockdown period (29 April 2021-July 2021). Since the project staffs were scattered in different places, it was important to ensure that everyone was on the same page. This was achieved through frequent virtual meetings accompanied by each project staff preparing Individual Operating Plan, which helped to keep track of the progress. LI-BIRD Management Committee also developed a monitoring system to ensure the staff deliver their best when they are confined to work from home/duty station with limited field mobility. After the lockdown was partially lifted, the project team organized meetings on fortnightly basis to take immediate decisions and implement the project activities. The project team maintained detail list of trainings conducted, and materials supported, so we are in a position to establish the link between project interventions (activities performed) to outputs achieved.

Output-to-outcome monitoring: In Year III, one partners meeting and two Project Steering Committee meetings were organized where the project staff shared the activities, and budget of Year III. The team also reviewed and reflected on Year II performances and incorporated learnings while planning Year III activities. Instead of Annual Review and Planning Meeting, the project organized Travelling Seminar (11 March 2022) and inauguration of Panchase Biodiversity Information Centre highlighting project achievements (refer Annexes 4.3 and 4.11).

Initially, Outcome Monitoring Survey (sample survey) on annual basis was proposed but instead the project team opted for database management of all the participant farmers, which proved to be more accurate and useful when planning for value chain and marketing activities. Complete database of the beneficiaries engaged in different keystone crops are maintained up-to-date. Hence, the project team were able to provide a detailed comparative results for Year I, Year II, and Year III (Sub-section 3.2, 3.2.1-3.2.4 relating to Outputs; Sub-section 3.3, Tables 7-13 relating to Outcomes). Besides that, LI-BIRD maintains in a separate database comprising the list of beneficiaries, disaggregated by gender, involved in project activities like trainings, orientations, material support, etc.

Budget-variance monitoring: The project team was under tremendous pressure to deliver planned activities within a short span of time (COVID-19 lockdown – second wave and third wave), the project team including account officer closely followed monthly planning and expenditure pattern, and made adjustments where necessary. This mechanism helped us to achieve decent burn rate of 98%.

8. Lessons learnt

Some important lessons have been learnt from the LCPV-DI project operations, which will be utilized for designing and executing similar projects by LI-BIRD.

- We have reported in Year II lessons that creating a decent self-employment (comparable to minimum wage in formal sector) or wage employment in agricultural sector is extremely difficult, especially for smallholder farmers. This has been verified by Year III results, where only 32% target (64 jobs out of 200 target) was achieved. Largely, COVID-19 pandemic and prolonged lockdowns were the main reasons for poor performance. Having said that, we need to be more humble in setting targets for job creation in agricultural sector at the proposal development phase.
- While working on the value chain approach involving smallholder farmers, it's imperative to include some larger landholder farmers to ensure quality, quantity and regularity in agro-products supply chain to sustain itself. Hence a balance between larger farmers to maintain the minimum supply level and smallholder farmers to equitably distribute income opportunities needs to be found. The project applied the learning in Year III, and this important lesson will be emulated in other projects as well.
- The project has demonstrated honey production (10-20 hives/HH) and shiitake mushroom production (1000-2000 logs) are important means for income generation and poverty alleviation targeting land-poor households (Tables 8 and 9). However, initial investment cost is high, so co-funding from government agencies and development partners is essential. Alternatively, we have realized that linking smallholder producers to financial institutions for concessional loans on agriculture might be a better option. Seeking co-funding from projects and other government agencies may not be a viable option because of uncertainty involved in funding, timing, terms and conditions attached to co-funding, etc. Hence, a component on access to credit for smallholder farmers need to be an integral part of value chain development projects to implement programmes at scale.

9. Actions taken in response to previous reviews (if applicable)

The last year's annual report and its review report was shared with the partner organizations and they agree with the donor review and recommendations. The project team fully internalized the issues raised by the reviewer, and worked on addressing the issues.

One comment indicated that the PSC meeting was not happening frequently (Year I reviewer report), which was applicable throughout the project period. So, the project team planned to organize 4 PSC meetings in Year II and Year III. In Year II, we managed to organize only one due to COVID 19 pandemic and complete lockdown. However, in Year III, we managed to organize two PSC meetings. Given the involvement of high level diverse stakeholders, it was not feasible to organize PSC meetings frequently. So, one PSC meeting every six month was deemed adequate by the project team, which we have accomplished. Another comment was the failure to organize Annual Review and Planning Meeting or Travelling Seminar in Year I and Year

II. But, in Year III (final year), we managed to organize Travelling Seminar to highlight project achievements to the Minister, high level government officials, and academicians.

Another important issue highlighted in Year I review was to ensure gender equality in the LCPV area (relevant throughout the project). The project team carefully monitored, planned and advocated the need of gender equality to relevant stakeholders. Consequently, we have achieved significant progress in this matter in Year II and Year III (Section 7: Consideration of Gender Equality Issues).

10. Other comments on progress not covered elsewhere

No comments.

11. Sustainability and legacy

The project has been transparent about its work, hence we have received overwhelming support from the local government and the provincial government. The project activities, budget, and achievements are shared with the partners and with Project Steering Committee (PSC) members which includes Mayor of Pokhara Metropolitan City, and Secretary of Land Management, Agriculture, Cooperative and Poverty Alleviation, among other PSC members. We are also sharing the project concept with high level government officials, academicians, representatives from civil society organizations, and private sector actors. The project is working with the fishery cooperatives, and have highlighted the importance of developing an inbuilt mechanism to set aside certain percentage (10%) of their profit as Biodiversity Conservation Fund (BCF) to ensure sustainability of conservation efforts. The project is closely working with Lake Conservation and Development Authority (LCDA) to operationalize BCF.

Another effort the project has achieved to guarantee sustainability is through establishment and operationalization of a packaging house (Annapaat Agro Pvt. Ltd.). The company came into operation on 2 October 2021. The packaging house is directly linked with the farmers producing agrobiodiversity-based products. Also, the packaging house has an inbuilt mechanism to set aside 3-7% of the net profit to BCF. However, it may take another two more years before Annapaat Agro can make meaningful contribution to BCF due to delayed operation.

The exit strategy is still valid and there is no any changes to what was proposed. The above mentioned collaboration guarantees a sustained legacy of the project outcomes.

12. Darwin identity

The project team have been working with different local, provincial level government and non-governmental institutions. During the meetings with such stakeholders, the project has always publicised the Darwin Initiative logo, and the funding is also made transparent. During PSC meeting and partners meetings, stakeholders are made aware about the UK government's contribution and the DI logo through verbal presentations or through the banner (Annex 4.15).

The Darwin Initiative funding project is recognized as a distinct project named as Lake Cluster of Pokhara Valley-Darwin Initiative (LCPV-DI) among the organizations. Also, the project is discussed as a distinct project among the relevant stakeholders at local and provincial levels.

The relevant local government bodies at local (Pokhara Metropolitan City, Rupa Rural Municipality, Annapurna Rural Municipality) and provincial level (Ministry of Land Management, Agriculture, Cooperative and Poverty Alleviation; Lake Conservation and Development Authority; Ministry of Forest, Environment and Soil Conservation; Begnas Fishery Research Centre-NARC) are familiar with Darwin Initiative project and the works being done in LCPV area.

LI-BIRD shares its blogs, articles, reports and publication on its website at www.libird.org. In this webpage, baseline report, need assessment report, market study report, feasibility study report, etc. are uploaded where viewers can easily access those articles. Besides that, LI-BIRD also has its sound cloud account at <https://soundcloud.com/li-birdko-chautari> where the radio programme

can be accessed (12 radio episodes for generating consumer awareness through biodiversity conservation related topics).

13. Impact of COVID-19 on project delivery

The onset of Year III project activities coincided with the Government of Nepal issuing a nationwide lockdown from 29 April 2021 as a measure to control the spread of the second wave of COVID-19 pandemic. Compared to first wave of COVID-19 and subsequent lockdown (24 March 2020 – 21 July 2020), the second phase of lockdown was milder but the COVID-19 (Delta variant) caused havoc in the society with acute shortage of oxygen cylinder and poorly prepared health system stretched to the limit. During the second lockdown, each staff prepared Individual Operating Plan (IOP) to utilize the time effectively. As the lockdown was slightly eased from August, local level staff resumed their duties in the field, and Principal Investigator and Co-investigator joined office in September 2021. The project team organized virtual staff meeting frequently and started to adjust the work plan to maintain project delivery. The project team prioritized accomplishing season-bound high impact activities. Having local level field staff and local resource persons proved to be a great asset in our case.

The COVID-19 pandemic and subsequent lockdowns negatively impacted project deliverables, especially the achievement of economic indicators. The most noticeable was the delay in the establishment of the packaging house, which was the focus of the project to advance Unified Landscape Brand of local agricultural products. As per the project plan, the packaging house should have come into operation by middle of Year II (September 2020). But this happened only in October 2021 – a full year delay gravely impacting the economic indicators of the project. Another significant negative impact was the unavailability of fingerlings (supply chain disruption due to lockdown as most of the fingerlings are brought in from terai districts) for restocking in the lakes thereby drastically reducing the fish yield in Year II and Year III harvests, which severely impacted project's economic indicators.

After the lockdown was relaxed the project staff organized staff meeting to take stock of the situation, and developed revised workplan, which was strictly followed. While conducting fieldwork, staff used official vehicle for field travel and avoided public transport, used masks and sanitizers when visiting the sites, and strictly observed social distancing in meetings. Instead of large gatherings, the project resorted to smaller gatherings for training events. The project staff made sure to use proper precautions when interacting with people in the community.

During the COVID-19 pandemic lockdown the project team communicated through digital means and conducted virtual meetings on regular basis. We also did the same with relevant stakeholders, and such communication means have become more prevalent.

14. Safeguarding

LI-BIRD as the lead organization takes responsibility to ensure that safeguarding policies and practices are consistently applied to staff, partners and beneficiaries throughout its operations. The organization has several relevant policies and mechanism in place:

- LI-BIRD Personnel (Administrative) Service Rules 2064 (2007)
- Conflict of Interest Policy (2016)
- Whistle Blower Policy (2018)
- Child Protection Policy (2018)
- Safeguarding Policy of LI-BIRD (2019)

These documents are not available in LI-BIRD website but can be provided upon request. The onus of consistently applying the above mentioned policies lies with LI-BIRD management, with Executive Board providing oversight. LI-BIRD has a robust system in place to translate those policies into practice, which include but are not limited to the following: 1) new staff and intern orientation, where they are provided with the documents to study as well as Q&A sessions with Human Resource (HR) Manager; 2) orientation to partners on above subjects; 3) summary is

attached as Annex to the contract with partner organizations and consultants; 4) a separate forum for women staff to discuss their issues; 5) multirater feedback mechanism included in staff Annual Performance Appraisal Agreement (APAA); and 6) staff Job Description (JD) includes issues pertaining to Safeguarding Policies and Procedures.

All LI-BIRD staff and interns are obliged to sign Code of Conduct (CoC) at the time of signing their employment contracts. The CoC clearly highlights the DOs and DON'Ts and sets out clear expectations of behaviours for staff and interns at all times.

Within LI-BIRD, HR Manager is the focal person for reporting any safeguarding issues. That said, Executive Director can also be directly contacted/reported. Depending on the type of issues being reported, a small committee is formed to investigate the matter and report to Management Committee, which makes the decision on the matter. The LCPV-DI project has not experienced any safeguarding issues till date. Nevertheless, the policy will be reinforced during staff meetings.

15. Project expenditure

The Year III approved amount was GBP 58,885 for different activities. The project was able to achieve burn rate of 98%, with major underspent observed in staff costs (10% variance), whereas operating costs and travel and subsistence experienced nominal over expenditure. There was no significant variance (within the ±10% allowable limit) to report in the project expenditure.

Table 1: Project expenditure during the reporting period (1 April 2021 – 31 March 2022)

Project spend (indicative) since last annual report	2021/22 Grant (£)	2021/22 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	██████	██████	10%	
Consultancy costs	██████	██████	3%	
Overhead Costs	██████	██████	5%	
Travel and subsistence	██████	██████	-4%	
Operating Costs	██████	██████	-4%	
Capital items (see below)	-	-	-	
Monitoring & Evaluation (M&E)	██████	██████	0%	
Others (see below)	██████	██████	4%	
TOTAL	58,885	57,557	2%	

16. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

No outstanding achievements to report in this section.