

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 2023

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Darwin Initiative Project Information

Project reference	28-015
Project title	Delivering public-private partnerships to benefit farmers and biodiversity in Sulawesi
Country/ies	North Sulawesi, Indonesia
Lead Partner	Wildlife Conservation Society
Project partner(s)	BNWNP - Bogani Nani Wartabone National Park Authority, BKSDA Sulawesi Utara – Natural Resources Conservation Agency North Sulawesi, PT Cargill, Forestry Agency of North Sulawesi Province, FMU II - Forest Management Unit II - Bolsel - Boltim, Bappelitbangda - Research and Development Agency of Bolaang Mongondow Selatan District
Darwin Initiative grant value	£ 498,467.00
Start/end dates of project	1st July 2021- 31st December 2023
Reporting period (e.g. Apr 2022 – Mar 2023) and number (e.g. Annual Report 1, 2, 3)	April 2022-March 2023, Annual Report 2
Project Leader name	Jeni Pareira
Project website/blog/social media	
Report author(s) and date	Danny Rogi, Iwan Hunowu, Titiek Setyawati, Adhie Trisna, Astrid Soraya Fitriani, Christine Margaretha Batubara, Jeni Pareira 16th of May, 2023

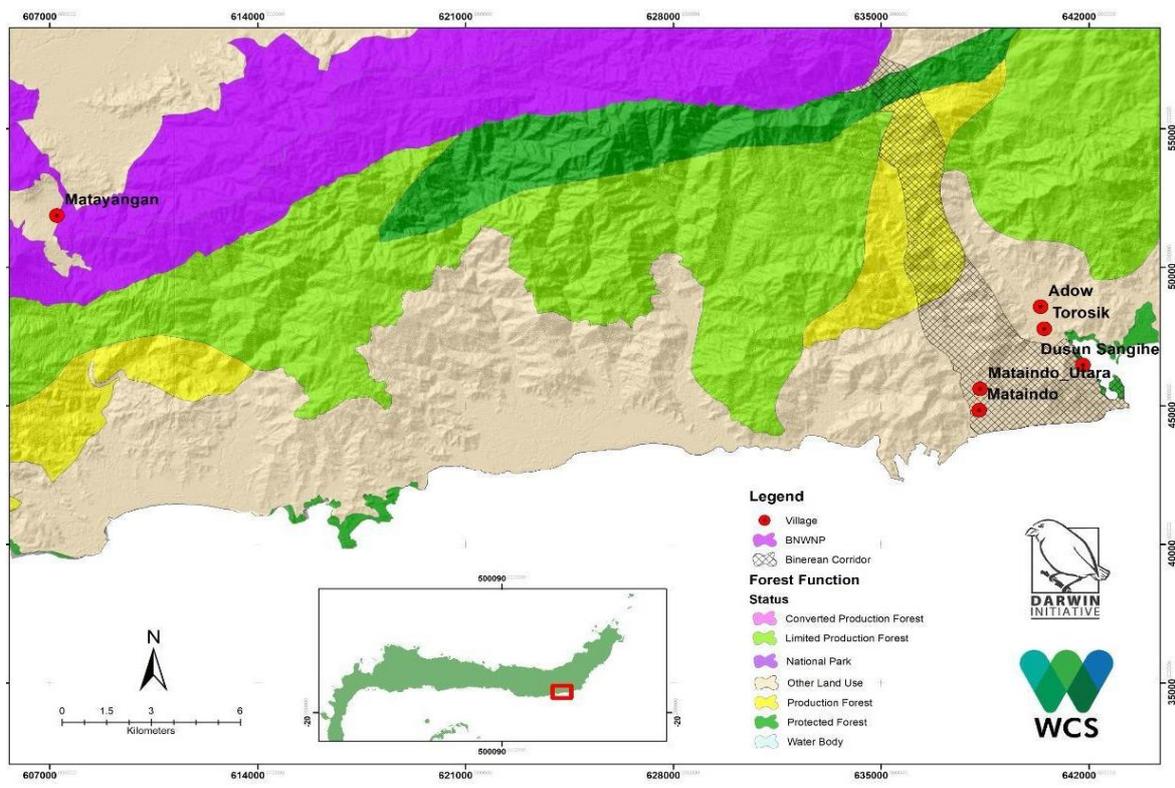
1. Project summary

Sulawesi island has a remarkable diversity of terrestrial flora and fauna and rich coastal marine life. The focal landscape for the project is Bogani Nani Wartabone National Park (BNWNP) (2,871 km²) - Sulawesi’s largest protected area - and its southern buffer zone, comprises part of Forest Management Unit (FMU; 1,394 km²), which includes the gazetted Binerean wildlife corridor (Figure 1). The Binerean Corridor is in Pinolosian Tengah District, South Bolaang Mongondow Regency (Bolsel). This landscape provides habitat for a number of endemic and endangered species including lowland anoa (*Bubalus depressicornis*), maleo (*Macrocephalon maleo*) and the black-crested macaque (*Macaca nigra*) and vital ecosystem services for the communities in the surrounding area, including in the 4 pilot villages (Mataindo, North Mataindo, Torosik, and Adow). This landscape is particularly important for Maleo, as the

corridor is connecting its habitat inside the BNWNP and the nesting sites at the beaches. Of the 36 known Maleo's nesting sites in the North Sulawesi Province, approximately 50% are abandoned, and the global population is now estimated at fewer than 5,000 birds.

The landscape's forests are bordered by rural farming communities, who mainly grow coconuts to produce copra. Despite high international demands for coconut, farmers in this landscape confronted various challenges include low productivity and little value addition, low price for copra, and limited access to finance. Farmers then clearing new areas in attempt to increase their incomes by planting other crops, increasing conservation pressure in this important landscape.

In 2022, Bolsel's population is 66,071 people¹, >50% of whom rely on farming (primarily coconuts) for their main income. Bolsel has the lowest Human Development Index in North Sulawesi (65.3 vs the 73.0 provincial average), and most farmers live on an average income of <GBP110/ month.



Source: from WCS-IP

Figure 1. Project sites in North Sulawesi Province

WCS has a good understanding of the challenges in this area, having been active in the landscape since the late 1990s. Preliminary supply chain assessments by WCS prior to project initiation have identified some of the challenges facing farmers in the landscape and identified opportunities to improve yields and supply chain sustainability for buying companies, including PT Cargill, which is a major buyer of copra in the region.

Through a community, government and private sector partnership, the project will support coconut farmers, reduce forest threats, and restore critical watersheds in North Sulawesi. Community conservation commitments alongside agricultural training will support biodiversity-friendly production and improve farmer livelihoods through higher yields and diversified incomes. Forest restoration will reduce flooding, while collaborative management between government and communities, underpinned by a robust monitoring system, will ensure the future protection of forests and biodiversity, and demonstrate a scalable model for the region.

¹ North Sulawesi Statistical Bureau, 2022

In the short-term, the project will improve rural livelihoods through community engagement and training for >500 farmers. This will support the uptake of more sustainable agricultural practices. These direct beneficiaries are then expected to see improved indices for well-being, including a 10% increase in household income as a result of project support, thereby increasing overall economic security. Participating farmers will receive GAP training, financial literacy training, exposure to new technologies, support for income diversification and improved access to finance to support business investment and planning, and improved access to market. This will provide long-lasting benefits for the participating farmers beyond the project lifespan and to a wider group within the community through the learning exchange process.

The implementation of the co-management plan and improved capacity of FMU staff, community-government patrol teams, and improved community awareness are expected to reduce habitat fragmentation, poaching and other threats to biodiversity, and initiate habitat restoration in the short-term. This is expected to support the protection of the four priority species that are endemic to Sulawesi: lowland anoa (*Bubalus sp.*)(EN); babirusa (*Babyrousa celebensis*) (VU); black-crested macaque (*Macaca nigra*) (CR); and, maleo (*Macrocephalon maleo*) (EN), increasing population trend trajectories by at least 10% (relative abundance and/or occupancy) in the project time-frame and to reduce deforestation by at least 20% within the project time frame.

2. Project stakeholders/ partners

WCS leads on and coordinates the delivery of all project outputs in partnership with government, community, and private sector partners. This includes leading on the development of a landscape assessment framework and monitoring system, developing, and delivering a farmer training and capacity building programme, and facilitating the development and adoption of a co-management model for the landscape with key government, private sector, and community stakeholders. Partners involved in the project include:

- North Sulawesi Natural Resources Conservation Agency (BKSDA Sulawesi Utara) - Following our memorandum of understanding with the Ministry of Environment and Forestry (MoEF), WCS has to work collaboratively with MoEF's technical implementation unit in North Sulawesi, which are BKSDA Sulawesi Utara and BNWNP Authority. BKSDA Sulawesi Utara is responsible for managing the conservation area and conserving wild flora and fauna in the North Sulawesi Province. We have a Program Implementation Plan and annual working plan with the BSKDA Sulawesi Utara, which includes this project. In line with its mandate, we are working closely with the BKSDA Sulawesi Utara in conserving the key species in this landscape, especially in the Binerean corridor which is located outside the national park. BKSDA Sulawesi Utara is playing a key role in coordinating the Ecosystem Essential Area Forum (Forum KEE), a multi-stakeholders governance structure that oversees the management of the Binerean Corridor.
- Bogani Nani Wartabone National Park (BNWNP) Authority - WCS has a Program Implementation Plan and Annual Working Plan with BNWNP Authority. Since 1991, BNWNP has been working together with WCS in conserving the flagship species in the park. Together with the BNWNP we continue conducting forest patrol and establish a forest monitoring system. BNWNP Authority leading the discussion with Provincial and District Governments on the empowerment of the community in the buffer zone area to transition to produce biodiversity-friendly commodities. Together with BKSDA Sulawesi Utara, BNWNP plays a key role in the implementation of co-management plans.
- Forestry Agency of North Sulawesi Province - The Provincial Forestry Agency provides the forest administration framework for all project interventions in the Production Forest Management Unit II, which is in the buffer zone of BNWNP.
- Forestry Management Unit II - Bolsel Boltim (FMU II) – Together with the FMU II team, we are implementing joint SMART patrol activities in the FMU II areas. We have identified potential areas for restoration and in discussion with FMU to develop a restoration plan through a social forestry scheme. FMU Unit II is part of Forum KEE that plays an important role in leading the development and implementation of co-management plans.

- The Research and Development Agency of Bolaang Mongondow Selatan District (Bappelitbangda Bolsel). We collaborated with Bappelitbangda Bolsel in the design and the implementation of socio-economic survey. Bappelitbangda is the leading agency within the Bolsel District Government on any discussion related to Forum KEE, including incorporation of the Ecosystem Essential Plan and Roadmap into the District Development Plan.
- PT Cargill - PT. Cargill has been collaborating with us to provide technical assistance for the farmers in addition to co-financing the project, which includes assisting with the design and delivery of training on good agricultural practices (GAP) to the farmers. PT. Cargill has also been actively involved in the Forum KEE discussion, providing input from a private sector perspective. PT. Cargill was invited to be part of the Forum KEE member; therefore, they can play an active role in the management of the ecosystem essential area in the long term. In the discussion with Bolsel District Government, PT Cargill is committed to support farmers through their corporate social responsibility program.
- Manado State Polytechnic (Polimdo) - Polimdo led the design and analysis of coconut value chain analysis in this project. We expect Polimdo will be able to support farmers with applied technology for agricultural activities and facilitate the development of eco-tourism business potential.
- Agricultural Instrument Standardisation Agency (BSIP). BSIP main responsibility is to coordinate, formulate, implement, maintain, and harmonise the standard of agricultural instruments. BSIP is running a palm research centre in Manado. We collaborate with the BSIP to provide training on GAP for the farmer and development of coconut derivative products.
- Non-Aligned Movement Centre for South South Technical Cooperation (NAM CSSTC). NAM CSSTC contributes to the acceleration and enhancement of national development by strengthening and expanding South-South technical cooperation in the context of international development cooperation. NAM CSSTC will hold a seminar on tissue culture techniques for coconut plants, aquaculture training, international certificate training for coconut development officers, international symposium/seminar on vegetable oil, training on women and youth entrepreneurship. Bolsel District Government has submitted a proposal to the NAM CSSTC requesting their support to strengthen farmer capacity on the development of coconut business. In response to the proposal, NAM CSSTC requested Bolsel District Government to conduct situational analysis of coconut potential in the district, to be funded by NAM CSSTC. We consider NAM CSSTC as a potential partner to develop a resilient sustainable coconut sector in Bolsel District.

3. Project progress

3.1 Progress in carrying out project activities.

Output 1: An assessment framework and monitoring system is established across the landscape, enabling the BNWNP and FMU authorities and the multi-stakeholder partnership to implement and adapt approaches within a forest management strategy that integrates forest protection, restoration, and sustainable agricultural production.

Activity 1.1. Develop biodiversity, farmer socio-economic, flooding and deforestation indicators in consultation with project stakeholders.

The landscape is critical habitat for many endemic and endangered species including Anoa (*Bubalus depressicornis*), Babirusa (*Babyrousa celebensis*), Maleo (*Macrocephalon maleo*) and black crested macaque (*Macaca nigra*). The BNWNP authority, FMU II Bolsel and WCS agreed to monitor the population of these key species as biodiversity indicators.

WCS has conducted farmer socio-economic surveys in early 2022, in collaboration with the Bolsel District's Research and Development Agency. From this survey we compiled the baseline of farmer socio-economic indicators to be monitored during the project.

Furthermore, WCS, the Bolsel District Government, the BKSDA Sulawesi Utara, BNWNP Authority and FMU II collaboratively conducted a participatory High Conservation Value (HCV) assessment. The assessment aimed to identify HCV areas, identify pressures and threats to maintaining HCVs and provide recommendations for the management of HCVs at the landscape or jurisdictional level.

WCS team has conducted a study regarding the level of erosion and sedimentation risk in Bolaang Mongondow Selatan in Year 1, which can be used as a proxy to estimate flooding and deforestation risk in our sites. The study revealed that the forest and cover changes driven by human activities are the main factor affected the erosion and sedimentation risk. Our analysis revealed that between 2015-2020, BNW landscape lost 10,508 hectares of forest, with an average annual deforestation rate of 0.33%. Meanwhile, in the same period, 1,566 hectares of forest were lost within the BNWNP with an annual deforestation rate of 0.11%. Between 2020-2021, annual deforestation rate in BNW landscape decreased to 0.25% and within BNWNP to 0.07%. We continue to monitor deforestation rate within BNWNP and its buffer zone area, and together with the BNWNP team, we are still analysing the rate of deforestation for the 2022-2023 period.

Activity 1.2. Develop a land-use monitoring system to establish farmland, forest and flooding risk baselines, identify priority areas, create deforestation alerts and monitoring project progress.

We produced a forest and land cover change map for the landscape between 2015-2020 period, with projections for 2019-2050. Our flooding risk analysis showed that land cover changes affected sedimentation flow. In March 2022, WCS disseminated the forest change and flooding risk analysis results to the Forum KEE (BNWNP, KSDAE, FMU, Bappeda). Based on this analysis, we registered farmers in high-risk areas who were willing to join the project. We have facilitated communities in five villages (Mataindo, Mataindo Utara, Torosik, Adow, and Matayangan). In Year 2, we mapped farmland in the landscape to identify priority farmers to be supported to implement biodiversity-friendly farming practices.

One of the key elements in the establishment of a land-use monitoring system is farmer registration and farmland mapping. In December 2022, we held participatory mapping training for the communities in the four pilot villages. Twenty people participated in this training of trainers, which included the following topic: farm sketch and mapping, how to use GPS, polygon, data point, etc (Annex 4.2. Figure 2). In this opportunity we also delivered training on Good Agricultural Practices, agroforestry demonstration plot, and wildlife protection. Following the training, from January 2023, farmers continue mapping their farmland including in the Binerean corridor and Matayangan area. Up to March 2023, total 502 farmland mapped, which includes 397 plots in Mataindo, 41 plots in Adow, 22 plots in Torosik, and 42 plots in Matayangan Village. We will continue to map the farmland in Mataindo Utara, Torosik, Adow and Matayangan Village, with a target of approximately 300 farmers.

Activity 1.3. Conduct biodiversity surveys and assess trends of priority species and their forest habitat across the landscape.

In Yr1, we have conducted camera survey and compiled baseline data of population and habitat condition of four key species in the landscape include lowland anoa (*Bubalus depressicornis*), babirusa (*Babyrousa celebensis*), maleo (*Macrocephalon maleo*), and the black-crested macaque (*Macaca nigra*) in the BNWNP and area for other land uses (APL - *area penggunaan lain*). The estimated occupancy of anoa in 2021 is 0.53 (95% Confidence Interval 0.34-0.73; Standard Error=0.09) indicating an increase of 12% from the 2020 survey (0.43; 95% Confidence Interval 0.23-0.63; Standard Error=0.09). The estimated occupancy of babirusa also experienced a significant increase of 26% in 2021 (0.59 with a 95% Confidence Interval 0.43-0.76; Standard Error=0.08) compared to the previous survey, which was 0.33 (95% Confidence Interval 0.18-0.47; Standard Error=0.08).

Table 1. Biodiversity result for maleo (*Macrocephalon maleo*)

Year	Breeding population	SE
2021	13	0.09
2022	18	0.08

Table 2. Result of occupancy survey of anoa (*Bubalus depressicornis*)

Year	Prob occupancy	Lower	Upper	SE
2021	0.53	0.34	0.73	0.09
2022	0.65	0.52	0.71	0.11

Table 3. Result of occupancy survey of Babirusa (*Babyrousa celebensis*)

Year	Prob occupancy	Lower	Upper	SE
2021	0.61	0.43	0.71	0.08
2022	0.57	0.41	0.68	0.09

In Yr2, we also conducted biodiversity surveys (June-October 2022) of the same species (see Table 1-3). The team has processed and prepared the data for analysis. This includes species identification and metadata tagging for every photograph (>10,000 photos) obtained during the survey. From the 50 camera traps, there were 132 photos of Anoa and 186 photos of Babirusa. The occupancy of the Anoa and Babirusa remained similar between 2021 and 2022 (due to overlapping confidence intervals) (Table 2 and 3).

In line with the agreed timeline, BNWNP Authorities and WCS will conduct biodiversity survey in April 2023 to monitor the population and habitat condition of the key species (anoa, babirusa, maleo, and black crested macaque) in the BNWNP and in the area for other land uses (APL-*area penggunaan lain*) including in the Binerean corridor, which are the main area connecting the Maleo habitat in the forest and its nesting ground on the beach. We have established a permanent site for biodiversity monitoring in wildlife refugia, part of the Binerean wildlife corridor in the APL area including 33 stations of Variable Circular Plot (VCP) for estimating bird population, six line transects for mammals and primate, and 33 plots for vegetation structure and compositions. This activity involved the local community, especially youth representatives to be trained in data collection and to be future research assistant. We will compile data and information on the impact of GAP application around the wildlife corridor area as well as wildlife conflict data and information.

1.4. Conduct farmer surveys to assess socio-economic conditions of farmers across the landscape.

Following the socio-economic survey in Yr1, we have compiled the baseline data and are currently analysing the data.

Output 2: >500 smallholder farmers in Bolsel are committed to forest protection and restoration, and have viable livelihoods from sustainable agriculture practices, supported by a multi-stakeholder partnership.

Activity 2.1. Engage government, private sector and community stakeholders to establish a multi-stakeholder forum that develops a strategy for integrated forest protection, restoration and sustainable agricultural production.

We continue engaging relevant stakeholders to the project. We held a discussion with the Secretary of the Agricultural Agency of Bolsel District regarding provision of training to increase farmer capacity and agreed to jointly develop the GAP training module (please see activity 2.2). The Agricultural Agency will allocate their extension officer to support the farmer in the five pilot villages. We also engaged with BSIP (*Badan Standardisasi Instrumen Pertanian / Agricultural Instrument Standardisation Agency*) to support farmer training and capacity building (see activity 2.5). We also engaged the Watershed and Protected Forest Management Agency to gain their support for forest restoration and land rehabilitation by providing seedlings.

Meanwhile, at the wider landscape, we strengthened Forum KEE to develop the strategy for integrated forest protection, restoration, and sustainable agriculture production. The Forum KEE is a multistakeholder governance structure that oversees the management of the ecosystem essential area. On 14-16 February 2023, WCS supported the Forum KEE to hold a two day meeting in Manado, which aimed to gather more support from the North Sulawesi Provincial Government. The meeting was attended by 81 participants (15 women and 66 men) representatives of Provincial Government Agencies (Development Planning Agency and Forestry Agency), BNWNP Authority, BKSDA North Sulawesi Authority, FMU Unit II, Agricultural Instrument Standardisation Agency (BSIP), District Government Agencies, Local Government Parliament, Sub-District Governments, Head of 5 pilot villages, Local Bank, Private Sector, and CSOs.

In this meeting, the Forum KEE shared the lesson learned from the collaborative management of the Tanjung Binerean wildlife corridor. During the meeting, the participants reviewed the structure of the multistakeholder forum to be more effective in supporting the management of the landscape in the southern part of BNWNP, by considering the recent situation, opportunity and challenges facing this landscape. As the follow up, the Forum KEE will finalise its 2023-2024 action plan and roadmap of Binerean Corridor Management. The provincial government agreed to integrate the KEE's action and roadmap into the provincial level development planning particularly to support development of provincial's green growth plan. The participants also agreed to include more relevant stakeholders in the management structure, such as Cargill and BSIP.

Activity 2.2. Conduct farmer needs assessment, including knowledge and application of GAP, farmer organisation, assessment of access to inputs, markets and finance

To gain better understanding of farmers' needs, WCS conducted Focus Group Discussions in the five pilot villages, attended by 392 participants (246 men and 146 women). The key findings are:

- farmers have implemented intercropping in the past, but it requires intensive assistance
- farmer still using conventional farming techniques due to lack of funding and limited access to market;
- farmers using organic pesticides instead of chemical pesticides.
- farmer's income unable to meet their daily needs;
- women hold a key role in planting and selling of nutmeg, clove, and chilli, which are important sources for additional income for farmer household.

We held a workshop to improve farmers capacity to support the management of the Tanjung Binerean Wildlife Corridor and BNWP Landscape. PT Cargill (the main buyer of coconuts in the landscape), Polimdo, BNWNP Authority, Forest Agency of North Sulawesi Province, FMU II Bolsel and Boltim, Agricultural Agency of Bolsel, Bapelitbangda Bolsel, BSIP, Head of Binerean Corridor Forum, Celebica and key farmer groups attended the workshop. In this workshop we disseminated information of the GAP materials and refined the training module. At the end of the workshop the participants visited farms in the Binerean corridor to observe farmers and discuss conservation-livelihood issues.

Activity 2.3. Conduct Participatory Rural Appraisals with communities to develop conservation agreements and identify challenges, needs and opportunities.

Following the discussion at the hamlets level, we held a series of focus group discussions in each of the five pilot villages to initiate the Rapid Rural Appraisal (Annex 4.2. Figure 3). Considering our depth-engagement with the community and our understanding of the village situation, we decided that full Participatory Rural Appraisal (PRA) is not necessary. We have secured five conservation agreements with communities in each pilot village on a voluntary basis. The conservation agreement demonstrates the community commitment to:

1. Support and actively applied GAP in their farming practices;
2. Proactively conduct any activities to prevent environmental disaster, such as forest fire, flood, landslide, through the implementation of ecosystem restoration and land rehabilitation;
3. Reduce any destructive activities such as encroachment and illegal logging, illegal animal hunting and trading, and reduce the utilisation of agro-chemical substances;
4. Actively participate in any capacity building activities/training;
5. Actively establish collaboration with multi-stakeholders include farmer groups, village and district government, FMU II Bolsel-Boltim, BNWNP Authority, BKSDA North Sulawesi, Palm Research Agency, BSIP, Protected Area and Watershed Management Agency, Manado State Polytechnic (Polimdo), CSOs (WCS, etc), and private sector (PT. Cargill).

Activity 2.4. Assess landscape agricultural, value chain and alternative livelihood opportunities.

The assessment was conducted in April 2022, led by Polimdo (Manado State Polytechnic), using purposive sampling method. The Polimdo team interviewed Sangadi (head of the village), representatives of farmers, collectors, government officials and other relevant agencies such as Bappelitbangda Bolsel, Agricultural Agency Bolsel. We have completed the analysis in this reporting period.

The assessment revealed that farmers usually sell the coconut to the collectors who picked the coconut from their farm. These collectors then sell the coconut to the larger collectors in Molibagu, Bolaang Mongondow and Amurang, who have a cooperation agreement with the company (PT. Cargill). Village collectors can transport coconut directly to the company with recommendations from the larger collectors. Beside directly selling the coconut, farmers also produce copra. The price of coconut fluctuated, ranging from IDR 1,200 - 3,000/nut (USD 0.08-0.2/nut). Whilst, the price of copra also fluctuated, ranging from IDR 4,000 - 5,000/kg (~USD 0.27 - 0.34) at the farmgate level. Meanwhile the collector sells the copra to the company at the price of IDR 10,000/kg (~ USD 0.68/kg) at the end of 2022. A hectare of land can produce on average 2 tons of copra/year. It is estimated that a farmer can earn a net profit of IDR 9,000,000/ha/year (~USD 614/ha/year) from copra production. In general, the farmers own 1-2 ha of farmland. Some communities in Adow and Matayangan Village produce coconut oil, however, they confronted difficulties with the processing techniques, resulting in a non-durable product.

The conclusion from this assessment is the farmer received a very low price and profit by only selling the coconut and copra. Therefore, it is imperative to improve the efficiency of supply and value chain, provide training for farmers to produce derivative products from coconut or to produce high economic value products from coconut, improve farmer access to finance, and support farmers develop additional sources of income. The assessment also revealed that coconut derivative products have enormous potential due to the market and relatively steady prices. There are many coconuts derivative products that can be developed, including: virgin coconut oil (VCO), coconut flour, coconut milk, biodiesel, coco fibre, activated carbon, charcoal briquettes and others.

Activity 2.5. Design and deliver a farmer training programme on GAP, institutional strengthening, support for rehabilitation, agroforestry or intercropping.

Following the result of farmer need assessment conducted in the Yr 1 and the discussion with relevant stakeholders in October 2022, we have developed seven modules of GAP training materials, include:

1. Introduction to the village and forest area
2. Good Agricultural Practices of Coconut
3. Agroforestry
4. Organic agriculture
5. Living in harmony with wildlife
6. Alternative Livelihood
7. Business Management

We continue to deliver GAP training to the farmers in the five pilot villages to support increased productivity and profitability of their farm. We have trained farmers to produce organic fertiliser and pesticide using material available in their farmland (Annex 4.2 Figure 4). The objective of this training material is to reduce the utilisation of chemicals in their farming practices which will reduce the negative impact to the environment and to the community's health, if not applied properly. Meanwhile, the utilisation of organic fertiliser and pesticide will reduce the production cost. We also delivered training on the farming techniques on the steep slope area, intercropping and agroforestry. These training will support soil conservation and part of landslide and flooding risk mitigation efforts.

We have engaged the Agricultural Instrument Standardisation Agency/BSIP to deliver coconut GAP training for the farmers. BSIP runs a palm (including coconut) research centre in Manado. On 13-19 March 2023 we held a training for 25 farmers from our five pilot villages, staff BNWNP, FMU Unit II Bolsel, and BKSDA North Sulawesi, located in BSIP's research centre in Manado (Annex 4.2. Figure 5). In this occasion, the participants had the opportunity to learn about the development of coconut seedlings and nurseries, best practices of coconut farming (planting, intercropping, pest, and disease control), development of coconut derivative products. In this opportunity, we also introduce conservation of wildlife and its habitat, ecosystem restoration, and the interconnection between conservation and agricultural activities.

We have engaged 867 farmers in the landscape, of which 498 farmers have committed to participate in the GAP training and apply GAP in their farming practices.

Activity 2.6. Conduct a feasibility assessment for value addition in the coconut supply chain and other potential additional sources of income, and develop draft business plan.

We have scoped the potential sources for development of additional income which include:

- a) From coconut: potential to produce virgin coconut oil (VCO), nata de coco and hydro coco, organic fertiliser, cocopeat, etc. Producing nutmeg derivative products
- b) Candle nut potential to produce candle nut oil
- c) Clove: potential to produce clove oil

We held training in two villages (Annex 4.2. Figure 6) particularly targeting the women groups in value addition of the coconut and other potential additional sources of income such as nutmeg juice and dodol (snack with soft texture and sweet taste), passion fruit syrup, and butterfly pea processing (to produce tea and dodol). Total 97 farmers were trained, including 90 female and seven (7) males. Further analysis is required to assess the feasibility of developing these potential sources of income into a more commercially viable business.

Output 3: A co-management model for protecting biodiversity, forest and ecosystem services is designed and implemented across the landscape.

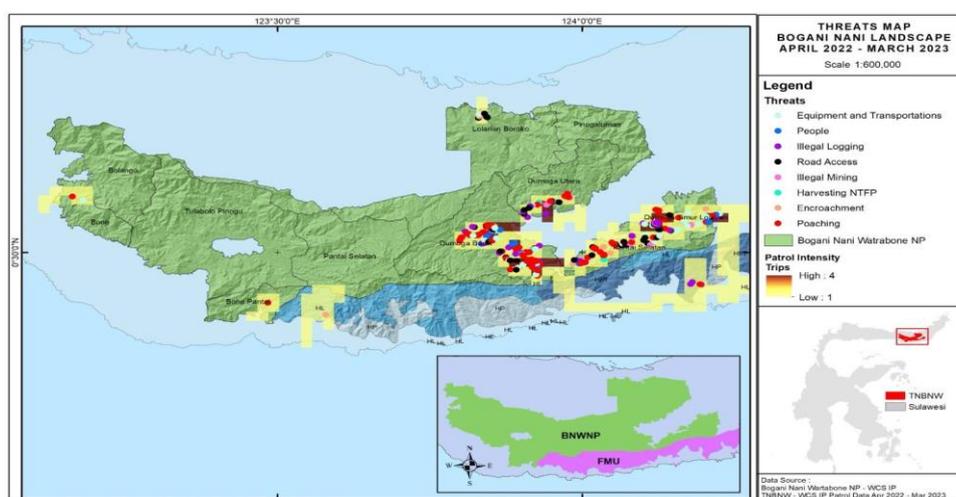
Activity 3.1. Conduct multi-stakeholder meetings to jointly develop and support implementation of co-management plan in high conservation value forests.

WCS supported North Sulawesi Provincial Government and BNWNP Authority to hold a multi-stakeholder meeting on 14-16 February 2023 (Annex 4.2. Figure 7). In this meeting, the Forum KEE shared the lesson learned from the collaborative management of the Tanjung Binerean wildlife corridor. During the meeting, the participants reviewed the structure of the multistakeholder forum to be more effective in supporting the management of the landscape in the southern part of BNWNP, by considering the recent situation, opportunity and challenges facing this landscape. As the follow up, the Forum KEE will finalise its 2023-2024 action plan and roadmap of Binerean Corridor Management. Following the meeting in Manado, we will incorporate the roadmap and action plan of Binerean Corridor Management into the North Sulawesi province's green growth development plan.

Activity 3.2. Train and support community-government ranger teams to patrol BNWNP and FMU and conduct community outreach.

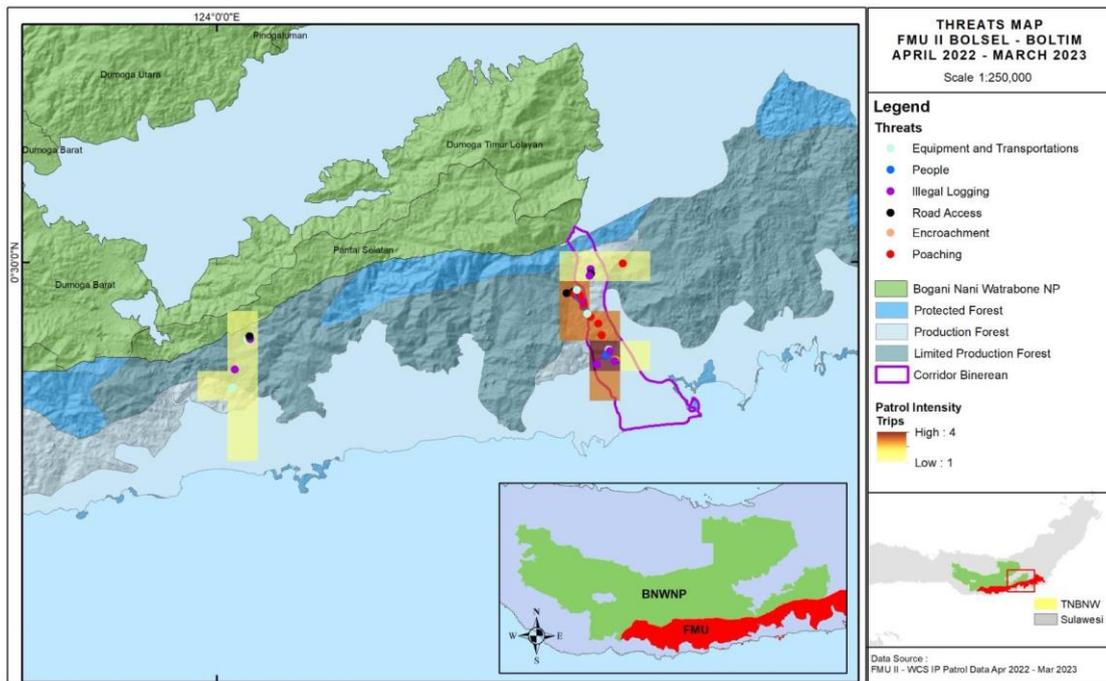
WCS continues to support capacity building training on SMART patrols for our key government partners including the BNWNP, BKSDA Sulut and FMU II Bolsel Boltim. On 30th May - 2nd June 2022, WCS facilitated refresher training for SMART Data Operators in BNWNP. The 3-day training was conducted at section 1 of Limboto - BNWNP, and attended by 17 participants, including six new SMART Data Operators (Annex 4.2. Figure 8). We also facilitated a 3-days training on analysis and utilised SMART Patrol data to strengthen effective protection strategies. This training is aimed to analyse the SMART patrol efforts that have been carried out and update the current condition of the area, to inform protection strategies of the area. We then held another training on 22-24 September 2022 and attended by 22 participants that consist of 14 BNWNP staffs and eight WCS staffs.

On 9 - 10 February 2023, we conducted SMART patrol mentoring for FMU II SMART Patrol data operators. We also trained five newly assigned staff, who will join the patrol teams, thereby increasing field presence. This year, WCS and FMU II teams have conducted three SMART patrols over a 50.3 km patrol path. Meanwhile in the BNWNP, three SMART patrol teams conducted 28 patrol trips (Figure 9) in 161 days, over 494 km, covering three resorts in BNWNP. During the patrol, the teams removed 365 snares traps, 427 bamboo traps, 10 bird traps. The team also recorded 29 illegal encroachment points and 64 illegal logging points. While for the FMU II Bolsel-Boltim, the patrol team conducted four patrol trips (Figure 10) in 20 days, over 70 km covering two resorts.



Source: WCS-IP

Figure 9. Patrol Intensity and Threats Found By Patrol Teams in Bogani Nani Wartabone National Park (April 2022 to March 2023)



Source: WCS-IP

Figure 10. Patrol Intensity and Threats Found by Patrol Teams in Forest Management Unit II of Bolsel-Boltim (April 2022 to March 2023)

Activity 3.3. Establish restoration, supported by government and with active participation of communities, in degraded watershed forests.

Based on the forest and land cover change analysis and from the result of farmland mapping, we have identified potential areas for restoration in the Binerean Corridor and Matayangan Village. We have mapped around 30 coconut farmland polygons inside the BNWNP, which need to be restored. Together with the BNWNP Authority, we have identified a reference ecosystem as a guideline for us in selecting tree species for the restoration activities. We will restore the farmland inside the BNWNP by implementing enrichment planting of durian, candle nut and nutmeg seedlings. In addition to restoring the ecosystem, it is expected that these tree species can produce high economic value commodities as additional sources of income for the communities. Meanwhile, we were also having discussion with FMU II regarding restoration of degraded watershed forest in collaboration with four forest farmer groups in Mataindo and Mataindo Utara through a social forestry scheme.

Activity 3.4. Conduct applied conservation and agroforestry research in the landscape.

On 27 October 2022, we monitored the progress of the agroforestry demonstration plot in Mopopungu within the Binerean corridor. Within this demonstration plot we developed intercropping of different tree species and short-lived high economic value plant species. We have planted more than 150 seedlings of tree species including ebony, champak, palaquim, nutmeg, fruit trees (nutmeg, avocado, mango, rambutan, durian and matoa), and arenga. We will continue to monitor the demonstration plot, especially to replace dead seedlings, watering the new plan, and weeding. During this visit, the team encountered several wildlife species including two pairs of knobbed hornbill (*Aceros cassidix*), one pair of maleo and an individual of Sulawesi bear cuscus (*Ailurops ursinus*).

On the 23rd of November 2022, we returned to Mopopungu to monitor the demonstration plots. From this visit we concluded that it is important to carry out a soil test as a basis to determine plant species that are suitable for the soil condition, in addition to designing a demonstration plot layout to make it easier for monitoring. We will develop a sign board that will provide information on the progress of the demonstration plot.

Activity 3.5. Hold government-led stakeholder consultation workshops to compile and then disseminate project results and lessons learned to village, district, provincial and national level partners

MoEF has set November 21st as the World Maleo Day. To raise public awareness on the importance of maleo conservation, together with the Bolsel District Government, BKSDA North Sulawesi, and the BNWNP Authority, we held a two-day international symposium in Kotamobagu on 21 - 22 November 2022 (Annex 4.2. Figure 11). The agenda of the first day was a full day workshop with the speakers from Bolsel District Government, CSOs (Aliansi Tompotika, Biodiversitas Gorontalo), and the National Innovation and Research Agency (BRIN). On this occasion, we highlighted the progress of our project on supporting farmers in the five pilot villages producing wildlife-friendly coconut that support the protection of maleo. The agenda of the second day was a Village Expo including competitions (children colouring competition, mimicking maleo's voice and behaviour, social media reels) and art performances. We also highlighted the progress of coconut production while supporting the protection of maleo in the five pilot villages.

In March 2023, WCS supported Bolaang Mongondow Selatan District Government and BNWNP to submit a proposal, update project progress and lessons learned to Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC). This proposal aims to identify available coconut resources in Tanjung Binerean, develop a sustainable coconut processing industry that can meet international market demand, and increase the income of coconut farmers in the surrounding area of Tanjung Binerean. The Bolsel District Government and NAM CSSTC discussed an opportunity for collaboration training on techniques of tissue culture for coconut plants, aquaculture, international certificate training for coconut development, vegetable oil and training for women and youth entrepreneurship. As a follow up on this proposal, NAM CSSTC requested Bolaang Mongondow Selatan District Government to have desk study of coconut available resources and existing conditions (Annex 4.2. Figure 12).

3.2 Progress towards project Outputs

Output 1: An assessment framework and monitoring system is established across the landscape, enabling the BNWNP and FMU authorities and the multi-stakeholder partnership to implement and adapt approaches within a forest management strategy that integrates forest protection, restoration, and sustainable agricultural production.

We have made progress towards the establishment of an assessment framework and monitoring system with a focus on biodiversity, forest and land cover, flooding risk, and farmer's socio-economic conditions. We expect this to be completed by the close of the project. Up to the 2nd year of the project, we have built the foundations for the assessment framework and monitoring system, establishing datasets that previously were not available prior to the project. We have met the year 2 indicators of:

1.1. Key indicators for biodiversity, farmers, flooding, deforestation, and additional social and environmental indicators identified by Yr 1 (baseline=0)

We have listed the indicators for biodiversity, farmers socio-economic, deforestation, flooding risk.

1.2 Baseline established by Yr1, and a system developed by Yr3 to monitor forest, farmland, land use change flooding and other key environmental indicators (baseline = 0)

We have established the baseline in Yr 1 and continue developing the monitoring system to be completed by Yr3.

1.3. Baseline established by Yr1, and trends established by Yr3 for population and habitat condition of four priority species (baseline = 0)

In the Yr1, we have compiled the baseline for population and habitat condition of four key species in the landscape include lowland anoa (*Bubalus depressicornis*), maleo (*Macrocephalon maleo*) and the black-crested macaque (*Macaca nigra*).

1.4. Baseline socio-economic conditions for >500 farmers established by Yr1 and trends for at least 50% of participating farmers known by Yr3 (baseline = 0)

Following the farmer socio economic survey in Yr1, we have compiled the baseline data of farmer's socio-economic condition.

Output 2: >500 smallholder farmers in Bolsel are committed to forest protection and restoration, and have viable livelihoods from sustainable agriculture practices, supported by a multi-stakeholder partnership.

We have made progress toward achieving output 2 through our engagement with 867 farmers in the five pilot villages, of which 498 farmers have expressed their commitment to join the program and comply with the basic principles defined in the community conservation agreement. We are currently supporting these farmers through the provision of technical assistance to improve their farming practices and identified additional sources of sustainable livelihood. We also strengthened the Forum KEE, a multistakeholder forum, that oversees the management of the essential ecosystem, including the wildlife refuge in the Binerean Corridor.

2.1. One multi-stakeholder forum is established, with joint commitment supported by 3 government agencies, >5 community groups, Cargill and >2 NGOs/CSOs (Yr1), which leads to the development of a forest management strategy that integrates forest protection, restoration, and sustainable agricultural production (Yr2) (baseline = 0)

We did not establish a new multi-stakeholder forum, but decided to strengthen the Forum KEE, a multistakeholder forum consisting of the representative of Bolsel District Planning and development Agency, Bolsel District Forestry Agency, Bolsel District Agricultural Agency, Bogani Nani Wartabone National Park Authorities, BKSDA Sulut, Bolsel District Tourism Agency, 4 Villages in Bolsel District, and WCS.

In this Yr 2, the membership of KEE Forum will be expanded through the addition of relevant stakeholders such as Cargill, Local Bank and BSIP.

2.2. By Yr 1, farmer mapping and needs assessment was conducted for >500 farmers in BolSel (baseline = 0)

We have conducted farmer need assessments using Rapid Rural Assessment techniques. So far we have engaged 867 farmers in 5 pilot villages and mapped 502 plots of farmland in the landscape.

2.3. By Yr 2, five community conservation agreements were signed (baseline = 0)

In Yr2, we have secured five community conservation agreements.

2.4. By Yr 1, agricultural assessment and supply chain risks and opportunities for income diversification were identified (Yr1) (baseline = 0)

We have mapped coconut supply chain risk and opportunities and identified potential sources of additional income generation that exist in the landscape.

2.5. Farmer training programme (in Good Agricultural Practices and Institutional Strengthening) is developed (by Yr1) and delivered, including intensive training to >300 farmers (by Yr3) (baseline = 0)

We have developed GAP training materials that consist of 7 modules. In collaboration with the Bolsel District's Agricultural Agency, BSIP, and PT. Cargill has delivered GAP training to 367 farmers (42% female and 58% male).

2.6. By Yr3, one feasibility assessment and draft business plan for small-scale organic virgin coconut oil enterprise is developed (baseline = 0) or for other potential sources of income is identified in year 1 and year 2.

We have identified other potential sources of income in the villages. We will conduct the feasibility assessment to develop these potential sources of income in the Yr3.

Output 3: A co-management model for protecting biodiversity, forest and ecosystem services is designed and implemented across the landscape.

Through the Forum KEE, we are working with all stakeholders to develop the co-management model, built on the BNWNP management plan, FMU Unit II Management Plan, and Ecosystem Essential Area (KEE) action plan and roadmap. We will incorporate and mainstream it into the District and Province's green growth plan. In Yr2 we have identified the High Conservation Value Areas in the Bolsel District which will inform the formulation of co-management model and the green growth plan.

3.1. One co-management plan is developed to protect the target landscape (139,400 ha) of high conservation value forest (Yr2) (baseline = 0)

We are working with all stakeholders to develop the co-management model. We will continue this process in the Yr3.

3.2. Two well-trained community-government ranger teams are supported to patrol >200 km/year in BNWNP/FMU and conduct outreach in the five villages/year (Yr2&3) (baseline = 0)

In Yr2, we have trained two community-ranger teams and conducted SMART patrol along 614,3 km patrol path. Together with BNWNP and FMU II staff, our team conducted outreach activities in the five villages to raise community awareness on the importance of wildlife and forest conservation, and its interconnection with the agricultural activities.

3.3. Rehabilitation process started on >200 ha of degraded watershed forest with active participation of communities (Yr3) (baseline = 0)

Based on the forest and land cover change analysis, we have identified degraded areas within the BNWNP and FMU area and its buffer zone. Whilst from the farm mapping, we have identified farmland inside BNWNP and FMU area. In Yr3, we will conduct the rehabilitation and restoration activities in collaboration with BNWNP and FMU authorities and the communities.

3.4. >10 small grants to young Indonesian conservationists to conduct applied conservation and agroforestry research projects (Yr1-3) (baseline = 0)

We have not distributed the small grants because we have not received any application or expression of interest from the young Indonesian conservation to conduct applied conservation and agroforestry research projects. We will be more proactive to promote this in the future.

3.5. At least four government-led stakeholder consultation workshops to compile and then disseminate project results and lessons learned to village, district, provincial and national level partners (Yr3) (baseline = 0)

In collaboration with the Provincial and District Government, we will hold stakeholders' consultation workshops in Yr3.

3.3 Progress towards the project Outcome

Outcome

A replicable, integrated forest management strategy is implemented through collaborative partnerships, demonstrating increased agricultural yields, income, and wellbeing for >500 farmers, whilst securing high conservation value forests and critical watersheds

We have established a strong basis for developing a replicable integrated forest management strategy, supported by a multi-stakeholder partnership, that will increase farmer agricultural yields, income, and wellbeing, whilst simultaneously reducing threats to high conservation value forests and critical watersheds. This will be done through strengthening existing multi-stakeholder's forum, Forum KEE, collaboration with relevant stakeholders, and provision of technical assistance to support farmers to improve the productivity and profitability of their agriculture activities.

1.1. By Yr3, one landscape production-protection model is developed and underpinned by a 'zero deforestation commitment' that is signed and enacted through a government, private, community and NGO partnership (baseline 0)

KEE Forum, brought together all relevant stakeholders with a joint vision to support the conservation of maleo and its habitat. KEE Forum has developed an action plan that focuses on 4 major activities, including:

1. Area protection
2. Wildlife preservation
3. Ecosystem restoration
4. Sustainable Utilisation of natural resources.

The action plan has reflected the commitment of these stakeholders for the production-protection model. In Yr3, we will support the KEE Forum finalising this action plan and mainstream it into the District's and Provice's green growth plan.

1.2. By Yr3, rate of forest clearance in the target landscape is reduced by >20% compared to project baseline (to be determined in Yr1) and the border of BNWNP is secured.

We have established a baseline data and map of forest and land cover of BNWNP and FMU II areas and its buffer zone (see the progress of activity 1.1). We will conduct another analysis in Yr3 to evaluate the trend and the impact of the project intervention to the forest and land cover. The results of forest and land cover change analysis were used to inform the formulation of the ecosystem essential action plan and management of the landscape in general.

1.3. By Yr3, populations trends of at least two of four endangered and national priority species (lowland anoa, babirusa, black-crested macaque, maleo) have increased by >10% compared to project baseline (to be determined in Yr1)

In Yr1 and Yr2, we have conducted camera trap surveys and compiled baseline data and information of the population and habitat condition of four key species in landscape (see activity 1.3). We will conduct another camera trap survey in the Yr3 to evaluate the trend and the impact of the project intervention on the population of these four key species in the landscape.

1.4. By Yr3, >500 farmer households in target communities have increased indices for wellbeing (at least 50% women), including a 10% increase in income and identified opportunities for income diversification, compared to baseline data collected at the start of the project when selecting project beneficiaries.

Following the socio-economic survey in Yr1 we have compiled baseline data and information of farmers' socio-economic conditions (see activity 1.4). We have identified potential sources or opportunities for income diversification (see activity 2.6). We will conduct rapid assessment of socio-economic conditions of selected farmers in Yr3 to evaluate the changes as the result of project interventions.

1.5. By Yr3, >GBP150,000 in private sector financing leveraged for project continuation over the medium-term (baseline = 0)

PT. Cargill provides co-funding for this project. PT. Cargill is the only agricultural supply chain company operating in the landscape. We have not discussed potential continued funding support with PT. Cargill, however in the discussion with Bolsel District Government, PT Cargill has committed to support farmer communities in the landscape through their CSR Program.

Another private sector operating in landscape is PT. JRBM (J Resources Bolaang Mongondow), a gold mining company. The WCS team did not engage this company, however, the Bolsel District Government had invited the company to participate in the Forum KEE, although the company has not responded positively to the invitation. Through its CSR program, the company supported the communities in Adow and Torosik village to conduct rehabilitation of degraded land.

In Yr3 we will engage these companies to provide further support either in the form of funding or in-kind for project intervention or to the implementation of Forum KEE action plan.

3.4 Monitoring of assumptions

Outcome level assumptions:

The outcome level assumptions are still hold true, which include the following:

Assumption 1. Stakeholders recognise the need for and benefits of a new approach to improve forest management and farmer livelihoods.

This assumption still holds true. Through the Forum KEE and one-to-one engagement with relevant stakeholders we got a better understanding of their respective interests. The stakeholders increasingly recognize the interconnection between forest and wildlife conservation and their agricultural activities particularly from the ecosystem services provided by the forest. Through the discussion within the Forum KEE, the stakeholders recognised the value and the key role of forest and wildlife to their green growth plan.

Assumption 2. Improvements in yields and opportunities for income diversification through other commodities do not coincide with commodity price decreases.

This assumption still holds true. The price of agricultural commodities is fluctuating, depending on the market situation. One of the objectives of our interventions at the community level is to improve the productivity and profitability of community agricultural activities, and to identify opportunities for income diversification from high economic value commodities in a sustainable way. Therefore, the agricultural commodities prices will affect the outcome of the project.

Assumption 3. The project is able to overcome COVID-19 impacts on travel, meetings, training and surveys through designing and implementing a series of practical safety measures that are regularly reviewed and modified as needed.

This assumption still holds true. In Yr1 the COVID-19 pandemic limited our ability to deliver the project especially related to travel, meetings, training, and surveys activities that required direct engagement with the stakeholders. The project was able to overcome the pandemic in Yr1 and now the Government has eased all restrictions related to COVID-19 pandemic. However, we keep holding this assumption as there are still COVID-19 cases in Indonesia, although the number is very low, but the trend is increasing. Thereby we continue to apply health and safety measures in the implementation of the project.

Output 1 assumption:

- a) Satellite imagery is available, accurate and cost-effective to access.
 - This assumption still holds true. In Yr1, the satellite imagery is available and cost-effective to access, which enables our team to analyse the forest and land cover changes in the project area.
- b) Communities trust field teams and so provide accurate information on socio-economic conditions and needs.
 - This assumption still holds true. Our team has spent significant time in the village and gained community trust. We need to maintain this good relationship and keep community trust till the end of the project.

Output 2 assumptions:

- a) Stakeholders recognise the risk of commodities production associated with deforestation to the future of agricultural sectors and the community livelihood.
- b) Communities recognize the value of forest protection and restoration and trust that benefits from improved agricultural practices will improve their livelihoods.
- c) Farmers adopt practices from training on their own farms.

These assumptions hold true. There is an increased understanding of the stakeholder on the risk of commodities production associated with deforestation, which motivates them to support farmers' transition to producing biodiversity-friendly commodities. Communities will only adopt GAP and produce biodiversity-friendly commodities if they understand the value of forest protection and restoration and believe that the practices will improve the productivity and profitability of their farming activities.

Output 3 assumptions:

- a) Decision-makers consider science-based evidence in landscape management.
- b) Key stakeholders recognise the need to develop an integrated science-based management plan as the landscape consists of different land use types and functions that fall under different management authorities. From this, the co-management model is jointly developed by the relevant stakeholders, who are fully informed of the plan, their respective roles within it, and fully support its implementation.
- c) These stakeholders are also willing and able to adapt the intervention strategy based on the applied research findings that emerge over the project years.

These assumptions hold true. We communicate the result of our socio-economic assessment, biodiversity survey, forest and land cover change analysis, SMART Patrol activities finding, etc to the stakeholders to inform the development of management strategies in the landscape. Decision makers understand the importance of these science-based evidence in landscape management and started to adopt it in the decision-making process.

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

The impact of this project in the original application is biodiversity and forests in the landscape are well protected and restored by empowered community and government partners, and communities have viable livelihoods from the production of deforestation-free agricultural commodities.

In this project we are working closely with the BNWNP Authority - management authority of the park areas, FMU II Bolsel Authority - management authority of the FMU area, relevant agencies at the Province and District Government, and the Forum KEE - a multistakeholder governance structure that oversees the management of ecosystem essential areas. With increased understanding of the importance of biodiversity and forest conservation, the stakeholders in the landscape including communities are actively involved in the conservation activities as described in the ecosystem essential action plan.

We also support the communities in the five pilot villages to produce biodiversity-friendly commodities, through provision of GAP training to improve the productivity and profitability of their farming activities, strengthening farmer institutions, and developing additional sources of income.

We believe that through these interventions the project can create the expected incomes.

4. Project support to the Conventions, Treaties or Agreements

The project will contribute towards meeting the Convention on Biological Diversity (CBD) objectives outlined in general measures for conservation and general use, Sustainable use of components of biological diversity), and incentive measures. Activities under this project are particularly relevant to the agricultural biodiversity and forest biodiversity programme of work. More specifically in Indonesia, this project will support the Government of Indonesia (GoI) to meet its National Targets (NTs) under the CBD, with a particular focus on achieving progress towards, among others, NT7: Improved sustainably managed land for agriculture; NT11: Realisation of sustainable maintenance and improvement of conservation areas, including sustainable management of protected forest; NT12: realisation of efforts to maintain the populations of endangered species as a national conservation priority; and NT14: Improved functionality of integrated ecosystems to ensure the improvement of essential services (water, health, livelihoods, and tourism).

Training and support for farmers to improve land productivity under Output 2 is in line with GoI's efforts to achieve NT7- improved sustainably managed land for agriculture, as outlined in the IBSAP (Indonesia Biodiversity Strategy and Action Plan) document. The development of a landscape co-management plan, forest patrol activities, and forest rehabilitation proposed under Output 3 directly contributes to the protection of high biodiversity value forest in the landscape and improved management of the first Ecosystem Essential area in North Sulawesi, which will support progress towards achieving NT11. These activities, along with the estimation of species population and trends, and habitat condition under Output 1 will also contribute to the protection of GoI's priority endangered species, including the maleo (*Macrocephalon maleo*), babi rusa (*Babirusa celebensis*), and the lowland anoa (*Bubalus depressicornis*) support the progress

towards achieving NT12. By supporting increased production and productivity of environmentally friendly agricultural products (in this case through improved practices in “no-deforestation” coconut production, the exploration of value-added virgin coconut oil and the identification of alternative income sources), this project will contribute to the achievement of NT14.

The project will also support Gol’s target to restore ecosystems outside conservation areas through watershed forest rehabilitation proposed under Output 3 and contribute towards progress to meet NT15 (Realization of conservation and restoration of degraded ecosystems in the region). WCS also operates in Indonesia under an MoU with the Ministry of Environment and Forestry (MoEF), signed by the Director General (DG) of Natural Resources and Ecosystem Conservation, and liaises regularly with the DG on all WCS activities in Indonesia. The DG acts as the CBD focal point for Indonesia. The BNWNP authority and BKSDA North Sulawesi, which are in charge of managing conservation areas and wildlife outside the National Park, are the technical implementation unit under the DG of Natural Resources and Ecosystem Conservation. We have to submit quarterly reports and hold regular meetings with them to update all WCS activities in this landscape, including this project funded by Darwin Initiatives. We also have to submit an annual report to the DG of Natural Resources and Ecosystem Conservation on all WCS activities in Indonesia.

5. Project support to poverty reduction

The beneficiaries of this project are more than 500 coconut smallholder farmers in the five pilot villages in Bolsel District, North Sulawesi Province. The majority of farmers owned 1-2 ha of land. The farmers confronted various challenges including low productivity of coconut due to lack of knowledge on Good Agricultural Practices (GAP). The productivity of coconut is 2 ton/ha/year, while with the application of GAP, the productivity of coconut is 3.5-4 ton/ha/year. Due to lack of coconut processing facilities in the landscape, the farmers only sell coconut and copra with very low profit and in some cases the farmers suffer losses as the price of copra is lower than production cost. With a hope to get more additional income, farmers are opening new areas to plant other crops (such as chilli, corn, nutmeg, etc) which increases deforestation risk. In addition to this, farmers also have limited access to financial resources and agricultural input.

As explained previously, this project supports the smallholder farmers to produce biodiversity-friendly commodities, through provision of GAP training to improve the productivity and profitability of their farming activities, strengthening farmer institutions, and developing additional sources of income.

This project also facilitated these farming communities to engage with relevant stakeholders in the landscape such as relevant government agencies and private sector. The representatives of communities from 5 pilot villages are members of Forum KEE, which enables them to communicate their concerns and interests and participate in the decision making related to the management of natural resources and wildlife conservation in the landscape.

6. Gender equality and social inclusion

Gender equality is a core WCS value and is fully considered in the planning and execution of project activities, so as not to exacerbate gender inequalities in the landscape.

The project actively engages women groups, improving their knowledge and skills in the development of additional sources of income for the communities. In this year, we identified potential sources for additional income and delivered training on producing nutmeg juice and dodol which is targeting women groups.

Please quantify the proportion of women on the Project Board ² .	45% of this project board are women that hold key roles such as Country Director, project leaders, program managers, sustainable landscape commodity advisor, monitoring and evaluation specialist, HR Manager and staff, finance manager, agro ecologist etc.
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women ³ .	More than 50% of our partners organisations are led by women, such as the Head of BNWNP - Bogani Nani Wartabone National Park Authority, Director of Polimdo, Sustainability Lead Cargill, Director of BSIP, Head of Research and Development Agency of Bolaang Mongondow Selatan District.

7. Monitoring and evaluation

We are collecting data on the indicators to measure progress. However, from the description in the points 3.3, we believe the key elements of the building blocks to achieve the project outcomes are being established. The indicators of achievements attached in Annex 1 and 2. We have the environmental and social management plan, monitoring and evaluation plan that clearly defines the indicators of achievement and the method to measure that. We have a reporting and tracking project progress system in place which is regularly reviewed by the field team and the team in Bogor. So far, there are no changes made to the monitoring and evaluation plan. WCS has overall responsibility for the M&E work within the project.

In line with our MoU with MoEF and the program implementation plan with BKSDA Sulawesi Utara and Bogani Nani Wartabone (BNWNP), we submitted a quarterly report on the project progress. And we held an annual evaluation meeting with BKSDA Sulawesi Utara and BNWNP to evaluate project achievement (see supporting document, Monitoring and Evaluation Plan).

We also provide regular project updates to the Bappelitbangda of Bolsel District to get their feedback. Meanwhile, we communicate the project progress to the stakeholders through the Forum KEE meeting.

² A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

³ Partners that have a formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

8. Lessons learnt.

- a) Understanding farmer needs is critical in designing the GAP training and getting farmer enthusiasm in attending the training, as they can see that the training addresses the challenges they are facing and their needs.
- b) Gaining community trust is critical in ensuring farmer's participation in the program, it requires significant time and informal approach is sometimes much more effective than the formal approach.
- c) Following the training, farmers need to be intensively accompanied and assisted to ensure they will adopt and apply the newly acquired knowledge and skill on GAP in their farming practices.
- d) Leadership of the Head of Bolsel District and relevant agencies at the district level is an important key in mobilising the involvement of all stakeholders.
- e) Analysis conducted in the project provides strong scientific evidence that convinced the decision maker in the development of the KEE Action plan and any discussion about green growth.

We will use these lessons to strengthen the project's approach and strategies.

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

We have responded to several issues raised in last year's annual report.

- a) Socio-economic survey and data collection (need assessment, training need assessment, etc.) serve as a baseline for socio-economic profiling and develop thematic and syllabus training, which further will be implemented in the project;
- b) We have revised wording of outputs following the logframe on the annual report;
- c) Evidence is included in supporting document folder;
- d) PT Cargill is the only company being targeted for securing additional future support and also the only agricultural supply chain company operating in the landscape. In the discussion with Bolsel District Government, PT Cargill has committed to support farmer communities. PT. JRBM (J Resources Bolaang Mongondow), a gold mining company, is also a private sector that operates in this landscape. The WCS team did not engage this company, however, the Bolsel District Government had invited the company to participate in the Forum KEE.
- e) Repeated numbers/figures are the same in all areas used;
- f) The project has considered development of gender mainstreaming and defines specific indicators and sub-indicators to support demonstration of meaningful inclusion;
- g) We've developed the monitoring and evaluation plan and attached in supporting document folder;
- h) Evidence of an updated timeline in the supporting document folder to demonstrate the stages of activities, and any delays incurred.

10. Risk Management

There are several risks that were previously not taken into account in the implementation of this project, including: natural disasters, pest and diseases attack, fluctuation of market price of the end product, changing in the government policy, type of mitigation using the complete data set (number of plants, health condition, harvesting, record of transaction, ect), option for product diversification from coconut and other commodities, and market access to other partners.

We found several cases of investors approaching the Village Head to buy land from the community to develop large-scale fishponds and "porang" farmland. Porang (*Amorphophallus muelleri Blume*) is a tuber plant and raw material for cosmetics, glue, jelly, and potential to be a substitute for rice in the future. These plans will require land clearing on a large scale. To anticipate this, we have coordinated with the local government to ensure that any investment or development in the Binerean corridor and surrounding area will be in line with the status of this area as a wildlife refuge. Thereby, it is imperative to incorporate the essential ecosystem roadmap and working plan into the local government and province's green growth plan.

So far, this development will not affect the budget and timetable of the project activities. We have registered risk arisen in the last 12 months in the attached file.

11. Other comments on progress not covered elsewhere.

Not applicable.

12. Sustainability and legacy

The intended sustainable benefits post-project is still valid. We continue to deliver GAP training to the farmers and strengthened farmer institutions in the five pilot villages. In Yr3 we will evaluate the impact, but we believe that the benefits of these interventions for the facilitated farmers will extend beyond the project. We will continue to assess the feasibility of development for value-addition within the coconut supply chain (or other sources of income diversification) and will develop a business plan for the most promising opportunities.

We have trained BNWNP and FMU Unit II rangers and selected community members to implement SMART Patrol activities. The acquired skill and knowledge will be extended beyond the project. SMART Patrol activities have been included in the BNWNP and FMU Unit II long-term and annual working plan.

Finally, we continue to support the Forum KEE finalising the essential ecosystem action plan and roadmap and incorporate it into the District and Province's green growth plan. In this way, we expect that the output and outcomes of the project will be sustained as it will be part of the district and province government working and budget plan.

13. Darwin Initiative Identity

We have acknowledged the Darwin Initiative important support throughout our communications with all stakeholders. We have developed public communication materials for this project as we aim to encourage ownership and leadership by BNWNP and BKSDA North Sulawesi, in line with our MoU with MOEF and as part of our sustainability strategy. We produced draft joint materials with BNWNP and BKSDA North Sulawesi such as modules, banners, and signs, that acknowledge Darwin Initiative's support; and insert Darwin Initiative logo into these materials. WCS was also pleased to recognize the Darwin Initiative in WCS's 2022 Annual Report. Following the implementation of the project activities, particularly from the meetings and workshops with the stakeholders at the district level, and field activities, several local newspapers have published several articles related to the project.

14. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	Yes/No
Have any concerns been investigated in the past 12 months	Yes/No
Does your project have a Safeguarding focal point?	Yes/No Adhie Trisna ([REDACTED]) Astrid Soraya Fitriani ([REDACTED])
Has the focal point attended any formal training in the last 12 months?	Yes/No [If yes, please provide date and details of training] We joined internal WCS training of Conservation Social Science from 3rd of October until 3rd of November 2022. In the training, we learned a common understanding of the importance of engaging people that are important to conservation practices. We learned social safeguards to prevent and mitigate undue harm to people during the conservation and development process. Social safeguards topics include human rights-based approaches, social impact assessments, grievance redress mechanism, free prior informed consent (FPIC) and access restrictions mitigation. We also discussed case studies supporting the government to manage protected areas and support communities to secure and exercise their territorial rights using social impact assessment, FPIC, human displacement and modification of resource access, human rights, grievance redress mechanism.
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 15% [3 person] Planned: 0% [0]
<p>Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.</p> <p>WCS has a Safeguard Policy. The purpose of this policy is to protect people – particularly children, vulnerable adults, and communities with whom we work – from abuse or exploitation that may be caused due to their coming into contact with WCS. This includes harm arising from the conduct of WCS personnel or others acting for WCS or under our direction and the design and implementation of WCS’s programs and activities. This policy sets forth WCS’s commitments and informs WCS personnel and WCS partners of their responsibilities, regarding safeguarding in connection with WCS’s work and programs. The policy addresses child safeguarding, adult safeguarding, and protection from sexual exploitation and abuse (collectively “safeguarding”). WCS Indonesia’s Bogor-based safeguarding team supports implementation of WCS’s safeguarding policies in our landscapes across Indonesia. This includes delivering capacity building regarding social safeguards, gender, FPIC, human rights, and conflict resolution, and identifying opportunities to extend these opportunities to our partners. WCS provides a clear process for receiving and addressing suspected violations of these policies through its global Grievance Redress Mechanism (GRM), and sites have or are developing locally adapted versions as needed and appropriate. We also developed an Environmental and Social Management Plan (ESMP). WCS staff completed social and behavioural research training including ethical principles, defining research with human subjects, informed consent, and unanticipated problems and reporting requirements in social and behavioural research. In October-November 2022, our staff completed internal training of conservation social science including conceptual modelling, stakeholder identification and gender inclusion, social safeguards and community engagement, human subjects research and behaviour change.</p>	

By following our policy and guideline, we have not confronted any challenges on safeguarding in the past 12 months.

Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify.

In 2022, WCS Indonesia established a new program, Rights and Communities, to support the application of the right based conservation approach in all WCS Indonesia priority landscapes. This program oversees the implementation of WCS safeguard policy and holds regular training on safeguard for our staff and partners. In the coming 12 months, the Rights and Communities program will hold series of training with the following topic:

1. Human Rights for SMART Patrol team;
2. Occupancy, Health, and Safety for WCS staff and the community;
3. Grievance Redress Mechanism (GRM);
4. Determination of Project Affected People and livelihood interventions.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2022 – 31 March 2023)

Project spend (indicative) since last Annual Report	2022/23 Grant (£)	2022/23 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Table 2: Project mobilising of matched funding during the reporting period (1 April 2022 – 31 March 2023)

	Matched funding secured to date	Total matched funding expected by end of project
Matched funding leveraged by the partners to deliver the project.		
Total additional finance mobilised by new activities building on evidence, best practices, and project (£)		

16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

File Type (Image / Video / Graphic)	File Name or File Location	Caption, country, and credit	Online accounts to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
				Yes / No
				Yes / No
				Yes / No
				Yes / No
				Yes / No

Annex 1: Report of progress and achievements against log frame for Financial Year 2022-2023

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
<p>Impact</p> <p>Biodiversity and forests in the landscape are well protected and restored by empowered community and government partners, and communities have viable livelihoods from the production of deforestation-free agricultural commodities</p>			
<p>Outcome</p> <p>A replicable, integrated forest management strategy is implemented through collaborative partnerships, demonstrating increased agricultural yields, income and wellbeing for >500 farmers, whilst securing high conservation value forests and critical watersheds</p>	<p>1.1. By Yr3, 1 landscape production-protection model is developed and underpinned by a 'zero deforestation commitment' that is signed and enacted through a government, private, community and NGO partnership (baseline 0).</p> <p>1.2. By Yr3, rate of forest clearance in the target landscape is reduced by >20% compared to project baseline (to be determined in Yr1) and the border of BNWNP is secured.</p> <p>1.3. By Yr3, population trends of at least 2 of 4 endangered and national priority species (lowland anoa, babirusa, black-crested macaque, maleo) have increased by >10% compared to project baseline (to be determined in Yr1).</p> <p>1.4. By Yr3, >500 farmer households in target communities have increased indices for wellbeing (at least 50% women), including a 10% increase in income and identified opportunities for income diversification, compared to baseline data collected at the start of the</p>	<p>1.1. KEE Forum has developed an action plan that reflects the commitment of stakeholders for the production-protection model.</p> <p>1.2. We have established a baseline data and map of forest and land cover of BNWNP and FMU II areas and its buffer zone.</p> <p>1.3. In Yr1 and Yr2, we have conducted camera trap surveys and compiled baseline data and information of the population and habitat condition of four key species in landscape.</p> <p>1.4. Following the socio-economic survey in Yr1 we have compiled baseline data and information of farmers' socio-economic conditions. We have identified potential sources or opportunities for income diversification.</p>	<p>1.1. In Yr3, we will support the KEE Forum finalising this action plan and mainstream it into the District's and Province's green growth plan.</p> <p>1.2. We will conduct another analysis in Yr3 to evaluate the trend and the impact of the project intervention to the forest and land cover change.</p> <p>1.3. We will conduct another camera trap survey in the Yr3 to evaluate the trend and the impact of the project intervention on the population of these four key species in the landscape.</p> <p>1.4. We will conduct rapid assessment of socio-economic conditions of selected farmers in Yr3 to evaluate the changes as the result of project interventions</p>

	<p>project when selecting project beneficiaries.</p> <p>1.5. By Yr3, >GBP150,000 in private sector financing leveraged for project continuation over the medium-term (baseline = 0).</p>	<p>1.5. PT. Cargill provides co-funding for this project, as the only agricultural supply chain company operating in the landscape. We have not discussed potential continued funding support with PT. Cargill, however, in the discussion with Bolsel District Government, PT Cargill has committed to support farmer communities in the landscape through their CSR Program.</p>	<p>1.5. In Yr3 we will engage companies to provide further support either in the form of funding or in-kind for project intervention or to the implementation of Forum KEE action plan.</p>
<p>Output 1.</p> <p>An assessment framework and monitoring system is established across the landscape, enabling the BNWNP and FMU authorities and the multi-stakeholder partnership to implement and adapt approaches within a forest management strategy that integrates forest protection, restoration and sustainable agricultural production.</p>	<p>1.1. Key indicators for biodiversity, farmers, flooding, deforestation, and additional social and environmental indicators identified by Yr1 (baseline = 0)</p> <p>1.2. Baseline established by Yr1, and a system developed by Yr3 to monitor forest, farmland, land use change flooding and other key environmental indicators (baseline = 0).</p> <p>1.3. Baseline established by Yr1 and trends established by Yr3 for population and habitat condition of four priority species (baseline = 0)</p> <p>1.4. Baseline socio-economic conditions for >500 farmers established by Yr1 and trends for at least 50% of participating farmers known by Yr3 (baseline = 0).</p>	<p>1.1. We have listed the indicators for biodiversity, farmers socio-economic, deforestation, and flooding risk.</p> <p>1.2. We have established the baseline in Yr 1 and continued developing the monitoring system to be completed by Yr3.</p> <p>1.3. In the Yr1, we have compiled the baseline for population and habitat condition of four key species in the landscape include lowland anoa (<i>Bubalus depressicornis</i>), maleo (<i>Macrocephalon maleo</i>) and the black-crested macaque (<i>Macaca nigra</i>).</p> <p>1.4. Following the farmer socio economic survey in Yr1, we have compiled the baseline data of famer's socio-economic condition.</p>	
<p>Activity 1.1 Develop biodiversity, farmer socio-economic, flooding, and deforestation indicators in consultation with project stakeholders.</p>		<p>1.1. We have listed the indicators for biodiversity, farmer socio-economic, flooding and deforestation</p>	<p>1.1. These key indicators will become further reference to produced time-series datasets of spatial data.</p>
<p>Activity 1.2 Develop a land-use monitoring system to establish farmland, forest and flooding risk baselines, identify priority areas, create deforestation alerts and monitoring project progress.</p>		<p>1.2. We have established the baseline in Yr 1 and in Yr2 we conducted farmer registration and farmland mapping.</p>	<p>1.2. We continue developing the monitoring system to be completed by Yr3.</p>

<p>Activity 1.3 Conduct biodiversity surveys and assess trends of priority species and their forest habitat across the landscape</p>	<p>1.3. We have conducted camera survey of four key species such as anoa (<i>Bubalus depressicornis</i>), babirusa (<i>Babyrousa celebensis</i>), maleo (<i>Macrocephalon maleo</i>), and the black-crested macaque (<i>Macaca nigra</i>). Compared to Yr1, the breeding population and probability occupancy of maleo and anoa increased.</p>	<p>1.3. Continuation of camera trap surveys.</p>
<p>Activity 1.4. Conduct farmer surveys to assess socio-economic conditions of farmers across the landscape</p>	<p>1.4. We have compiled the baseline data of the socio-economic survey</p>	<p>1.4. The compiled data will become the basis of relevant approaches of farmer engagement</p>
<p>Output 2. >500 smallholder farmers in Bolsel are committed to forest protection and restoration, and have viable livelihoods from sustainable agriculture practices, supported by a multi-stakeholder partnership</p>	<p>2.1. 1 multi-stakeholder forum established, with joint commitment supported by 3 government agencies, >5 community groups, Cargill and >2 NGOs/ CSOs (Yr1), which leads to the development of a forest management strategy that integrates forest protection, restoration, and sustainable agricultural production (Yr2) (baseline = 0)</p> <p>2.2. By Yr 1, farmer mapping and needs assessment conducted for >500 farmers in Bolsel (baseline = 0)</p> <p>2.3. By Yr 2, 5 community conservation agreements signed (baseline = 0)</p> <p>2.4. By Yr 1, agricultural assessment and supply chain risks and opportunities for income diversification identified (Yr1) (baseline = 0)</p> <p>2.5. Farmer training programme (in Good Agricultural Practices and Institutional Strengthening) developed (by Yr1) and delivered, including intensive training to >300 farmers (by Yr3) (baseline = 0)</p>	<p>2.1 We did not establish a new multi-stakeholder forum, but decided to strengthen the Forum KEE, a multistakeholder forum, which consists of the representative of Bolsel District Planning and development Agency, Bolsel District Forestry Agency, Bolsel District Agricultural Agency, BNWNP Authorities, BKSDA Sulut Authorities, Bolsel District Tourism Agency, four Villages in Bolsel District, and WCS. In this Yr2, the membership of Forum KEE will be expanded through the addition of relevant stakeholders such as Cargill, Local Bank and BSIP.</p> <p>2.2. We have conducted farmer need assessments using Rapid Rural Assessment techniques. So far, we have engaged 867 farmers in the five pilot villages and mapped 502 plots of farmland in the landscape.</p> <p>2.3. In Yr2, we have secured five community conservation agreements.</p> <p>2.4. We have mapped coconut supply chain risk and opportunities and identified potential sources of additional income generation that exist in the landscape.</p> <p>2.5. We have developed GAP training materials that consist of 7 modules. In collaboration with the Bolsel District's Agricultural Agency, BSIP, and PT. Cargill we have delivered GAP training to 367 farmers (42% female and 58% male).</p>

	2.6. By Yr3, 1 feasibility assessment and draft business plan for small-scale organic virgin coconut oil enterprise developed (baseline = 0) or for other potential sources of income identified in year 1 and 2	2.6. We have identified other potential sources of income in the villages. We will conduct the feasibility assessment in the Yr3.
Activity 2.1. Engage government, private sector and community stakeholders to establish a multi-stakeholder forum that develops a strategy for integrated forest protection, restoration and sustainable agricultural production	The Forum KEE meeting has been held in Yr2 in Kotamobagu. This was attended by 81 participants (15 women and 66 men) representatives of Provincial Government Agencies (Development Planning Agency and Forestry Agency), BNWNP Authority, BKSDA North Sulawesi Authority, FMU Unit II, Agricultural Instrument Standardisation Agency (BSIP), District Government Agencies, Local Government Parliament, Sub-District Governments, Head of the five pilot villages, Local Bank, Private Sector, and CSOs.	We will continue support Forum KEE in Yr3 to develop a strategy for integrated forest protection, restoration, and sustainable agriculture production.
Activity 2.2. Conduct farmer needs assessment, including knowledge and application of GAP, farmer organisation, assessment of access to inputs, market, and finance	We have engaged 867 farmers in the landscape, of which 498 farmers have committed to participate in the GAP training and apply GAP in their farming practices	
Activity 2.3 Conduct Participatory Rural Appraisal with communities to develop conservation agreements and identify challenges, needs and opportunities	We have secured 5 conservation agreements with communities in each pilot village on a voluntary basis	Continue support the communities implementing the conservation agreement
Activity 2.4. Assess landscape agricultural, value chain and alternative livelihood opportunities	We have mapped coconut supply chain risk and opportunities and identified potential sources of additional income generation that exist in the landscape.	Continue to improve the efficiency of supply and value chain, provide training for farmers to produce derivative products from coconut or to produce high economic value products from coconut, improve farmer access to finance, and support farmers develop additional sources of income
Activity 2.5. Design and deliver a farmer training programme on GAP, institutional strengthening, support for rehabilitation, agroforestry, and intercropping	We have developed seven (7) modules of training materials. We trained GAP to	Continue to deliver the GAP training, institutional strengthening,

		367 farmers. In collaboration with BNWNP, FMU Unit II Bolsel, and BKSDA North Sulawesi, BSIP, we trained 25 key farmers from the five pilot villages.	rehabilitation, development of agroforestry and intercropping.
Activity 2.6. Conduct a feasibility assessment for value addition in the coconut supply chain and other potential additional sources of income, and develop draft business plan		The results of value addition and alternative livelihood opportunities will be shared and referenced for developing business plans and become reference of alternative livelihood training. Total 97 farmers were trained, including 90 female and 7 males.	Continue to develop additional sources of income for farmer.
Output 3. A co-management model for protecting biodiversity, forest and ecosystem services is designed and implemented across the landscape.	<p>3.1. 1 co-management plan developed to protect the target landscape (139,400 ha) of high conservation value forest (Yr2) (baseline 0).</p> <p>3.2. 2 well-trained community-government ranger teams are supported to patrol >200 km/ year in BNWNP/ FMU and conduct outreach in 5 villages/ year (Yrs2&3) (baseline 0).</p> <p>3.3. Rehabilitation process started on >200 ha of degraded watershed forest with active participation of communities (Yr3) (baseline = 0).</p> <p>3.4. >10 small grants to young Indonesian conservationists to conduct applied conservation and agroforestry research projects (Yrs 1-3) (baseline 0).</p> <p>3.5. At least 4 government-led stakeholder consultation workshops to compile and then disseminate project results and lessons learned to village, district, provincial and national level partners (Yr3) (baseline 0).</p>	<p>3.1. We worked with all stakeholders to develop the co-management model. We will continue this process in the Yr3.</p> <p>3.2. In Yr2, we have trained two community-ranger teams and conducted SMART patrol along 614,3 km patrol path. Together with BNWNP and FMU II staff, our team conducted outreach activities in the five villages to raise community awareness on the importance of wildlife and forest conservation, and its interconnection with the agricultural activities.</p> <p>3.3. Based on the forest and land cover change analysis, we have identified degraded areas within the BNWNP and FMU area and its buffer zone. Whilst from the farm mapping, we have identified farmland inside BNWNP and FMU area. In Yr3, we will conduct the rehabilitation and restoration activities in collaboration with BNWNP and FMU authorities and the communities.</p> <p>3.4. We have not distributed the small grants because we have not received any application or expression of interest from the young Indonesian conservation to conduct applied conservation and agroforestry research projects. We will be more proactive to promote this in the future.</p> <p>3.5. In collaboration with the Provincial and District Government, we will hold stakeholders' consultation workshops in Yr3.</p>	
Activity 3.1. Conduct multi-stakeholder meetings to jointly develop and support implementation of co-management plan in high conservation value forests		In Yr2, we conducted a multi stakeholder meetings (Forum KEE)	Continue to hold KEE forum in Yr3 and continue to implement joint workplan

<p>Activity 3.2. Train and support community-government ranger teams to patrol BNWNP and FMU and conduct community outreach</p>	<p>We conducted SMART patrol along 614,3 km patrol path. Together with BNWNP and FMU II staff, our team conducted outreach activities in the five villages</p>	<p>Continue to conduct joint SMART patrol with BNWNP and FMU II Bolsel Boltim.</p>
<p>Activity 3.3. Establish restoration, supported by government with active participation of communities, in degraded watershed forests</p>	<p>We have identified degraded areas within the BNWNP and FMU area and its buffer zone. We have identified farmland inside BNWNP and FMU area.</p>	<p>In Yr3, we will conduct the rehabilitation and restoration activities in collaboration with BNWNP and FMU authorities and the communities.</p>
<p>Activity 3.4. Conduct applied conservation and agroforestry research in the landscape</p>	<p>We have not received any application from the young Indonesian conservation to conduct applied conservation and agroforestry research projects.</p>	<p>Continue to conduct applied conservation and agroforestry research.</p>
<p>Activity 3.5. Hold government-led stakeholder consultation workshops to compile and then disseminate project results and lessons learned to village, district, provincial and national level partners</p>	<p>In Yr2, we shared the project progress to stakeholders with Bolsel Government, NAM CSSTC, and other stakeholders</p>	<p>Continue to compile the project results and by Yr3 we will disseminate the project result and lesson learned obtained by the project.</p>

Annex 2: Project’s full current log frame as presented in the application form (unless changes have been agreed)

Project summary	SMART Indicators	Means of verification	Important Assumptions
<p>Impact: Biodiversity and forests in the landscape are well protected and restored by empowered community and government partners, and communities have viable livelihoods from the production of deforestation-free agricultural commodities</p>			
<p>Outcome: A replicable, integrated forest management strategy is implemented through collaborative partnerships, demonstrating increased agricultural yields, income and wellbeing for >500 farmers, whilst securing high conservation value forests and critical watersheds</p>	<p>1.1. By Yr3, 1 landscape production-protection model is developed and underpinned by a ‘zero deforestation commitment’ that is signed and enacted through a government, private, community and NGO partnership (baseline 0).</p> <p>1.2. By Yr3, rate of forest clearance in the target landscape is reduced by >20% compared to project baseline (to be determined in Yr1) and the border of BNWNP is secured.</p> <p>1.3. By Yr3, population trends of at least 2 of 4 endangered and national priority species (lowland anoa, babirusa, black-crested macaque, maleo) have increased by >10% compared to project baseline (to be determined in Yr1).</p> <p>1.4. By Yr3, >500 farmer households in target communities have increased indices for wellbeing (at least 50% women), including a 10% increase in income and identified opportunities for income diversification, compared to</p>	<p>1.1. Project report and integrated forest management strategy (Yr1); Letters of intent that demonstrate support for a joint landscape vision including a “zero deforestation commitment” signed by all key stakeholders (Yr1); minutes from multi-stakeholder partnership meetings (Yr1-3).</p> <p>1.2. Forest cover change assessment for pre-project (5 years before) and project period (Yr3), with a remote sensing dataset.</p> <p>1.3. Camera trap survey datasets and results (Yrs1&3).</p> <p>1.4. Baselines of community livelihood indicator data and repeat socio-economic survey comparative datasets (Yrs1&3).</p>	<p>Stakeholders recognise the need for and benefits of, a new approach to improve forest management and farmer livelihoods</p> <p>Improvements in yields and opportunities for income diversification through other commodities do not coincide with commodity price decreases.</p> <p>The project is able to overcome COVID-19 impacts on travel, meetings, training and surveys through designing and implementing a series of practical safety measures that are regularly reviewed and modified as needed</p>

	<p>baseline data collected at the start of the project when selecting project beneficiaries.</p> <p>at least 2 endangered and national priority species have increased by >10% compared to project baseline (to be determined in Yr1).</p> <p>1.5. By Yr3, >GBP150,000 in private sector financing leveraged for project continuation over the medium-term (baseline = 0).</p>	<p>1.5. Signed financial commitment (LoI or agreement) by private sector to support thematic livelihood and biodiversity work packages; press releases (Yr3).</p>	
<p>Output 1</p> <p>An assessment framework and monitoring system is established across the landscape, enabling the BNWNP and FMU authorities and the multi-stakeholder partnership to implement and adapt approaches within a forest management strategy that integrates forest protection, restoration, and sustainable agricultural production.</p>	<p>1.1. Key indicators for biodiversity, farmers, flooding, deforestation and additional social and environmental indicators identified by Yr1 (baseline = 0).</p> <p>1.2. Baseline established by Yr1, and a system developed by Yr3 to monitor forest, farmland, land use change flooding and other key environmental indicators (baseline = 0).</p> <p>1.3. Baseline established by Yr1, and trends established by Yr3 for population and habitat condition of four priority species (baseline = 0).</p> <p>1.4. Baseline socio-economic conditions for >500 farmers established by Yr1 and trends for at least 50% of participating farmers known by Yr3 (baseline = 0).</p>	<p>1.1. Final list of indicators and assessment framework.</p> <p>1.2. Land use monitoring system, including time-series datasets and statistics for spatial data layers; reports on information dissemination workshops with government partners (Yrs1&3).</p> <p>1.3. Training and field survey reports; camera trap datasets; peer-reviewed scientific publications (Yrs1&3).</p> <p>1.4. Socio economic data management system, including field survey data and analytical reports (Yrs 1&3).</p>	<p>Satellite imagery is available accurate and cost-effective to access.</p> <p>Communities trust field teams and so provide accurate information on socio-economic conditions and needs</p>

<p>Output 2</p> <p>>500 smallholder farmers in Bolsel are committed to forest protection and restoration, and have viable livelihoods from sustainable agriculture practices, supported by a multi-stakeholder partnership</p>	<p>2.1. 1 multi-stakeholder forum established, with joint commitment supported by 3 government agencies, >5 community groups, Cargill and >2 NGOs/ CSOs (Yr1), which leads to the development of a forest management strategy that integrates forest protection, restoration, and sustainable agricultural production (Yr2) (baseline = 0).</p> <p>2.2. By Yr 1, farmer mapping and needs assessment was conducted for >500 farmers in Bolsel (baseline = 0).</p> <p>2.3. By Yr 2, 5 community conservation agreements signed (baseline = 0).</p> <p>2.4. By Yr 1, agricultural assessment and supply chain risks and opportunities for income diversification identified (Yr1) (baseline = 0).</p> <p>2.5. Farmer training programme (in Good Agricultural Practices and Institutional Strengthening) developed (by Yr1) and delivered, including intensive training to >300 farmers (by Yr3) (baseline = 0).</p> <p>2.6. By Yr3, 1 feasibility assessment and draft business plan for small-scale</p>	<p>2.1. Minutes of meeting; legal forum establishment document; signed joint commitment; press releases, media coverage and company website coverage (Yr1); project strategy document (Yr2); minutes from information dissemination workshops with partner (Yr3).</p> <p>2.2. Farmer needs assessment; database on Bolsel farming communities (Yr1).</p> <p>2.3. Minutes of meetings and signed agreements from community partners (Yr2).</p> <p>2.4. Field survey and value chain analysis report, including recommendations for income diversification (Yr1).</p> <p>2.5. Document of training curricula and modules (Yr1); M&E reports on farmer training (Yr3).</p> <p>2.6. Minutes of meetings; business plan document; press releases (Yr3).</p>	<p>Stakeholders recognise the risk of commodities production associated with deforestation to the future of agricultural sectors and the community livelihood.</p> <p>Communities recognise the value of forest protection and restoration and trust that benefits from improved agricultural practices will improve their livelihoods.</p> <p>Farmers adopt practices from training in their own farms</p>
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	organic virgin coconut oil enterprise developed (baseline = 0) or for other potential sources of income identified in year 1 and 2.		
<p>Output 3</p> <p>A co-management model for protecting biodiversity, forest and ecosystem services is designed and implemented across the landscape.</p>	<p>3.1. 1 co-management plan developed to protect the target landscape (139,400 ha) of high conservation value forest (Yr2) (baseline 0).</p> <p>3.2. 2 well-trained community-government ranger teams are supported to patrol >200 km/ year in BNWNP/ FMU and conduct outreach in 5 villages/ year (Yrs2&3) (baseline 0).</p> <p>3.3. Rehabilitation process started on >200 ha of degraded watershed forest with active participation of communities (Yr3) (baseline = 0).</p> <p>3.4. >10 small grants to young Indonesian conservationists to conduct applied conservation and agroforestry research projects (Yrs 1-3) (baseline 0).</p> <p>3.5. At least 4 government-led stakeholder consultation workshops to compile and then disseminate project results and lessons learned to village, district, provincial and national level partners (Yr3) (baseline 0).</p>	<p>3.1. Consultation workshop reports; GIS and field survey data and report; legal document for co-management plan (Yr2).</p> <p>3.2. Training and field reports; field and GIS datasets; data recorded in SMART patrol system and outputs, such as maps, tables, and graphs (Yrs2&3).</p> <p>3.3. Field manual and report (Yr2); GIS and field survey datasets (Yr3).</p> <p>3.4. Training reports; field data sets, research reports, presentations, and dissemination workshops; peer-reviewed scientific publications (Yr1-3).</p> <p>3.5. Workshop reports; project presentation; policy brief (Yr3).</p>	<p>Decision-makers consider science-based evidence in landscape management.</p> <p>Key stakeholders recognise the need to develop an integrated science-based management plan as the landscape consists of different land use types and functions that fall under different management authorities. From this, the co-management model is jointly developed by the relevant stakeholders, who are fully informed of the plan, their respective roles within it, and fully support its implementation. These stakeholders are also willing and able to adapt the intervention strategy based on the applied research findings that emerge over the project years</p>

Activities (each activity is numbered according to the output that it will contribute towards, for examples 1.1, 1.2 and 1.3 are contributing to Output 1)

Activity 1.1 Develop biodiversity, farmer socio-economic, flooding, and deforestation indicators in consultation with project stakeholders.

Activity 1.2 Develop a land-use monitoring system to establish farmland, forest, and flooding risk baselines, identify priority areas, create deforestation alerts and monitoring project progress.

Activity 1.3 Conduct biodiversity surveys and assess trends of priority species and their forest habitat across the landscape.

Activity 1.4. Conduct farmer surveys to assess socio-economic conditions of farmers across the landscape.

Activity 2.1. Engage government, private sector, and community stakeholders to establish a multi-stakeholder forum that develops a strategy for integrated forest protection, restoration, and sustainable agricultural production.

Activity 2.2. Conduct farmer needs assessment, including knowledge and application of GAP, farmer organisation, assessment of access to inputs, market, and finance.

Activity 2.3 Conduct Participatory Rural Appraisal with communities to develop conservation agreements and identify challenges, needs and opportunities.

Activity 2.4. Assess landscape agricultural, value chain and alternative livelihood opportunities.

Activity 2.5. Design and deliver a farmer training programme on GAP, institutional strengthening, support for rehabilitation, agroforestry, and intercropping.

Activity 2.6. Conduct a feasibility assessment for value addition in the coconut supply chain and other potential additional sources of income, and develop draft business plan

Activity 3.1. Conduct multi-stakeholder meetings to jointly develop and support implementation of co-management plan in high conservation value forests.

Activity 3.2. Train and support community-government ranger teams to patrol BNWNP and FMU and conduct community outreach.

Activity 3.3. Establish restoration, supported by government with active participation of communities, in degraded watershed forests.

Activity 3.4. Conduct applied conservation and agroforestry research in the landscape.

Activity 3.5. Hold government-led stakeholder consultation workshops to compile and then disseminate project results and lessons learned to village, district, provincial and national level partners

Annex 3: Standard Indicators

Table 1. Project Standard Indicators

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-A06	Farmer training programme (in Good Agricultural Practices and Institutional Strengthening) developed (by Yr1) and delivered, including intensive training to >300 farmers (by Yr3)	Numbers of people with improved access to service for improved well-being	People	Gender	-	367	-	367	300
DI-D11	Farmer training programme (in Good Agricultural Practices and Institutional Strengthening) developed (by Yr1) and delivered, including intensive training to >300 farmers (by Yr3)	Number of people benefitting from improved sustainable agriculture practices and are more resilient to weather shocks and climate trends	People	Gender	-	367	-	367	300
DI-A07	1 multi-stakeholder forum established, with joint commitment supported by 3 government agencies, >5 community groups, Cargill and >2 NGOs/ CSOs (Yr1), which leads to the development of a forest management strategy that integrates forest protection, restoration, and sustainable agricultural production (Yr2)	Number of government institutions/departments with enhanced awareness and understanding of biodiversity and associated poverty issues	Government institutions	Government organization type - Province:9 institution - Region/districts:11 institution - Village: 7 institutions - Village government: 5 institution - Private sector: 5 - CSOs: 2	-	9 5 1 2	-	9	3 5 1 2

Table 2. Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

Annex 4.3 Supporting document activity 1.1. - 3.5.

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	✓
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	✓
Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	X
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	X
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 16)?	✓
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓

Do not include claim forms or other communications with this report.