



INTERNATIONAL TROPICAL TIMBER ORGANIZATION

COMPLETION REPORT

5 March 2020 to 30 April 2024

PROJECT TITLE:	ENABLING CUSTOMARY LANDOWNERS TO PARTICIPATE EFFECTIVELY IN COMMUNITY FOREST MANAGEMENT (CFM) SCHEMES WITHIN 6 PILOT AREAS OF PNG
HOST GOVERNMENT:	GOVERNMENT OF PAPUA NEW GUINEA
EXECUTING AGENCY:	PAPUA NEW GUINEA FOREST AUTHORITY
REPORT TITLE:	PROJECT COMPLETION REPORT

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Abbreviations and Acronyms

ACIAR	Australian Centre for International Agricultural Research
CCDA	Climate Change Development Authority
CEPA	Conservation and Environment Protection Authority
CFM	Community Forest Management
CFTK	Community Foresters Tool Kit
CMWMA	Crater Mountain Wildlife Management Area
DLPP	Department and Lands & Physical Planning
FORCERT	Forest Management and Product Certification Service
FPCD	Foundation for People & Community Development
GIS	Geographic Information System
GPS	Global Positioning System
ICT	Information and Communication Technology
ITTO	International Tropical Timber Organisation
IUCN	International Union for Conservation of Nature
MBPA	Milne Bay Provincial Administration
NSLUP	National Sustainable Land Use Policy
PD	Project Document
PES	Payment for Environmental (or Ecological) Services
PGIS	Participatory Geographic Information System
PIP	Pacific Island Projects
PNG	Papua New Guinea
PNG-BCF	PNG Biodiversity and Climate Fund
PNGFA	Papua New Guinea Forest Authority
PPD	Pre-project Document
PRA	Participatory Rural Appraisal
RCF	Research and Conservation Foundation
REDD	Reduced Emissions from Deforestation and Degradation
SLUP	Sustainable Land Use Plan
SWOT	Strengths, Weaknesses, Opportunities and Threats
TKCP	Tree Kangaroo Conservation Program
USD	United States Dollar
WCS	Wildlife Conservation Society

Executive Summary

PNG is the largest country in the Pacific Islands Region, with a land area of around 463,000 km². The landscape comprises islands, lowlands and highlands ranging from sea level to over 4,000 metres. PNG has a remarkably diverse natural environment due to large variations in landform, rainfall, and altitude. PNG's social context is equally diverse, with over eight hundred tribal groups and languages. Most land is held under customary ownership with an average population density of around eighteen people per square kilometre. Important land-use decisions are usually made at the clan level.

The Project aimed to establish a model community-based land ownership mapping and forest resource assessment system that supports CFM schemes (including PES and REDD+) and increases landowner understanding about the goods and services that forests provide. Project activities were to be managed by the PNGFA at the national level, working in collaboration with 6 Local Partners and their Pilot Communities at the local level. Three cross-cutting strategies were designed to shape the technical components of the Project:

1. **Participatory GIS** to engage communities in data collection and land-use planning activities
2. **Two-way communication** to foster knowledge sharing between pilot communities, local partners and government agencies
3. **Capacity building** to ensure sustainability of project outputs

The three-year Project took four years to complete due mainly to administrative delays at the national level. Field-work was led by only four Local Partners and their Pilot Communities. Data collection software, forms, and reports for five high-priority CFM topics were developed using [KoboToolbox](#) and [KoboCollect](#) open-source software. A [Community Foresters Tool Kit](#) (CFTK) was established to contain all the files developed by the Project including data collection forms, training & awareness resources, and technical reports. Online communication platforms were also set-up for freely sharing the CFTK resources, as well as building productive online networks in the short and long-term. The model community-based land-use planning and forest resource assessment system has enabled the Project's Local Partners and their Pilot Communities to improve their existing land-use planning & monitoring practices as well as pursue new CFM opportunities with support from sub-national, national and international financial partners. Project outputs form an excellent basis for discussions to establish a dedicated Community Forest Management Fund with the recently established [PNG Biodiversity & Climate Fund](#) (PNG-BCF) using the KoboToolbox data management system.

The Project sustainability strategy is sound with regards to the environmental, technical, social, and economic aspects, but further discussions are needed at the national level to identify the roles and responsibilities of the government agencies responsible for forestry, conservation, climate change and land-use in collaboration with the Project's technical partners. These collaborative arrangements will provide a sound basis for assisting project partners to scale-up their data collection and management activities over time, as well as enable forest resource owners and local partners in other locations to participate effectively in CFM schemes.



Project Completion: Project partners at the final national workshop in Port Moresby.

1. Project Identification

2.1 Context

PNG is the largest country in the Pacific Islands Region, with a land area of around 463,000 km². The landscape comprises islands, lowlands and highlands ranging from sea level to over 4,000 metres. PNG has a remarkably diverse natural environment due to large variations in landform, rainfall, and altitude. PNG's social context is equally diverse, with over eight hundred tribal groups and languages. Most land is held under customary ownership with an average population density of around eighteen people per square kilometre. Important land-use decisions are usually made at the clan level.

2.2 Origin and Problem

The Project originates from CFM-PPD-006-10 which selected six pilot areas spread across the four regions of PNG, together with six Local Partners. PRA guidelines and tools were assembled to assist Local Partners collect a set of disaggregated data on forest-livelihood interactions at each sample site. The baseline data collection activities revealed a diverse project context with some significant similarities. People living in the pilot areas were generally disadvantaged relative to those living in other parts of the country with regards to household income, local qualifications, and access to markets and services. On the other hand, each local community appeared well organized and self-reliant, with large areas of forest owned and managed by local landowner groups. Households were generally well-focused on feeding, housing, and educating their family, as well as contributing to their various clan and village obligations. In this environment, the Project's Local Partners provided an important link with the outside world, opening new opportunities for enhancing rural livelihoods for present and future generations. Whilst Local Partner resources and development strategies were quite varied, their overall objectives were similar. Project entry-points related to enhancing landowner awareness and technical capacity through strengthening external structures & processes, as well as local resources & capabilities.

Participatory problem analysis revealed the following constraints to CFM:

- **One core problem:**
 - ~ Landowners have limited technical capacity to participate effectively in community forestry schemes
- **Four underlying problems:**
 - ~ Limited institutional capacity to formalize landownership at all levels
 - ~ Limited landowner involvement in community forestry programs
 - ~ Poor community forest management practices and often high community expectations.
 - ~ Inadequate policies, strategies and plans for promoting and supporting CFM

2. Project Objectives and Implementation Strategy

The Project objectives were formulated with reference to the problem tree findings, namely:

- **Development objective:**
 - ~ CFM schemes in PNG are demonstrating sustainable forest management practices, as well as enhanced community livelihoods and social stability
- **Specific objective:**
 - ~ A model community-based land ownership mapping and forest resource assessment system is established that supports CFM schemes (including PES and REDD+).

Project activities were to be managed by the PNGFA at the national level; working in collaboration with six Local Partners and their pilot landowner groups at the local level. The following cross-cutting strategies were designed to shape the technical components of the Project:

- **Participatory Geographic Information Systems (PGIS)** to promote community empowerment through involving local people in gathering data as well as determining the variables that are to be measured, mapped and interpreted using smart phone and tablet data collection devices with an Android operating system and open-source software, together with rugged casings and solar chargers / battery packs.
- **Two-way communication** to foster knowledge sharing between pilot communities, Local Partners and key stakeholders during the design, implementation, monitoring and evaluation phases using data collection software with reference to language, perceptions and priorities of the communities involved in the Project. Some data collection requirements, such as those associated with measuring forest carbon stocks, should be prescribed at national and international levels. The aim being to bridge the gap between modern technology and traditional spatial knowledge through the online platform mechanism which should be carefully integrated with existing national forest management systems.
- **Capacity building** to promote sustainability. Participating landowner groups should learn more about the National Development Program, CFM and REDD+ and improve their skills to effectively engage in these endeavours. Through PGIS, the Project should help landowner groups to become as autonomous as possible in terms of their level of community engagement. Capacity building should also take place at provincial and national levels, since the data management platform must be designed to enable landowner groups, Local Partners and key stakeholders to achieve shared resource management goals.

3. Project Performance

The Project implementation phase commenced on 5 March 2020 with a planned duration of 36 months. Since there was a long delay prior to implementation, two Local Partners were unable to participate in the Project (TKCP and WCS). One additional Local Partner (OISCA) agreed to participate but was unfortunately unable to undertake the field-testing activity with their pilot community. The four active Local Partners (FORCERT, FPCD, MBPA and RCF) collectively represented PNG's four administrative regions (Islands, Highlands, Momase & Southern). They comprised one provincial government administration, two non-governmental organisations and one not-for-profit company. A part-time Project Manager was recruited from June 2022 to June 2023 to progress the 3rd Yearly Plan of Operation (January 2022 to February 2023). A final No-Cost Extension to 31 March 2024 was granted to complete the remaining tasks at local and national levels. Overall, the Project has performed well over the four-year period despite some administrative delays.

Table 1 (below) compares planned performance with realised performance for the project specific objective. Tables 2-5 compare planned performance with realised performance for the four outputs.

Table 1: Planned versus realised performance for the project specific objective.

SPECIFIC OBJECTIVE: A model community-based land ownership mapping and forest resource assessment system is established that supports CFM schemes (including PES and REDD+)
The Project has developed a national system of bottom-up, participatory land-use planning and monitoring that has the potential to support CFM schemes (including PES and REDD+) and is aligned with Objective K of PNG's recently approved National Sustainable Land Use Policy (NSLUP). The Community Foresters Tool Kit (CFTK) contains awareness videos, data collection forms, data collection & management software, guidance sheets and reference materials. Online communication platforms have also been set-up for freely sharing the

CFTK resources as well as building productive networks at local, provincial and national levels. The model community-based land-use planning and forest resource assessment system has enabled the Project's Local Partners and their Pilot Communities to improve their existing land-use planning & monitoring practices as well as pursue new CFM opportunities with support from sub-national, national and international financial partners.

Table 2: Planned versus realised performance for Output 1.

OUTPUT 1:

Participatory data collection technology is improving CFM understanding and practices at community, district and provincial levels

Activity 1.1:

Develop participatory data collection hardware and software for forest resource assessment and clan land boundary mapping through working sessions with local CFM partners and pilot landowner groups, followed by a national workshop.

[Technical Report 1](#) (Potential variables to be measured, mapped and interpreted) and [Technical Report 2](#) (Software development to support CFM) present the development of data collection software, forms and reports for five high-priority CFM topics using the open source software [KoboToolbox](#) for data management and [KoboCollect](#) for data collection. The selected software and twelve data collection forms were field tested by the Project's four Local Partners and their Pilot Communities and reviewed during the mid-term national workshop with the Project's Local and National Partners.

This activity was implemented in accordance with the five planned tasks from April 2020 to March 2023. The field-work took longer than planned due to some administrative delays at the national level.

a) Task 1.1.1: Identify variables that are to be measured, mapped and interpreted

The Software Developer led the identification of variables with potential to enable customary landowners to participate effectively in CFM schemes within the Project's pilot areas. This assignment was undertaken through extensive desk-top research, prior to circulating the draft technical report for review amongst project partners and selected stakeholders, leading to the identification of five high-priority topics for CFM in PNG: (i) Community testimonials, (ii) Land-use, (iii) Forest biomass, (iv) Socio-economics and (v) Biodiversity. The Software Developer suggested the Project's local CFM partners and their target communities first select their priority CFM topics, given their specific contexts and planned activities. Participatory data collection activities should start of gradually with one or two simple forms and build in complexity over time.

b) Task 1.1.2: Design data collection forms and reports

c) Task 1.1.3: Build data collection forms and reports

The Software Developer led the preparation of the data collection and management software following the selection of variables to be measured, mapped, and interpreted. This assignment involved the selection of software to suit the PNG context with reference to the pre-project findings, and the design of twelve data collection forms and reports that covered the five high-priority CFM topics. The forms and reports were then built on KoboToolbox (for data management) and added to KoboCollect (for data collection). Survey questions can be viewed in Tokpisin.

d) Task 1.1.4: Field-test data collection software and hardware

The twelve data collection forms were then field-tested by four of the Project's Local Partners and their Pilot Communities using KoboCollect. Each Local Partner was allocated one CFM topic to focus on and supplied with two rugged tablets, external GPS and solar chargers to undertake their data collection work. A WhatsApp Community was also set-up to provide an online communication forum for data collection partners comprising 4 Groups: (i) Land-use,



Measuring Biomass: Field-testing Forest Biomass Form 3a in the Ugalingu Conservation Area, Madang Province

(ii) Forest biomass, (iii) Socio-economics and (iv) Biodiversity). This enabled rapid responses to data collection and software errors encountered in the field. Forms were also prepared to record and circulate feedback and actions taken. The data collection hardware and software were reviewed during the mid-term national workshop with the Project's Local and National Partners.

Activity 1.2:

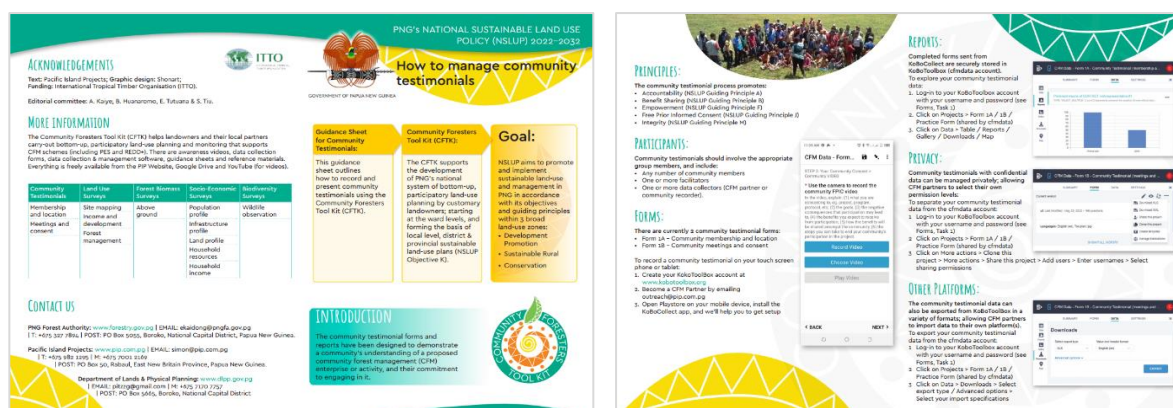
Provide local CFM partners and pilot landowner groups with participatory training sessions and user-friendly training materials for collecting and monitoring their forest resource and clan land boundary data.

[Technical Report 3](#) (Training resource development to support CFM) presents the training and awareness materials that were prepared to support the data collection and management resources developed by the Project (see Activity 3.2). The five Guidance Sheets (one for each CFM topic) and four Awareness Videos were field tested by the Project's four Local Partners and their Pilot Communities and reviewed during the mid-term national workshop with the Project's Local and National Partners. These resources are stored in the [Community Foresters Tool Kit](#) (CFTK)'s Google Drive folder (along with the data collection forms in PDF). Online information exchange platforms were also established (Google Classroom and WhatsApp) to encourage the exchange of information and ideas between National Partners, Local Partners and their Pilot Communities during the field-testing and data collection activities.

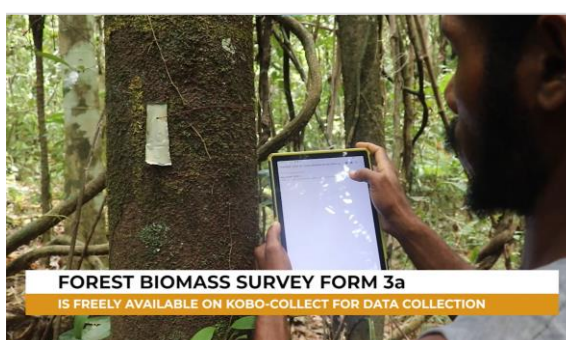
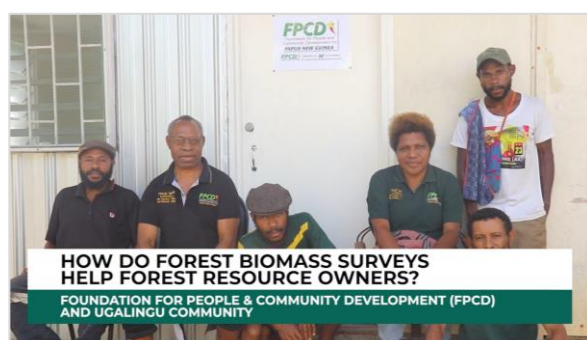
This activity was implemented in accordance with the three planned tasks from January 2022 to March 2024. The field work took longer than planned due to some administrative delays at the national level.

a) Task 1.2.1: Prepare training materials for data collection and reporting

The Training Resource Developer led the preparation and testing of training and awareness materials to accompany the data collection (and management) resources developed by the Project. This assignment involved field-work with Local Partners and their Pilot Communities (alongside Task 1.1.4) followed by the mid-term national workshop for project partners to present and discuss their findings and recommendations (alongside Task 1.1.5). The CFTK contains five Guidance Sheets in English for Local and National Partners (one for each CFM topic) and four Awareness Videos in Tokpisin for Local Partners and Pilot Communities.



Training Materials: The guidance sheet for community testimonials accompanies the data collection and management software for Forms 1a and 1b



Awareness Videos: The awareness video for forest biomass surveys accompanies the guidance sheet for forest biomass surveys

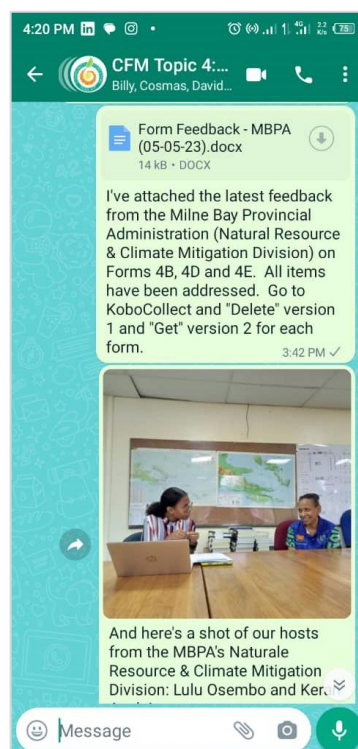
b) Task 1.2.2: Deliver a series of online training sessions for local CFM partners

The Training Resource Developer led the selection of the most appropriate online platforms for freely sharing the CFTK resources (including the training awareness resources) as well as building productive online networks. This included Google Drive (for file sharing) and WhatsApp (for information exchange). The CFTK's WhatsApp Community provides an online communication forum for Local and National partners with 4 Groups: (i) Land-use, (ii) Forest biomass, (iii) Socio-economics and (iv) Biodiversity). These groups assisted the field-testing activities and enabled rapid responses to data collection software queries and errors encountered in the field.

c) Task 1.2.3: Collect data using selected forms

The Project's four Local Partners collected data using the equipment supplied by the Project (rugged tablets, external GPS and solar chargers) on their allocated CFM topic (and any other selected topics and forms) as shown below:

- **FORCERT:**
 - ~ Land-Use Survey Forms 2a, 2b, 2c
 - ~ Socio-Economics Survey Forms 4a and 4c
 - ~ Biodiversity Form 5a
- **Foundation for People & Community Development:**
 - ~ Forest Biomass Form 3a
 - ~ Socio-Economics Survey Forms 4a, 4b, 4c, 4d, 4e
- **Milne Bay Provincial Administration:**
 - ~ Socio-Economics Survey Forms 4a, 4b, 4c, 4d, 4e
- **Research & Conservation Foundation:**
 - ~ Community Testimonial Form 1a and 1b
 - ~ Land-Use Survey Form 2c
 - ~ Socio-Economics Survey Forms 4d and 4e
 - ~ Biodiversity Form 5a



Two-way Communication:
Training Resource Developer updating Socio-economics Group members on WhatsApp



Community Profiles: Milne Bay Provincial Administration (MBPA) collecting community profile data (Forms 4a, 4b & 4c)

Activity 1.3:

Facilitate sustainable land-use planning and understanding about the goods and services forests provide through working sessions with pilot landowner groups using participatory data collection outputs.

This activity was undertaken by the Project's four Local Partners and their Pilot Communities using their chosen community engagement techniques.

This activity was implemented in accordance with the two planned tasks from February to December 2023. The field work took longer than planned due to some administrative delays at the national level.

a) **Task 1.3.1:** Conduct working sessions with pilot landowner groups

b) **Task 1.3.2:** Facilitate preparation of community land-use plans

The Local Partner for the Momase Region (FPCD) has strengthened its engagement with the Pilot Community at Ugalingu using the Forest Biomass and Socio-Economics Survey Forms, leading to:

- Production of Community Land-use Map in three steps: (i) Awareness & boundary demarcation; (ii) Draft map review & confirmation; (iii) Discussion & mapping of land-use allocations
- Arrangements made for adding additional clan land to the Ugalingu Conservation Area and updating of conservation area map.
- Provision of informed community consent to proceed with a project concept note for Validation under the Climate Community and Biodiversity (CCB) Standards with support from the [People Resources and Conservation Foundation](#) (PRCF).



Plot Location: Forest biomass data was collected from 6 Permanent Sample Plots within the Ugalingu Conservation Area



Product Types: 5 primary forest products (fruit, meat, eggs, firewood & timber) were collected by households at Gibara Ward during 2023 (Q2 and Q4)



Clan group: Dr. Henry Scheyvens (PRCF) assisting youths from Ugalingu with Step 1 of FPCD's land-use planning process



Ward group: MBPA team conducting a community workshop with Gibara Ward members to review the socio-economic survey findings

The Local Partner for the Southern Region (MBPA) has strengthened its engagement with the selected Pilot Community at Gibara Ward using the Socio-Economics Survey Forms, leading to:

- Community workshop to review the Ward profile survey findings (population, infrastructure & land) and household survey findings (resources & income) through participatory appraisal and SWOT analysis, resulting in the identification of possible CFM opportunities including the establishment of a gazetted Protected Area with support from the PNG-BCF.
- Preparation of Ward Plan with improved land-use planning and forest management activities as part of the Huhu Local Level Government Plan which has been incorporated into the Alotau District's Integrated Development Plan (2023-2027). There is considerable potential for scaling up the Socio-economic surveys within the Alotau District and scaling out to other Districts in the future (there are four Districts within Milne Bay Province). MBPA is the only Local Partner representing a provincial government administration.

Activity 1.4:

Monitor progress with reference to logical framework indicators, activity milestones and community baseline data.

The Project Monitoring Framework was established following the recruitment the part-time Project Manager (from June 2022 to June 2023). The monitoring framework comprised a quarterly monitoring schedule with local and national monitoring forms available on KoboCollect.

This data collection task was undertaken on an intermittent basis due to some administrative delays at the national level.

a) Task 1.4.1: Prepare monitoring framework for output 1

The Project Manager prepared the Project Implementation Arrangements (June 2022 to May 2023) which included the Project Monitoring Framework with quarterly monitoring schedule and Local & National Monitoring Forms to measure progress against project activities, indicators and assumptions. These forms were added to the Project's KoBoToolbox platform to assist the PNGFA's monitoring team at local and national levels using KoboCollect.

b) Task 1.4.2: Monitor progress using monitoring forms

The Project Manager assisted the PNGFA's four Field Officers (provincial level) and ICT Help Desk Officer (national level) to collect data during his field trips to the Project sites (two trips were made to each Local Partner which included one visit to each Pilot Community).

c) Task 1.4.3: Report on progress and constraints using project database

During the period June 2022 to March 2024, 15 local monitoring forms were completed (should have been 28) and two national monitoring forms were completed (should have been 7). The local and national level monitoring reports are available on the Project's KoboToolbox platform.

Table 3: Planned versus realised performance for Output 2

OUTPUT 2:**Clan groups are participating appropriately with the National Sustainable Land Use Policy****Activity 2.1:**

Strengthen institutional partnerships at all levels in consultation with PNG Forest Authority and Department of Lands & Physical Planning through regular meetings and working sessions, followed by a national workshop.

The partnership between PNGFA and Department of Lands & Physical Planning (DLPP) has been strengthened through the development and promotion of PNG's National Sustainable Land Use Policy (NSLUP) (see Activity 2.2). Two productive meetings were also held with the government agencies responsible for forestry, conservation, climate change and land-use (PNGFA, CEPA, CCDA and DLPP).

This activity was implemented in accordance with the three planned tasks from January 2022 to August 2023.

a) Task 2.1.1: Prepare annual work program that supports Activity 2.2**b) Task 2.1.2: Organize quarterly meetings/working sessions**

The 3rd Plan of Operation (April 2022 to February 2023) outlined a twelve-month activity program for undertaking Activities 2.1, 2.2 and 2.5 including four monthly meetings. Two productive meetings were held with the government agencies responsible for forestry, conservation, climate change and land-use (PNGFA, CEPA, CCDA and DLPP) at the PNGFA headquarters (combined with Task 4.1.2).

c) Task 2.1.3: Organize national workshop

During the Project's mid-term national workshop with Local and National Partners, NSLUP was introduced and the need for an accompanying Guidance Sheet and Awareness Video was identified.

Activity 2.2:

Raise pilot community awareness about the National Sustainable Land Use Policy in consultation with PNG Forest Authority and Department of Lands & Physical Planning through meetings with local organizations and social groups (e.g. government, church, clan, youth and women)

[Technical Report 3](#) (Training resource development to support CFM) presents the training and awareness materials that were prepared to accompany the recently approved National Sustainable Land Use Policy (NSLUP). The two Guidance Sheets and one Awareness Video were field-tested by the Project's four Local Partners and their Pilot Communities and reviewed during the mid-term national workshop with the Project's Local and National partners. These resources are stored in the [Community Foresters Tool Kit](#) (CFTK)'s Google Drive folder.

This activity was implemented in accordance with the three planned tasks from January 2022 to March 2024. The field work took longer than planned due to some administrative delays at the national level.

a) Task 2.2.1: Prepare awareness resources and communication channels

During the collection of feedback on Technical Report 1 (see Output 1), some Local Partners suggested there was no need to formally secure customary land for CFM operations that are managed by customary landowners with support from their local partners under the National Land Development Program as planned in the original Project Document (this could even be counter-productive). Subsequent meetings with Local and National partners indicated it would be more productive for the Project to assist community groups to be guided by the draft NSLUP, particularly Objective K which intends to develop a national system of bottom-up participatory sustainable land use planning by customary landowners starting at the Ward Levels, forming the basis of Local Level Government, District and Provincial Sustainable Land Use Plans. NSLUP was subsequently approved by PNG's National Executive Council in June 2022.

The Training Resource Developer led the preparation and testing of awareness materials to accompany the NSLUP document. This assignment involved field-work with Local Partners and their Pilot Communities (alongside Task 1.1.4) followed by a national workshop for project partners to present and discuss their findings and recommendations (alongside Task 1.1.5). The CFTK contains two Guidance Sheets in English (NSLUP and NSLUP Objective K) and one Awareness Videos in Tokpisin.



Training Materials: The guidance sheet for NSLUP Objective K accompanies the policy document



Awareness Videos: The awareness video for NSLUP accompanies the two guidance sheets

b) Task 2.2.2: Distribute awareness resources via communication channels

The NSLUP Guidance Sheets and Awareness Video were added to the CFTK folder on Google Drive for the Project's Local Partners to distribute amongst their existing networks. Hard copies of the Guidance Sheets were also circulated during the Project Manager's field trips. Two DLPP staff members who were actively involved in the formulation of NSLUP also took part in the field trips to raise awareness and understanding about NSLUP and NSLUP Objective K within the Project's Pilot Communities.



Group Meetings: Wendy Wahe (DLPP) introducing NSLUP to women from the Haia Community, Simbu Province

c) Task 2.2.3: Collect feed-back from local organizations and social groups

Face-to-face meetings received positive feedback regarding NSLUP's objectives and strategies. The DLPP is conducting ongoing awareness sessions during 2024 prior to the policy's implementation phase.

Activity 2.3:

Develop participatory data collection software for land group incorporation in consultation with local CFM partners, landowner groups

Removed (no need to formally secure customary land for CFM)

Activity 2.4:

Provide local CFM partners and landowner groups with the necessary training sessions / materials for collecting their land group incorporation

Removed (no need to formally secure customary land for CFM)

Activity 2.5:

Monitor progress with reference to logical framework indicators, activity milestones and community baseline data.

The Project Monitoring Framework was established following the recruitment of a part-time Project Manager (from June 2022 to June 2023). The monitoring framework comprised a quarterly monitoring schedule with local and national monitoring forms available on KoboCollect.

This data collection task was undertaken on an intermittent basis due to some administrative delays at the national level.

a) Task 2.5.1: Prepare monitoring framework for output 2

The Project Manager prepared the Project Implementation Arrangements (June 2022 to May 2023) which included the Project Monitoring Framework with quarterly monitoring schedule and Local & National Monitoring Forms to measure progress against project activities, indicators and assumptions. These forms were added to the Project's KoBoToolbox platform to assist the PNGFA's monitoring team at local and national levels using KoboCollect.

b) Task 2.5.2: Monitor progress using monitoring forms

The Project Manager assisted the PNGFA's four Field Officers (provincial level) and ICT Help Desk Officer (national level) to collect data during his field trips to the Project sites (two trips were made to each Local Partner which included one visit to each Pilot Community).

c) Task 2.5.3: Report on progress and constraints using project database

During the period June 2022 to March 2024, 15 local monitoring forms were completed (should have been 28) and two national monitoring forms were completed (should have been 7). The local and national level monitoring reports are available on the Project's KoboToolbox platform.

Table 4: Planned versus realised performance for Output 3

OUTPUT 3:

A data management system is engaging landowners in feasible CFM schemes (including PES & REDD+)

Activity 3.1:

Develop data management system and web-based platform in consultation with user groups for facilitating the dissemination of relevant information at local, national and international levels.

[Technical Report 2](#) (Software development to support CFM) presents the development of data collection software, forms and reports for the five high-priority CFM topics using [KoboToolbox](#) for data management and [KoboCollect](#) for data collection. The user-friendly software and customised reports were field tested by the Project's Local and National Partners and reviewed during the mid-term national workshop.

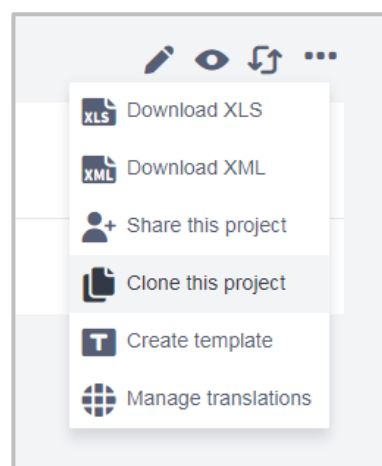
This activity was implemented in accordance with the four planned tasks from April 2020 to March 2023. The field work took longer than planned due to some administrative delays at the national level.

- a) Task 3.1.1:** Identify user requirements for data, maps and summary documents (with task 1.1.5)

The Software Developer led the identification of user requirements for data, maps, and summary documents during the field-testing of data collection and management software by the Local Partners and their Pilot Communities, leading to the customization of reports for each survey form on KoboToolbox.

- b) Task 3.1.2:** Design data sharing mechanisms from national level down

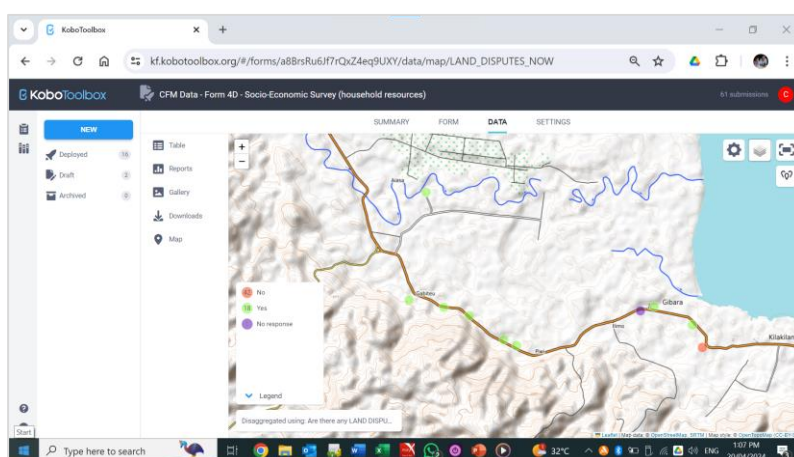
Completed forms sent from KoboCollect are securely stored in KoboToolbox (main account). Local Partners can view their own survey data by logging-in to their own KoboToolbox account. Confidential data can also be managed privately by cloning selected forms; allowing Local Partners to choose their own permission levels. Data can also be exported from KoboToolbox in a variety of formats; allowing Local and National Partners to import data to their own platforms.



Data Privacy: Confidential data can be cloned for privacy in Kobo Toolbox

- c) Task 3.1.3:** Build data management system and web-based platform

The Kobo Toolbox software provides a user-friendly data management and visualization platform. As information is gathered in the field, it is uploaded to Kobo Toolbox (if data collection device is online) where users can review and validate data in real time. Data stored in Kobo Toolbox can be quickly viewed in charts and maps. Data can also be disaggregated (e.g. by gender, location, and survey period) and



Data Disaggregation: Household locations within Gibara Ward, Milne Bay Province, disaggregated using the survey question "Are there any land-disputes now?"

different chart types selected (e.g. bar, line, or pie chart). In addition, reports can be customized to suit specific user requirements.

d) Task 3.1.4: Pilot-test data management system and web-based platform



KoboToolbox and KoboCollect were pilot-tested by the Project's Local and National Partners during the field testing of the data collection software (see Task 1.1.4). Each local partner was allocated one CFM topic to focus on and supplied with a laptop to support their data management activities.

On-site Training: Jason Sigamata (PNGFA) with Claudia Sipison and Sinimil Eliuda (FORCERT) discussing the data collection reports for West New Britain Province

Activity 3.2:

Provide data management staff with the participatory training sessions and user-friendly training materials for managing and disseminating relevant information.

[Technical Report 3](#) (Training resource development to support CFM) presents the training and awareness materials that were prepared to support the data collection (see Activity 1.2) and management resources developed by the Project. The five Guidance Sheets (one for each CFM topic) were field tested by the Project's Local and National Partners and reviewed during the mid-term national workshop. These resources are stored in the [Community Foresters Tool Kit](#) (CFTK)'s Google Drive folder. Online information exchange platforms were also established (Google Classroom and WhatsApp) to encourage the exchange of information and ideas between National Partners, Local Partners and Pilot Communities during the field-testing and data collection activities.

This activity was implemented in accordance with the three planned tasks from January 2022 to March 2024. The field work took longer than planned due to some administrative delays at the national level.

a) Task 3.2.1: Prepare training materials for managing and disseminating relevant information.

The Training Resource Developer led the preparation and testing of training materials to accompany the data collection and management resources developed by the Project. This assignment involved field-work with the Project's Local and National Partners (alongside Task 1.1.4) followed by the mid-term national workshop for project partners to present and discuss their findings and recommendations (alongside Task 1.1.5). The CFTK contains five Guidance Sheets in English for Local and National Partners (one for each CFM topic).



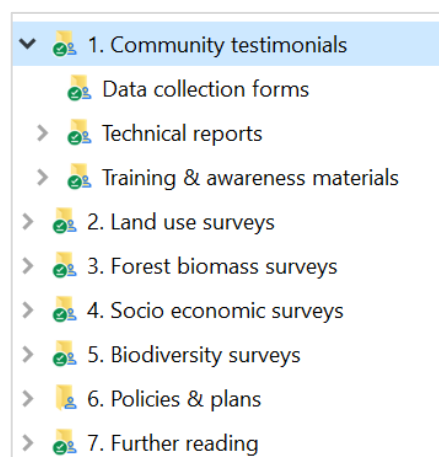
Training Materials: The guidance sheet for land-use surveys accompanies the data collection and management software for Forms 2a, 2b and 2c

a) Task 3.2.2: Deliver online training sessions for data management staff

The Training Resource Developer led the selection of the most appropriate online platforms for freely sharing the CFTK resources (including training resources) as well as building productive online networks. This included Google Drive (for file sharing) and WhatsApp (for information exchange). The CFTK's Class on Google Classroom provides an online communication forum for Local and National Partners together with structured "Classwork" for delivering material, assignments and questions (e.g. user-feedback and monitoring forms).

b) Task 3.2.3: Manage and disseminate relevant information

The CFTK contains all the files developed by the Project including data collection forms, training & awareness resources and technical reports. The Training Resource Developer set-up the most appropriate online platforms for freely sharing the CFTK resources, as well as building productive online networks. These platforms are currently managed by PIP together with the data collection and management software that is also freely available online.



File Sharing: CFTK Folder on Google Drive

Activity 3.3:

Facilitate CFM opportunities for local CFM partners and landowner groups using the data management system

This activity was undertaken by the Project's 4 Local Partners and their Pilot Communities in collaboration with current/potential financial partners.

This activity was implemented in accordance with the two planned tasks from February 2023 to March 2024. The field work took longer than planned due to some administrative delays at the national level.

a) Task 3.3.1: Identify opportunities for local CFM partners

b) Task 3.3.2: Engage landowners in feasible CFM schemes

The Local Partner for the Highlands Region (RCF) has strengthened its engagement with the two selected Pilot Communities within the Crater Mountain Wildlife Management Area (CMWMA) using the Community Testimonial, Land-Use, Socio-Economics and Biodiversity Survey Forms, leading to:

- Improved understanding of changes taking place within the CMWMA and more appropriate responses taken
- Development of Financial Plans for the CMWMA
- Strengthening of Wildlife Management Laws through the revival of the CMWMA Committee.
- Production of learning resources for species and ecosystem conservation.
- Strengthened partnerships and collaboration with government and non-government agencies



Observation Types: Wildlife was recorded from 4 observation types (sighting, droppings, call & tracks) within the CMWMA



Income Generation: Ainbul community generated income from 4 land types (village, cropland, primary forest & secondary forest) during 2023



Learning Resources: Biodiversity data from the CMWMA assisted the production of education & awareness materials



Cocoa Certification: Ainbul Cocoa Cooperative's Solar Combination Drier was funded by the West New Britain Provincial Service Improvement Program

The Local Partner for the Islands Region (FORCERT) has strengthened its engagement with four selected Pilot Communities using the Land-Use, Socio-Economics and Biodiversity Survey Forms, leading to:

- Improved Cocoa Farmer Profile Database (community & household levels) and development of practical monitoring protocols for Certified Organic Cocoa
- Improved monitoring of locally identified High Conservation Value (HCV) and IUCN Red List species within Community Conservation Areas
- Increased capacity of Pilot Communities to evaluate and revise their Sustainable Land Use Plans (SLUP)

Activity 3.4:

Monitor progress with reference to logical framework and activity milestones.

The Project Monitoring Framework was established following the recruitment a part-time Project Manager (from June 2022 to June 2023). The monitoring framework comprised a quarterly monitoring schedule with local and national monitoring forms available on KoboCollect.

This data collection task was undertaken on an intermittent basis due to some administrative delays at the national level.

a) Task 3.4.1: Prepare monitoring framework for output 3

The Project Manager prepared the Project Implementation Arrangements (June 2022 to May 2023) which included the Project Monitoring Framework with quarterly monitoring schedule and Local & National Monitoring Forms to measure progress against project activities, indicators and assumptions. These forms were added to the Project's KoBoToolbox platform to assist the PNGFA's monitoring team at local and national levels using KoboCollect.

b) Task 3.4.2: Monitor progress using monitoring forms

The Project Manager assisted the PNGFA's four Field Officers (provincial level) and ICT Help Desk Officer (national level) to collect data during his field trips to the Project sites (two trips were made to each Local Partner which included one visit to each Pilot Community).

c) Task 3.4.3: Report on progress and constraints using project database

During the period June 2022 to March 2024, 15 local monitoring forms were completed (should have been 28) and two national monitoring forms were completed (should have been 7). The local and national level monitoring reports are available on the Project's KoboToolbox platform.

Table 5: Planned versus realised performance for Output 4

OUTPUT 4: Policy and planning guidelines for CFM in place
Activity 4.1: Facilitate coordination between government agencies with the Chief Secretary's office.
Coordination was facilitated between the national government agencies responsible for forestry, conservation, climate change and land-use (PNGFA, CEPA, CCDA, DLPP) through face-to-face meetings and email. This activity commenced with the recruitment a short-term Project Manager (June 2022 to June 2023) and was implemented in accordance with the two planned tasks from July 2022 to February 2024.
a) Task 4.1.1: Prepare annual work program b) Task 4.1.2: Organize quarterly meetings/working sessions The 3rd Plan of Operation (April 2022 to February 2023) outlined a twelve-month activity program for undertaking Activities 4.1. to 4.4. including four monthly meetings. Two productive meetings were held with the government agencies responsible for forestry, conservation, climate change and land-use (PNGFA, CEPA, CCDA, DLPP) at the PNGFA headquarters (combined with Task 2.1.2).
Activity 4.2: Develop policy and planning guidelines for CFM in consultation with key stakeholders with reference to data management system and tools through regular meetings & working sessions, followed by a national workshop.
Technical Report 4 (Policy and planning guidelines for community forest management in PNG) provides a set of guidelines that support CFM schemes in PNG with reference to the policies, laws & regulations that are currently in place, and the information & technology resources that are freely available online. The report includes a review of lessons learned by CFM operations worldwide and highlights five critical-success factors which are being addressed by the Project working in partnership with its implementing partners at national, local and community levels. The Technical Report and accompanying Guidance Sheet were prepared in consultation with the national government agencies responsible for forestry, conservation, climate change and land-use. These resources are stored in the Community Foresters Tool Kit (CFTK)'s Google Drive folder. This activity was implemented in accordance with the three planned tasks from January 2022 to March 2024.
a) Task 4.2.1: Draft policy and planning guidelines for CFM b) Task 4.2.2: Organize regular meetings/working sessions The Training Resource Developer led the preparation of Technical Report 4 and the accompanying Guidance Sheet "How to Manage Community Forestry Operations". This assignment involved meetings and email correspondence with the government agencies responsible for forestry, conservation, climate change and land-use (PNGFA, CEPA, CCDA, DLPP) and ongoing dialogue with the Project's National Partners. The collage displays several key documents: the cover of the PNG National Sustainable Land Use Policy (NSLUP) 2022-2035; a guidance sheet titled 'How to manage community forestry operations'; and multiple information sheets detailing forestry operations, climate change and development, and sustainable land use operations. These materials are part of the training resources provided for community forest management. Training materials: The guidance sheet for CFM operations accompanies the Policy & Planning Guidelines

c) Task 4.2.3: Organize national workshop During the Project's mid-term national workshop with Local and National Partners, the contents and focus of the Policy & Planning Guidelines were outlined and the need for a summary Guidance Sheet identified.
Activity 4.3: Launch policy and planning guidelines for CFM
The PNGFA has not yet undertaken this activity due to time constraints.
a) Task 4.3.1: Launch at national level b) Task 4.3.2: Launch at sub-national level
Activity 4.4: Monitor progress with reference to logical framework and activity milestones.
The Project Monitoring Framework was established following the recruitment of a part-time Project Manager (from June 2022 to June 2023). The monitoring framework comprised a quarterly monitoring schedule with local and national monitoring forms available on KoboCollect. This data collection task was undertaken on an intermittent basis due to some administrative delays at the national level.
a) Task 4.4.1: Prepare monitoring framework for output 4 The Project Manager prepared the Project Implementation Arrangements (June 2022 to May 2023) which included the Project Monitoring Framework with quarterly monitoring schedule and Local & National Monitoring Forms to measure progress against project activities, indicators and assumptions. These forms were added to the Project's KoBoToolbox platform to assist the PNGFA's monitoring team at local and national levels using KoboCollect. b) Task 4.4.2: Monitor progress using monitoring forms The Project Manager assisted the PNGFA's four Field Officers (provincial level) and ICT Help Desk Officer (national level) to collect data during his field trips to the Project sites (two trips were made to each Local Partner which included one visit to each Pilot Community). c) Task 4.4.3: Report on progress and constraints using project database During the period June 2022 to March 2024, 15 local monitoring forms were completed (should have been 28) and two national monitoring forms were completed (should have been 7). The local and national level monitoring reports are available on the Project's KoboToolbox platform.

Table 6 (below) compares planned expenditure with actual expenditure during the Project implementation phase (see Annex 1 and 2).

Table 6 Planned versus actual expenditure.

Planned Expenditure (USD)		Actual Expenditure (USD)
ITTO Budget for project activities		
Project personnel	90,392	79,996
Duty travel	200,992	241,344
Capital items	36,249	34,437
Consumable items	67,640	27,703
Miscellaneous	8,000	17,257
Total:	403,273	400,736
PNGFA Budget for project activities		
Project personnel	30,000	30,000
Miscellaneous	32,000	32,000
Total:	62,000	62,000

4. Project Outcome and Target Beneficiaries Involvement

The Project aims to create a model community-based land-use mapping and forest resource assessment system that supports CFM schemes (including PES and REDD+) and increases landowner understanding about the goods and services that forests provide.

Table 7 highlights the role that project participants will play after project completion, as well as the ongoing benefits they are expected to receive.

Table 7: Project participant roles and ongoing benefits.

Project Participant	Ongoing Activities	Ongoing Benefits
Pilot Communities	Assess and monitor their forest resources using KoboCollect with support from their Local Partners. Develop their land-use plans to maximize the goods and services their forests provide with support from their Local Partners. Collaborate with PNGFA and NSLUP officers as appropriate. Share and receive relevant information with/from Local and National Partners on the CFTK WhatsApp Community.	Increased understanding about the goods and services their forests provide. Increased capacity to participate in feasible CFM schemes. Improved forest management practices and security over their resources in the long-term.

Local Partners	Use the CFTK's data collection, training and awareness resources with Pilot Communities and other communities interested in CFM. Send non-confidential data to KoboToolbox (main account) and confidential data to KoboToolbox (local partner account) Share and receive relevant information with CFM Communities, Local and National Partners on the CFTK WhatsApp Community. Share and receive relevant information with Local and National Partners on the CFTK Class on Google Classroom.	Improved forest management practices and long-term resource security within target areas Increased access to CFM tools, services, and opportunities.
PNG Forest Authority	Manage the KoboToolbox platform (main account) for registered Local, National and International Partners. Promote PNG's Policy & Planning Guidelines for CFM amongst the government agencies responsible for forestry, conservation, climate change and land-use.	Improved coordination with other government agencies responsible for CFM activities. Increased information flows from the forest that will support policy implementation, including forest planning processes.
Financial partners for environmental goods and services	Access information shared from KoboToolbox (main and local partner accounts)	Improved access to information required by current/potential sub-national, national & international financial partners (e.g. District/Provincial Service Improvement Programs, PNG-BCF, EU and USAid)

5. Sustainability

The Project has developed a national system of bottom-up, participatory land-use planning and monitoring that supports CFM schemes (including PES and REDD+) and is aligned with Objective K of PNG's recently approved NSLUP.

The sections below show how project outputs have been delivered using an integrated approach that fosters environmental, technical, social, economic, institutional and political sustainability.

a. Environmental aspects

The model community-based land-use planning and forest resource assessment system contains user-friendly data collection & management software, together with attractive training & awareness resources. Environmental aspects were first assessed through extensive desk-top research which identified a set of potential variables to be measured, mapped and monitored. This was followed by discussions with project partners and selected stakeholders, leading to the selection of five high-priority CFM topics with carefully defined purpose and variables for each topic, namely:

- **Topic 1:** Community testimonial forms and reports should demonstrate a community's understanding of a proposed community forest management (CFM) enterprise or activity, and their commitment to engaging in it.
- **Topic 2:** Land-use survey forms and reports should facilitate land-use planning and monitoring within a CFM enterprise. This includes the collection of key performance indicators, as well as data for ground-truthing.

- **Topic 3:** Forest biomass form and reports should measure and monitor the above-ground carbon pool at selected plots within a CFM enterprise. This data can be included in the monitoring framework of projects that avoid deforestation, improve forest management, and reduce emissions from deforestation & degradation (REDD).
- **Topic 4:** Socio-economic forms and reports should facilitate land-use planning and monitoring within a CFM enterprise at both household & community levels, and seasonal & annual timescales.
- **Topic 5:** Biodiversity form and reports should measure and monitor wildlife observations (e.g. key indicator species) within a CFM enterprise. The socio-economic reports may also indicate biodiversity pressures, benefits and community responses.

b. Technical aspects

A consultative, step-by-step approach was used to ensure the most appropriate hardware, software training and awareness resources were developed for the CFM context:

- **Step 1:** Potential variables to be measured, mapped and monitored were identified through extensive desk-top research, followed by discussions with project partners and selected stakeholders; leading to the selection of five high-priority CFM topics with carefully defined purpose and variables for each topic (see previous section).
- **Step 2:** Suitable data collection & management software for the PNG context was selected from a variety of open source and proprietary software options. Kobo Toolbox was found to have all the required features for offline mobile data collection and online data management, as well as the most user-friendly interfaces for the PNG context. Survey questions can be viewed in Tokpisin.
- **Step 3:** Twelve data collection forms, covering the five high-priority CFM topics were constructed on KoboToolbox, tested by project partners on KoboCollect and reviewed during a national workshop. Local CFM partners were also equipped with rugged tablets, solar chargers and battery packs to facilitate data collection in the field.
- **Step 4:** Training materials were prepared and field-tested comprising: (i) five guidance sheets (one for each CFM topic) with information on survey principles, participants, forms, reports, privacy arrangements and integration to other platforms, (ii) two guidance sheets outlining the objectives, strategies, activities and guiding principles of NSLUP and Objective K and (iii) one guidance sheet summarising the Policy & Planning Guidelines for CFM.
- **Step 5:** A Community Foresters Tool Kit (CFTK) was created to contain the resources developed by the Project, and the most appropriate online communication platforms were then selected for freely sharing the contents, as well as building productive online networks for two-way communication between forest resource owners, local partners and government agencies.

c. Social aspects

The Project recommends Local Partners and their Pilot Communities first select their priority CFM topics given their specific contexts and planned activities. Participatory data collection activities should then start off gradually with one or two forms; building landowner capacity to become as autonomous as possible over time.

Five short videos have been developed in Tokpisin to first raise landowner awareness and understanding about each CFM topic and NSLUP:

- **Awareness Video 1:** How does NSLUP help forest resource owners?
- **Awareness Video 2:** How do land-use surveys help forest resource owners?
- **Awareness Video 3:** How do forest biomass surveys help forest resource owners?

- **Awareness Video 4:** How do socio-economic surveys help forest resource owners?
- **Awareness Video 5:** How do biodiversity surveys help forest resource owners?

Eight pamphlets have been developed in English to then help landowners and their Local Partners carry-out bottom-up, participatory land-use planning and monitoring using the data collection & management resources with reference to the policies, laws, regulations and online resources that are currently in place:

- **Guidance Sheet 1:** What is NSLUP?
- **Guidance Sheet 2:** What is NSLUP Objective K?
- **Guidance Sheet 3:** How to manage community forestry operations?
- **Guidance Sheet 4:** How to manage community testimonials
- **Guidance Sheet 5:** How to manage land-use surveys
- **Guidance Sheet 6:** How to manage forest biomass surveys
- **Guidance Sheet 7:** How to manage socio-economic surveys
- **Guidance Sheet 8:** How to manage biodiversity surveys

d. Economic aspects

Economic sustainability requires customary landowners to participate effectively in forest management decision-making processes and engage in associated development opportunities, with appropriate support from their CFM partners at local and/or national levels.

The Project's Local Partners and their Pilot Communities first selected the most suitable "project" to work on (i.e. not too big), so that their data collection activity could be completed within the Project time limit, as well as the most important data collection topics & forms given their specific contexts and planned activities. The data collection and management resources have been designed to facilitate land-use planning, as well as identify CFM opportunities and engage landowners in feasible CFM schemes.

KoboToolbox provides:

- **Twelve data collection forms:** Each form is securely stored in the CFM account, where it can be easily edited and re-deployed. Forms selected by CFM partners are shared with their private accounts (each CFM partner manages their own KoboToolbox account). CFM partners can also view, edit and approve their completed forms at any time using their private account (once the form has been submitted online). Confidential data can also be managed privately, allowing CFM partners to select their own permission levels:
- **Customised reports for each form:** Data stored in KoboToolbox can be instantly viewed in charts and maps. Data can also be disaggregated (e.g. by gender, location and survey period) and different chart types selected (e.g. bar, line or pie chart). Data can also be exported from KoboToolbox in a variety of formats; allowing CFM partners to import data to their own or their CFM partners' platform(s).

e. Political & institutional aspects

The model community-based land-use planning and forest resource assessment system comprises user-friendly data collection & management software, together with attractive training & awareness resources, which have been designed to strengthen partnerships between landowners, civil society agencies, government institutions, and markets for environmental goods & services.

During the preparation of the Policy & Planning Guidelines for CFM, the roles and responsibilities of PNG's lead agencies for CFM (PNGFA, CEPA, CCDA and DLPP) have been discussed with

reference to PNG's policies, laws & regulations for forestry, conservation, climate change & land-use. These discussions encouraged a cross-sectoral approach.

The online communication platforms (file sharing and networking forums) and CFM software (data collection and management) are currently managed by PIP¹ as a freely available service for the community forestry sector. This not-for-profit enterprise is currently developing its online communication strategy (including step-by-step publication protocols & audience engagement tasks). Cost-effective arrangements for collaborating with the government agencies responsible for forestry, conservation, climate change & land-use will be discussed as PIP's online communication strategy is established with support from ACIAR Project FST-2018-178. The primary platform - the PIP Website - is expected to be fully modernised and mobile-friendly by December 2024.

6. Assessment and Analysis

Overall, the Project was well-formulated and relevant to the PNG context. The following assessment was made:

- **The project rationale and identification process** were sound, and the stakeholder identification and analysis adequate.
- **The project objective and outputs** were well defined, and the problem analysis adequate.
- **The project implementation strategy** was sound, based upon three cross-cutting strategies which shaped the technical components of the Project:
- **The project inputs** were adequate for both activity and non-activity-based expenses but the full-time national expert positions for year 1-3 were not fully engaged (i.e. Project Manager, Project Secretary and Project Field Officer) leading to implementation delays.
- **The project performance** picked up with the recruitment of a short-term Project Manager during the 3rd Yearly Plan of Operation despite some administrative delays at the national level.
- **The project participation with stakeholders** was effectively undertaken by the Project's Local Partners working through their existing, flexible networks, but more constrained at the national level due to less-flexible government structures, processes and workloads.
- **The project assumptions** were constrained at the national government agency level due to the less-flexible government structures, processes, and workloads (see above).
- **The project sustainability strategy** is sound with regards to the environmental, technical, social, and economic aspects, but further discussions are needed at the institutional level national to identify the roles & responsibilities of the government agencies responsible for forestry, conservation, climate change and land-use.

PIP can continue to support the PNGFA's overall management of the file sharing, data management and networking platforms as a freely available service for the community forestry sector. Cost-effective arrangements for collaborating with the government agencies responsible for forestry, conservation, climate change & land-use can be discussed as PIP's online communication strategy is established with support from ACIAR Project FST-2028-178. The primary platform - the PIP Website - is expected to be fully modernised and mobile-friendly by December 2024.

These collaborative arrangements will provide a sound basis for assisting project partners to scale-up their data collection and management activities over time, as well as enable forest resource owners and local partners in other locations to participate effectively in CFM schemes.

¹ PIP provided the software development and training resource development consultants.

7. Lessons Learned

Technical Report 4 (Policy and planning guidelines for community forest management in PNG) includes a review of lessons learned by CFM operations worldwide and highlights five critical-success factors which are being addressed by the Project working in partnership with its implementing partners at national, local and community levels. These factors are also NSLUP guiding principles and were clearly identified as lessons learned in the Completion Report for the ITTO Project “Sustainable management of tropical forest resources through stakeholder agreements in traditionally owned areas of Papua New Guinea” (2010). The following insights were gained during the project implementation phase regarding these five critical factors:

- **Empowerment of communities** is a step-by-step process that involves appropriate community engagement procedures, awareness raising activities and on-the-job training.
- **Governance and stakeholder engagement** works best when decisions are managed at the community level by the appropriate body.
- **Benefits and incentives** should be greater than the costs incurred and shared in an equitable manner.
- **Capacity building** of community groups includes forest management, enterprise development, record-keeping and good governance.
- **Sustainability** relates directly to good governance, benefits and incentives.

8. Conclusions and Recommendations

The Project was well-formulated and relevant to the PNG context. A model community-based land-use planning and forest resource assessment system has been established that has the potential to support CFM schemes (including PES and REDD+) in all four regions of PNG. The CFTK's resources, file sharing arrangements and networking forums have enabled Local Partners and their Pilot Communities to improve their existing land-use planning & monitoring practices as well as pursue new CFM opportunities.

Whilst, the project sustainability strategy is sound with regards to the environmental, technical, social, and economic aspects, further discussions are needed at the institutional level to identify the roles & responsibilities of the government agencies responsible for forestry, conservation, climate change and land-use in collaboration with the Project's technical partners. During the project completion workshop, participants recommended a collaborative approach for assisting project partners to scale-up their data collection and management activities over time, as well as enable forest resource owners and local partners in other locations to participate effectively in CFM schemes in the future with support from sub-national, national and international financial partners. Project outputs form an excellent basis for further discussions to establish a dedicated Community Forest Management Fund with the recently established PNG-BCF using the KoboToolbox data management system.