

# THE SOUTHERN CARDAMOM REDD+ PROJECT 4<sup>TH</sup> MONITORING PERIOD



Project title	Southern Cardamom REDD+ Project
Project ID	1748
Crediting period	01-January-2015 to 31-December-2044
Monitoring period	01-January-2022 - 31-December-2023
	The CCB and VCS monitoring period are the same.
(CCB) GHG accounting	01 January 2015 - 31 December 2044; 30-year lifetime
period	The CCB GHG accounting and VCS crediting period are the same
Original date of issue	24-October-2024
Most recent date of issue	24-October-2024
Version	2.3
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CCB Standards version	3.0
Project location	Koh Kong, Cambodia
Project proponent(s)	Royal Government of Cambodia, Ministry of Environment
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Validation/verification body	EPIC Sustainability Services Pvt. Ltd.  R. B. Venkataramanaiah info@epicsustainability.com +91 95909 29936
History of CCB Status	The Project received its validation on 30 November 2018.
	The Project completed its first verification (M1) on 30 November 2018.
	The Project completed its second verification (M2) on 27 August 2021.
	The Project completed its third verification (M3) on 21 September 2022.
Gold Level criteria	Gold Level Criteria: Climate and Biodiversity
	The SCRP aims to generate exceptional benefits in the areas of climate and biodiversity under both the Verified Carbon Standard (VCS) and Climate, Community and Biodiversity (CCB) standards.
	Climate: The Project prevented the emission of 6,894,239 tCO <sub>2</sub> e during this monitoring period by stopping deforestation and forest degradation. This was achieved with training on improved agricultural methods, creating alternative income sources, creating new jobs and employment opportunities, and supporting improved environmental law enforcement across the landscape. Community members and project stakeholders were consulted during this period to determine the Project's expected benefits, costs and risks to them, and to identify the indicators to be used to measure these impacts. An initial biodiversity assessment was performed within, and a long-term biodiversity monitoring plan was established across the entire Project Area. Project activities include training on improved agricultural methods, eco-tourism programs, direct Project employment and strengthening of community organizations. These activities are focused on providing new income generating opportunities, apart from traditional ones, which resulted in resource extraction from the Project Area. With a more diversified local economy, less reliant on small-scale agriculture resulting in extraction of natural resources, communities will be able to better adapt to the probable effects of climate change.

Biodiversity: The Project has been continuing to protect critical habitat for 16 endangered and critically endangered species. This includes the Asian Elephant, the Sun Bear, Pileated gibbon, and the Hairy-nosed Otter. The primary Project activity is the protection of forests within the Project Area, which will also serve to protect the native habitat of these species from fragmentation and destruction. With the protection of their habitat, they will be better protected from both anthropogenic and natural threats, such as poaching, humanwildlife conflict and drought. A significant Project activity that is already fully implemented and provides significant biodiversity benefits is a park management and conservation law enforcement program. This activity supports a team of 134 government rangers and a 33-person community anti-poaching unit that patrols the Project Area to prevent, discourage and stop illegal environmental activities. Other Project activities include training on improved agricultural methods, support for community-based eco-tourism development and participatory land use planning. These activities are aimed at reducing the primary drivers of deforestation that threaten the Project Area, and therefore the Project's biodiversity. Further detail on climate, community and biodiversity benefits generated by the Project to date can be found in Sections 1, Section 3, Section 4 and Section 5 of this document.

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#### **ACRONYMS**

ACoGS Avoided Conversion of Grasslands and Shrublands

AFOLU Agriculture, Forestry and Other Land Uses

AGB Aboveground Biomass

ARR Afforestation, Reforestation and Revegetation

AUDD Avoided Unplanned Deforestation and/or Degradation

BEM Baseline Emissions Model BGB Belowground Biomass

BIA Biodiversity Impact Assessment

CADP Community Agricultural Development Project

CAPU Community Anti-Poaching Unit
CBA Capacity Building Activities
CBET Community-Based Ecotourism
CBO Community Based Organization

CCB Climate, Community, and Biodiversity

CCC Cardamom Carbon Company CCO Community Conservation Officer

CEO Chief Executive Officer

CFPP Cambodia Forest Protection Project

CLDP Community Livelihood Development Program

COVID Coronavirus Disease
CPA Community Protected Area
CTAP Cambodia Tiger Action Plan
DBH Diameter Breast Height

DW Deadwood

ER Emissions Reductions
FA Forestry Administration
FAO Food Agriculture Organization

FGRM Feedback and Grievance Redress Mechanism

FPIC Free, Prior and Informed Consent FREL Forest Reference Emission Level

GHG Greenhouse Gases

GIS Geographic Information System
GLAD Global Land and Analysis Discovery
GMO Genetically Modified Organism
GPS Global Positioning System
HCV High Conservation Value

HR Human Rights

HRW Human Rights Watch

IFM Improved Forest ManagementIGA Income Generating AssistanceILO International Labour Organization

IP Indigenous People

IPCC Intergovernmental Panel on Climate Change
IUCN International Union for Conservation of Nature

JPO Judicial Police Officer
KE Kouprey Express



LC Local Community

LEM Leakage Emissions Model

MAFF Ministry of Agriculture, Forestry, and Fisheries

MOE Ministry of Environment MR Monitoring Report

MRR Monitoring Report Requirements of the VM0009 VCS Methodology

MRV Monitoring, Reporting, and Verification
NDC Nationally Determined Contribution
NGO Non-Governmental Organization
NTFP Non-timber Forest Product

ONFI French Office of National Forests International

PA Project Area

PAA Project Accounting Area
PD Project Description

PDOE Provincial Department of Environment

PFD Problem Flow Diagram
QA Quality Assurance
QC Quality Control

REDD+ Reducing Emissions from Deforestation and forest Degradation, plus Conservation,

Sustainable management of forests, and enhancement of forest carbon stocks

RGC Royal Government of Cambodia

SBIA Social and Biodiversity Impact Assessment

SCNP Southern Cardamom National Park
SCRP Southern Cardamom REDD+ Project
SDG Sustainable Development Goal

SDVISta Sustainable Development Verified Impact Standard

SIA Social Impact Assessment

SMART Specific, Measurable, Achievable, Relevant and Time-bound

SOC Soil Organic Carbon

SOP Standard Operational Procedure

STAR-CBET Sovanna Baitong Agriculture Association, and the Chi Phat and Steung Areng

Community Based Ecotourism

UN United Nations

UNFCCC United Nations Framework Convention on Climate Change

USD United States Dollar
VCS Verified Carbon Standard
VCU Voluntary Carbon Unit
VER Verified Emission Reduction

VP Vice President

VVB Validation/Verification Body

WA Wildlife Alliance WP Wood Products

WRRT Wildlife Rapid Rescue Team
WWC Wildlife Works Carbon



## 1 SUMMARY OF PROJECT BENEFITS

## 1.1 Unique Project Benefits

Out	come or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1)	Training on Agricultural Methods and Intensification	*283 trained on agriculture intensification in the CADP-focused mainly on high-value fruit tree orchard cultivation; *21 families trained on raising chickens and frogs in the CLDP.	4.3.1	984 families trained (M4)
2)	Community-based Eco- Tourism Development	The Project delivered 12 training sessions- 8 in Chhay Areng and 4 in Chi Phat.  Chhay Areng - CBET: (1) Committees: English, computer skills, waste management, bylaws and regulations, climate change, REDD+. (2) Local guides, cooks, and motor taxis: first aid, hospitality, and cooking. (3) Saving group members: Financial management, loans, interest/savings, bookkeeping, climate change/REDD+  Chi Phat - CBET: (1). Committees: Covid-19 crisis (25 participants), quality standards for homestays (18 participants), waste management (120 participants), hygiene (50 participants)  Training courses were also delivered to recruit more tour guides and to help families provide ecotourism services, specifically in Chhay Areng.	4.3.1	31,768 international and domestic tourist visits to Chi Phat and Chhay Areng  This generated a total of \$USD 1,315,636.08 for the total CBET revenue.  306 tour guides trained (cumulative).  501 families provided tourism services.



Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
	A total of 8,590 tourists     visited the area.		
	• Chi Phat: 5,030 (3,447 local and 1,583 international)		
	• Chhay Areng: 3,560 (3,188 local and 186 international)		
	<ol> <li>96 tour guides trained (30 in Chi Phat and 66 in Chhay Areng).</li> </ol>		
	3. 501 families provided ecotourism services to tourists (332 in Chi Phat and 169 in Chhay Areng).		
3) Healthcare and facilities	There were no changes made to improve the government healthcare facility.	4.3.1	1 government healthcare facility was built.
	1. No government healthcare facility was built.		2 government healthcare workers
	3. No new government healthcare workers were employed by the Project.		employed at the health center. (4 cumulative).
4) Community Scholarship Fund	2022 was the third year of the Project's university scholarship fund; 19 students applied and 7 were selected.	4.3.1	17 students (cumulative) were granted a 4-year scholarship.
	7 university students     received a 4-year     scholarship to study in		17 students (cumulative) benefited.
	Phnom Penh.		\$540,982 spent in bursary schemes.



Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
	<ol><li>7 students benefited from the Project's bursary scheme.</li></ol>		
	3. 7 students awarded scholarships worth \$142,400 USD (stipends and university tuitions)		



## 1.2 Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
nission & removals	Net estimated emission removals in the project area, measured against the without-project scenario	NA	NA	NA
GHG emission reductions & removals	Net estimated emission reductions in the project area, measured against the without-project scenario	6,894,239	3.2.4	34,521,475
¹ cover	For REDD <sup>2</sup> projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	21,060	NER worksh eet	94,771
Forest <sup>1</sup> cover	For ARR <sup>3</sup> projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	NA	NA	NA
Improved land management	Number of hectares of existing production forest land in which IFM <sup>4</sup> practices have occurred as a result of the project's activities, measured against the without-project scenario	NA	NA	NA
Improved lar	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities,	NA	NA	NA

<sup>&</sup>lt;sup>1</sup> Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO, or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (VCS Program Definitions)

<sup>&</sup>lt;sup>2</sup> Reduced emissions from deforestation and forest degradation (REDD) – Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (VCS Program Definitions)

<sup>&</sup>lt;sup>3</sup> Afforestation, reforestation and revegetation (ARR) – Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (VCS Program Definitions)

<sup>&</sup>lt;sup>4</sup> Improved forest management (IFM) – Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood, and fuelwood (VCS Program Definitions)



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
	measured against the without- project scenario			
Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	- 96 trained tour guides  - 258 government (park) rangers and conservation personnel recruited and trained.  - 168 local authorities and villagers attended land use planning meetings  - 5,961 villagers and local authorities attended REDD+ sensitization and awareness meetings.  - 304 families received agricultural training	4.3.1	- 306 trained tour guides  - 357 government (park) rangers and conservation personnel trained and employed.  - 1,220 local authorities and villagers attended land use planning meetings  - ±16,660 villagers and local authorities attended REDD+ sensitization and awareness meetings  - 984 families received agricultural training
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities	54 women (local authorities/villagers) attended the Project's land use planning meetings	2.1.1, 4.3.1	- 384 women (local authorities and villagers) attended the Project's land use planning meetings.



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
		- 641 village women out of 1,436 villagers received agricultural training.		- 2,380 village women out of 4,807 villagers received agricultural training.
ıt.	Total number of people employed in project activities, <sup>5</sup> expressed as number of full-time employees <sup>6</sup>	2 government healthcare workers, 96 tour guides, and 258 government rangers and conservation personnel employed.	4.3.1	2 government health workers (4 cumulative) employed, 306 tour guides, and 357 (cumulative) government rangers and conservation personnel employed.
Employment	Number of women employed in project activities, expressed as number of full-time employees	- 3 female conservation personnel employed 3 female community management committee team members in Chi Phat employed.	2.1.1, 4.3.1	- 3 female conservation personnel recruited 6 female community management committee team members in Chi Phat employed.

<sup>&</sup>lt;sup>5</sup> Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers, and community members that are paid to carry out project-related work. <sup>6</sup> Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region, or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102]; [17.28])



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
		- 3 female community management committee team members in Chhay Areng employed 2 female community agriculture Project managers (Sovanna Baitong) employed 4 female community Project assistants (Chhay Louk) employed.		- 10 female community management committee team members in Chhay Areng employed 4 female community agriculture Project managers (Sovanna Baitong) employed 4 female community Project assistants (Chhay Louk) employed.
Livelihoods	Total number of people with improved livelihoods <sup>7</sup> or income generated as a result of project activities	Government rangers and conservation personnel: 2022: 201 personnel 2023: 258 personnel -75 microfinance families trained on financial literacy.	4.3.1	375 government rangers and conservation personnel recruited and trained.  -75 families trained on financial literacy thru the microfinance scheme.

<sup>&</sup>lt;sup>7</sup> Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
		Income-generation assistance (IGA): - 22 community management committee team members - 522 beneficiary families - 2 community agriculture Project managers - 4 community Project assistants		Incomegeneration assistance (IGA): -22 community management committee members -522 beneficiary families - 2 community agriculture Project managers - 4 community Project assistants
	Number of women with improved livelihoods or income generated as a result of project activities	- 208 women (beneficiary families) and - 8 women from the community management committee teams generated income through CBET activities (Chi Phat and Chhay Areng) 8 women in Chhay Louk established IGA through the Project's CLDP.	2.1.1, 4.3.1	-208 women (beneficiary families) and - 8 women from the community management committee teams generated income through CBET activities. (3 in Chi Phat and 5 in Chhay Areng) 4 female community Project assistants in Chhay Louk.



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
		- 2 female community agriculture Project managers (Sovanna Baitong) - 75 village women through the Project's microfinance scheme		- 2 female community agriculture Project managers (Sovanna Baitong) - 75 village women through the Project's microfinance scheme.
	Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario	142 beneficiary families out of 561 families (25%) across 8 villages.	4.3.1	142 beneficiary families.
Health	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	- 263 village women benefitted from the Project's public healthcare facility.	2.1.1, 4.3.1	- 263 village women benefitted from the Project's public healthcare facility.
Education	Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	7 students awarded scholarships	4.3.1	17 students awarded scholarships
	Number of women and girls for whom access to, or quality of, education was improved as a result	3 young women granted scholarships in 2022	4.3.1	6 young women benefited from the Project's



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
	of project activities, measured against the without-project scenario			scholarship and bursary scheme
iter	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	18,800 villagers from 94 water wells	1.2	18,800 villagers from 94 water wells
Water	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	11,280 village women from 94 water wells	1.2	11,280 village women from 94 water wells
Well-being	Total number of community members whose well-being8 was improved as a result of project activities	-258 government rangers and staff -75 microfinance families -22 community management committee members - 522 beneficiary families - 6 community agriculture Project managers - 4 community Project assistants	4.3.1	-375 government rangers and staff -75 microfinance families -22 community management committee members -522 beneficiary families -6 community agriculture Project managers -4 community Project assistants

<sup>&</sup>lt;sup>8</sup> Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
		-142 families benefited from the Project's public healthcare facility.		-142 families benefited from the Project's public healthcare facility.
	Number of women whose well-being was improved as a result of project activities	- 208 village women (beneficiary families) and - 8 women from the community management committees through the Project's CBET (3 in Chi Pat and 5 in Chhay Arang) - 8 village women in Chhay Louk through the Project's CLDP - 2 female community agriculture Project managers (Sovanna Baitong) - 4 community Project assistants (Chhay Louk) - 75 village women through the Project's microfinance scheme	2.1.1, 4.3.1	-208 village women (beneficiary families) and -8 women from the community management committees through the Project's CBET (3 in Chi Pat and 5 in Chhay Arang) - 8 village women in Chhay Louk through the CLDP - 2 female community agriculture Project managers (Sovanna Baitong) - 4 community Project assistants (Chhay Louk) - 75 village women (microfinance scheme)



Category	Metric	Achievements during Monitoring Period	Section Referen ce	Achievements during the Project Lifetime
		-263 village women through the Project's public healthcare facility.		- 263 village women through Project's public healthcare facility.
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation, <sup>9</sup> measured against the without-project scenario	21,060	3.2	94,771
	Number of globally Critically Endangered or Endangered species <sup>10</sup> benefiting from reduced threats as a result of project activities, <sup>11</sup> measured against the without-project scenario	16	5.1.4	16

<sup>&</sup>lt;sup>9</sup> Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.

<sup>&</sup>lt;sup>10</sup> Per IUCN's Red List of Threatened Species

 $<sup>^{11}</sup>$  In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit



## 2 PROJECT DETAILS

## 2.1 Summary Description of the Implementation Status of the Project

#### 2.1.1 Summary Description of the Project (VCS, 2.1, 3.6; CCB, G1.2)

The Southern Cardamom REDD+ Project (hereafter referred to as the SCRP) is a REDD+ project that encompasses a Project Accounting Area of 442,871 ha and a Project Area of 493,582.6 ha, which consist parts of the Southern Cardamom National Park, Botum Sakor National Park, and Tatai Wildlife Sanctuary, which are protected areas in Cambodia. The project protects a critical part of the Cardamom Mountains Rainforest Ecoregion, one of the Global 200 prioritized locations for conservation on the planet due to its unique biodiversity. The area contains a diverse mosaic of habitats and carries many IUCN listed threatened species. The SCRP is also part of the Indo-Burma Hotspot, one of the world's 34 hotspots for biodiversity which functions as a critical watershed for the Gulf of Thailand, in which the waterways support the livelihoods of 3,800 villages in over 6 provinces in Cambodia. The SCRP has directly supported the livelihood of 29 villages surrounding the perimeter of the project area, which consist of approximately 4,719 families and around 16,660 individuals.

However, despite its global and regional importance, uncontrolled small-scale land conversions of forest to agricultural and agro-industrial plantations in the area make the Southern Cardamom region one of the most threatened forest landscapes in Southeast Asia. In response to the threats to the project area in the region, Wildlife Works with Wildlife Alliance (WA) and Cambodia's Ministry of Environment (MOE) decided to create the SCRP, which has the following objectives:

- Climate: Mitigating climate change and its effects, through the reduction of CO<sub>2</sub> emissions produced by deforestation and the development of adaptation strategies to climate variability.
- **Community:** Improve the quality of life of communities by strengthening self-government, governance, and the development of sustainable production systems.
- **Biodiversity:** Contribute to the conservation of biodiversity through community-based forest management, land appropriation, and forest monitoring, control, and surveillance.

In summary, the total GHG reduction achieved by the SCRP during this M4 monitoring period (January 1, 2022, to December 31, 2023) is 6,894,239 tCO<sub>2</sub>e, which results in a total avoided emission of 34,521,475 tCO<sub>2</sub>e since the project's start date. In addition to protecting forests and reducing emissions, there was progress on the achievements from running the ten project activities compared to the previous monitoring period, e.g., the increase of families who underwent agricultural training by 33; an increase in well-being of the total community members to 25%; increase of tourists visiting the CBET facilities by 363% and 96 tour guides trained; increase of families who can access microfinance schemes by 4; increase by 6% for the total community members benefiting from PA-related health schemes; increase of students benefiting from scholarship funds by 3 and those who benefited from bursary schemes by 2, with an increase of the total amount allocated to the schemes by 27%; increase



of fully equipped government (park) rangers by 41 people and patrol coverage by around 80,000 km; and the increase of employment of government (park) rangers and staff to 258 people. Meanwhile, the continuous protection of forests maintains the habitat of the 16 HCV species (35 threatened species are listed in the IUCN Red List) – see section 5.1.4.

These Project activities are focused on addressing the three identified focal issues and reducing the surrounding communities' dependence on the resources of the Project Area, either by improving agricultural methods, creating new income-generating opportunities, or otherwise addressing drivers of deforestation. The Project activities have been fully implemented since the Project start date of January 1st, 2015. Please refer to the SCRP PD Section 2.1.11 for a complete list of the Project activities as well as detailed descriptions. For more detailed information on the implementation of each Project activity and its impacts, see Section 4.3. For more information on biodiversity impacts, see section 5.3.

### 2.1.2 Audit History (VCS, 4.1)

Audit Type	Period	Program	VVB Name	Number of years
Joint Validation and First Verification	01-January-2015 - 31-December-2017	VCS/CCB	SCS Global Services	Three
Second Verification	01-January-2018 – 31-December-2020	VCS/CCB	Aster Global Environmental Solutions Inc.	Three
Third Verification	01-January 2021 – 31-December 2021	VCS/CCB	AENOR International S.A.U.	One

## 2.1.3 Sectoral Scope and Project Type (VCS, 3.2)

Sectoral Scope	14: Agriculture, forestry, and other land use
AFOLU Project Category	Reduced Emissions from Deforestation and Degradation (REDD)
Project Activity Type	Avoiding Unplanned Deforestation and/or Degradation (AUDD)

## 2.1.4 Project Proponent (VCS, 3.7; CCB, G1.1)

Organization name	Royal Government of Cambodia, Ministry of Environment
Contact person	HE Dr. Choup Paris
Title	Deputy Secretary General, National Council for Sustainable Development



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## 2.1.5 Other Entities Involved in the Project

Organization name	Wildlife Alliance
Role in the project	Partner to MOE in the implementation of SCRP
	Project responsibilities include forest protection and community livelihood activity implementation.
Contact person	Suwanna Gauntlet
Title	Founder and CEO
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Telephone	(+855) 23-211-604
Email	cambodia@wildlifealliance.org

Organization name	Wildlife Works Carbon
Role in the project	Technical Advisor with responsibilities including implementation of the VCS and CCB standards and carbon accounting.
Contact person	Jeremy Freund
Title	Chief Technology Officer
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## 2.1.6 Project Start Date (VCS, 3.8)

Project start date 01-January-2015
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#### Justification

While the Project start date for the SCRP is 01 January 2015, Wildlife Alliance had already commenced the REDD+ activities (e.g., implementing forest management and protection plans) prior to the start date, which led to the generation of GHG emission reductions. The SCRP elects to start the Project after the end date of the national FREL historic reference period to prepare for nesting into the national REDD+ Program. The SCRP completed joint validation and first verification on 08 November 2018. The date complies with the VCS Program requirements that require AFOLU projects to complete validation within five years of the project start date.

## 2.1.7 Benefits Assessment and Project Crediting Period (VCS, 3.9; CCB, G1.9)

Crediting Period	The Project lifetime is 30 years, commencing from the Project start date of 01 January 2015 and culminating on the Project end date of 31 December 2044. The crediting (GHG accounting) period is the same 30-year period as the Project lifetime.
Start Date of First or Fixed Crediting Period	01-January-2015
Total Number of Years of Crediting Period	30 years
CCB Benefits Assessment Period	01-January-2015 to 31-December-2044

#### 2.1.8 Project Location (VCS, 3.11; CCB, G1.3)

#### ⋈ KML file has been provided

The SCRP project area is located in Cambodia's southwestern highlands and is typified by a hilly evergreen forest ranging from 10 masl along the coastal plain to 980 masl on the boundaries with Phnom Samkos Wildlife Sanctuary. The Project Area's higher forests are the catchment for the adjoining Gulf of Thailand and include seven watersheds that drain into the Koh Kong estuary, one of Southeast Asia's largest remaining intact mangrove ecosystem (Russell, 1987). The Project incorporates protected areas of the Southern Cardamom National Park, Botum Sakor National Park, and Tatai Wildlife Sanctuary.

Administratively, the Project Area is located within Koh Kong and encompasses parts of the six districts within the province – Koh Kong, Botum Sakor, Thma Bang, Mondol Seima, Sre Ambel, and Kiri Sakor. The upper border of the Project coincides with Veal Veang District, then spans to Thmor Bang District in the center, and reaches Aural District (from left to right). The western part of the Project borders with



parts of the Peam Krasaep Wildlife Sanctuary and spans from Mondol Seima to the Kiri Sakor District (from top to bottom). The bottom part of the border spans from Kiri Sakor to Sri Ambel District (from left to right) and the southern parts of Botum Sakor National Park. The eastern part of the border coincides with Kampong Seila and Phnom Sruoch District (from bottom to top) and Kirirom National Park.

The Project Area is the entire southern section of the Cardamom Mountains (Figure 2.1). This section of the Cardamom Mountains receives some of the highest precipitation on mainland Southeast Asia and the degree of precipitation with soil type influences vegetation. The combination of high rainfall and sandy soils on much of the Project Area supports tropical evergreen rainforest with small sections of semi-evergreen forest on the volcanic deposits, deciduous forest in the drier sites with sandy soil, and Melaleuca Forest along the brackish waterways (Corlett, 2005). Five vegetation types in the SCRP are: (1) Evergreen Forest (Tropical Moist Broadleaf Forest), (2) Deciduous Dipterocarp Forest (Tropical Dry Broadleaf Forest), (3) Riparian Melaleuca Forest, (4) Scrubland, and (5) Semi-Evergreen Forest. Figure 2.2 shows the Project Accounting Area of the SCRP.

Maps containing the VM0009 methodology Monitoring Report requirements (MRRs) listed below are provided in Appendix 5 in this document – Map of the Project Area, Map of Topography (DEM based), Map of Roads and Infrastructure, as well as major rivers and streams, and Map of Land use/Vegetation Cover.

MRR.1 A digital (GIS-based) map of the project area with at least the above minimum requirements for delineation of the geographic boundaries.

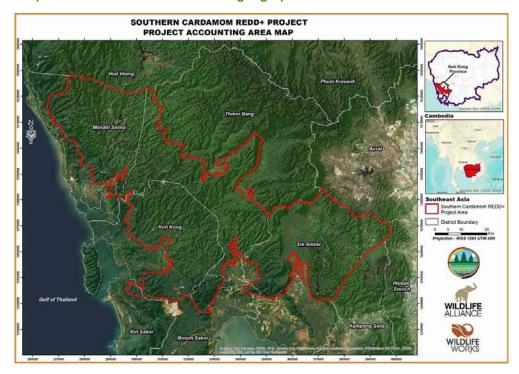


Figure 2.1 The Project Area (PAA) of the Southern Cardamom REDD+ Project.



MRR.6 A digital (GIS-based) map of the project accounting areas with at least the above minimum requirements for delineation of the geographic boundaries.

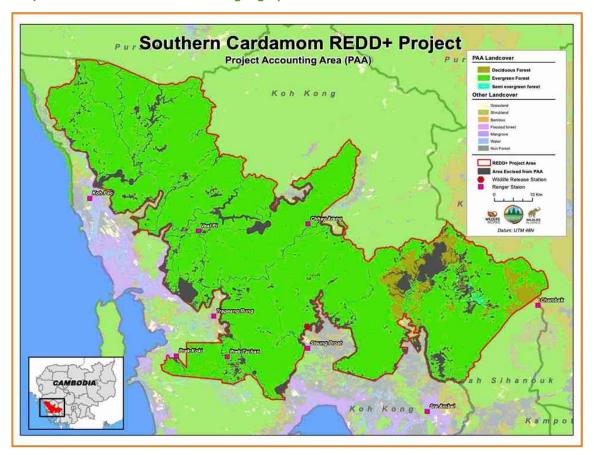


Figure 2.2 The Project Accounting Area (PAA) of the Southern Cardamom REDD+ Project.

## 2.1.9 Title and Reference of Methodology (VCS, 3.1)

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Methodology	VM0009	VM0009 Methodology for Avoided Ecosystem Conversion	3.0
Tool	VT0001	VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities	3.0
Tool		VCS AFOLU Non-Permanence Risk Tool	4.2



Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Tool		The VCS Tool VMD 0037 Global Commodity Leakage Module: Production Approach (LM-P)	1.0

# 2.1.10 Double Counting and Participation under Other GHG Programs (VCS, 3.23; CCB, G5.9)

#### 2.1.10.1 No Double Issuance

☐ Yes

	Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program, or any other form of community, social, or biodiversity unit or credit?					
	□ Yes	⊠ No				
2.1.10.2	Registration in Other GHG Pr	ograms				
	Was the project registered or se	eking registration under any other GHG programs?				
	□ Yes	⊠ No				
2.1.10.3	Projects Rejected by Other C	GHG Programs				
	Has the project been rejected by	any other GHG programs?				

## 2.1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions (VCS, 3.24)

## 2.1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

⊠ No

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the VCS Program Definitions for definitions of emissions trading program and binding emission limit.

□ Yes	$\boxtimes$	No
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## 2.1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the VCS Program Definitions for definition of GHG-related environmental credit system.



	□ Yes	⊠ No
2.1.11.	3 Supply Chain (Scop	e 3) Emissions
	Do the project activities are part of a supply cha	s affect the emissions footprint of any product(s) (goods or services) that ain?
	□ Yes	⊠ No
	If yes:	
		t(s) or authorized representative a buyer or seller of the product(s) t are part of a supply chain?
	□ Yes	□ No
	If yes:	
	website saying, "Carbo [project ID] for the gree proponent or authorize	ent(s) or authorized representative posted a public statement on their n credits may be issued through Verified Carbon Standard project enhouse gas emission reductions or removals associated with [project d representative organization name(s)] [name of product(s) whose changed by the project activities]."?

### 2.1.12 Sustainable Development Contributions (VCS, 3.17)

□ No

Project activities implemented during the monitoring period that contribute to SDGs were training on agriculture and income generating activities, access to education, micro-finance, eco-tourism, land-use planning meetings, awareness/sensitization events and ranger training/employment. The SCRP activities contribute to seven of the sustainable development priorities for the Royal Government of Cambodia: economic growth and development; poverty; gender equality; education; sustainable forest and land use; climate change and agriculture and food security.

The provisions for reporting and monitoring and the underlying targets are listed in Table 2.1. The SCRP contributes to additional UN Sustainable Development Goals (SDG) listed in Table 2.1.

☐ Yes



Table 2.1 Contributions of the SCRP to the Sustainable Development Goals (SDGs).

1) 1.4 Number of people who have received training on income generating activities informing them on available economic resources, technologies for managing businesses and methods for starting businesses, through the Southern  Oardeneem Forcet  1.4 Number of people who have received training have received training businesses increase  Implemented activities to chi Phat:  - 11 community management committees  - 332 beneficiary families  - 332 beneficiary families  - 332 beneficiary families  - 11 community management committees  - 12 community management committees  - 13 community management committees  - 14 community management committees  - 159 beneficiary families  - 169 beneficiary families	time
Cardamom Forest Protection Project.  - 21 families  Chhay Louk: - 21 families  Sovanna Baitong - 9 agriculture managers - 12 orchard workers - 5 orchard technical heads at guards - 252 beneficiary families - 12 orchard families - 252 beneficiary families sell	nd night



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
2)	2.3	Number of community members who have undergone agricultural training	Implemented activities to increase	304 families received agricultural training	984 families received agricultural training
3)	2.4	Agricultural demonstration plots established in community areas	Implemented activities to increase	No further changes during this monitoring period	1 agricultural demonstration plot was established in a community area
4)	3.8	Number of health facilities built or equipped to provide essential health services to project communities.	Implemented activities to increase	No further changes during this monitoring period	1 government health facility was built to provide essential health services to Project communities
5)	4.3	Number of students benefiting from bursary schemes for tertiary education, including university	Implemented activities to increase	7 students awarded university scholarships	17 students awarded university scholarships



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
6)	4.5	Percent of female/male participation in education bursary scheme and project run education events.	Implemented activities to increase	37.5% female participation in education bursary scheme and education events.	39% female participation in education bursary scheme and education events: -4,034 women out of 10,205 participants -6 out of 17 scholarships were awarded to young women.
7)	4.a	Number of schools constructed, repaired or equipped.	Implemented activities to increase	O schools constructed, repaired or equipped; activity not yet implemented	O, activity schools constructed, repaired or equipped, activity not yet implemented
8)	4.c	Number of teachers employed.	Implemented activities to increase	O teachers employed; activity not yet implemented	O teachers employed; activity not yet implemented
9)	5.a	Percent attendees in community meetings that are women and percent of participants in micro-finance and income generating activities that are women.	Implemented activities to increase	57% of attendees at community meetings were female (575 village women out of 1,010 participants).  About 67% of participants in micro-finance and income generating activities were village women (118 women out of 175 participants).	56% of attendees at community meetings were female (4,050 village women out of 7,270 participants).  About 67% of participants in microfinance and income generating activities were village women (118 women out of 175 participants).



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
10)	5.5	Percent of Project employees that are women	Implemented activities to increase	5.4% of Project employees are women (7 female employees out of 128 new hires)	7.91% of Project employees are women (25 female employees out of 316 employees)
11)	6.4	Number of community members who have undergone agricultural training learning methods and improved crop varieties to increase crop water use efficiency.	Implemented activities to increase	304 families received agricultural training on improved methods, equipment, and crop varieties to increase crop yields and improve sustainability practices (increase water-use efficiency).	984 families received agricultural training
12)	8.3	Number of community members and percent of which are women who have accessed a microfinance scheme	Implemented activities to increase	4 new families accessed the microfinance program in Chhay Areng. 100% of participants in micro-finance were women.	75 families accessed the microfinance program. 100% of participants in micro-finance were women.



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
13)	8.3	Number of people and percent of which are women who have established Income Generating Assistance from the Project	Implemented activities to increase	Chi Phat: - 11 community management committees - 332 beneficiary families  Chhay Areng: - 10 community management committees - 169 beneficiary families  Chhay Louk: - 21 families	About 41.4% of participants in income generating activities are women.  Chi Phat  - 11 community management committees  - 332 beneficiary families  Chhay Areng  - 11 community management committees  - 169 beneficiary families  Sovanna Baitong  - 9 agriculture managers  - 12 orchard workers  - 5 orchard technical heads and night guards  - 252 beneficiary families selling their produce  Chhay Louk:  - 21 families



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
14)	8.9	Number of families participating and deriving income from eco-tourism activities (CBET)	Implemented activities to increase	20 new families in Chhay Areng participated in this activity.	Total - 501 families participated and derived income from eco-tourism activities (CBET): Chi Phat – 332/Chhay Areng - 169
15)	8.9	Number of tourists visiting the community eco-tourism facilities (CBET)	Implemented activities to increase	Total: 8,590 Chi Phat: 5,030 (3,447 local and 1,583 international) Chhay Areng: 3,560 (3,188 local and 186 international)	31,768 international and domestic tourists visited Chi Phat and Chhay Areng.
16)	9.3	Number of community members who have accessed the microfinance scheme	Implemented activities to increase	4 new families accessed the microfinance program. About 100% of participants in microfinance were village women.	75 families accessed the microfinance program. About 100% of participants in micro-finance were village women.



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
17)	10.2	Percent attendees in community meetings that are women and percent of participants in micro-finance and income generating activities that are women.	Implemented activities to increase	57% of attendees at community meetings were village women (575 women out of total participation of 1,010).  About 67% of participants in micro-finance and income generating activities were village women (118 women out of 175 participants).	56% of attendees at community meetings were village women (4,050 women out of total participation of 7,270).  About 67% of participants in microfinance and income generating activities were village women (118 women out of 175 participants).
25)	11.3	Number of land use planning meetings held with participation and support from local authorities	Implemented activities to increase	6 land use planning meetings held with local authorities and villagers	73 land use planning meetings held with local authorities and villagers
27)	12.b.	Number of families participating in ecotourism activities (CBET)	Implemented activities to increase	20 new families in Chhay Areng	Total - 501 families derived income from eco-tourism activities (CBET): Chi Phat – 332/Chhay Areng - 169



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
28)	12.b	Number of tourists visiting the community eco-tourism facilities (CBET)	Implemented activities to increase	Total: 8,590 Chi Phat: 5,030 (3,447 local and 1,583 international) Chhay Areng: 3,560 (3,188 local and 186 international)	31,768 international and domestic tourists visited Chi Phat and Chhay Areng
31)	13.3	Number of people reached through awareness and sensitization events.	Implemented activities to increase	5,961 villagers (206 participants on average) were reached through awareness and sensitization events	16,560 villagers were reached through awareness and sensitization events
32)	15.1	Area (ha) of avoided forest loss in the Project Area	Implemented activities to increase	21,060 ha of avoided forest loss in the Project Area	94,771 ha of avoided forest loss in the Project Area
33)	15.2	Number of land use planning meetings held with participation and support from local authorities	Implemented activities to increase	6 land use planning meetings were held with local authorities and villagers	73 land use planning meetings were held with local authorities and villagers



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
35)	15.4	Number of rangers employed and trained	Implemented activities to increase	2022: 201 government rangers and conservation personnel employed and trained 2023: 258 government rangers and conservation employed and trained  Note: Numbers include CFPP management personnel in Phnom Penh	375 government rangers and conservation personnel were employed and trained
36)	15.5	Number of globally Critically Endangered or Endangered species as listed by the IUCN Red List are present in the Project Area	Implemented activities to increase	16 globally Critically Endangered or Endangered species as listed by the IUCN Red List are present in the Project Area	16 globally Critically Endangered or Endangered species as listed by the IUCN Red List are present in the Project Area



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
37)	15.7	% families engaging in illegal wildlife trade through selling wildlife meat products	Implemented activities to decrease	Most families in the Project Area are no longer engaged in consuming and trading illegal wildlife for meat products - based on the number of instances in which wildlife meat/products have been confiscated from offenders – government ranger dataset.	Approximately 2.5% of families in the Project Area are still engaged in consuming and trading illegal wildlife for meat products. There were approximately 403 instances over the last 6 years.
38)	15.a	15.a.1 Amount of investment leveraged from external sources including Government and private sector for financing community ventures	Implemented activities to increase	\$598,591.68 USD in investment leveraged from external sources, including government and private sector for financing community ventures	\$1,515,187.68 USD in investment leveraged from external sources, including government and private sector for financing community ventures
39)	15.c	Number of poacher cases resulting in convictions.	Implemented activities to decrease	25 poacher cases ended in convictions.	53 poacher cases ended in convictions.



## 2.2 Project Implementation Status

#### 2.2.1 Implementation Schedule (VCS, 3.2; CCB, G1.9)

The project activities listed in the SCRP PD Section 2.1.11 have been continuously implemented up until and during the current monitoring period. As per the current monitoring period, the SCRP reported carbon losses due to the conversion of areas of the PAA to areas of non-forest. This has resulted in the loss of  $429,774 \text{ tCO}_2e$  of carbon stock during the 2022 - 2023 monitoring period.

Table 2.2 shows the implementation schedule of SCRP until and during the M4 monitoring period.

Table 2.2 The schedule of project implementation in the SCRP.

Date	Milestone(s) in the project's development and implementation
2002 - Present	Forest Protection: WA began supporting the government in conservation law enforcement activities in the Southern Cardamoms in 2002. Support included working with the government to develop a conservation law enforcement strategy for the landscape and providing financial and technical support for all conservation law enforcement operations. WA built two fully equipped government ranger stations in 2002. As of 2023, there were 13 operational government ranger stations in the Project Area. All 13 government ranger stations are co-managed by WA.
2004 - Present	Community Development: WA conducted a participatory rural appraisal of the communities in the Southern Cardamom in 2004 – creating community agricultural programs for 200 families (2004) and establishing a community-based ecotourism project in one community (Chi Phat) in 2008. The Project expanded to a second cluster of eight villages (Chhay Areng) in 2017.
2006 - Present	<u>Training on Agricultural Methods and Intensification</u> : WA initiated programs to train rural families on improved agricultural methods. As a direct result of carbon revenue, the trainings and the number of families and villages have increased and expanded since 2015.
2008 - Present	<u>Community-based Eco-Tourism Development</u> : Eco-tourism activities were initiated in Chi Pat in 2008 and expanded to Chhay Areng in 2017.
2010 - 2012	<u>REDD+ Project Exploration</u> : ONFI and WA conducted a preliminary carbon stock assessment, draft VCS PD writing.



Date	Milestone(s) in the project's development and implementation
April 2012 - August 2012	<b>REDD+ Feasibility</b> : WWC conducted a REDD+ feasibility study for the Southern Cardamom REDD+ Project.
01 January 2015	Project start date
2015 - Present	Enhanced Park Management and Conservation Law Enforcement: Using carbon revenue, WA, in partnership with the government, recruited and trained additional government rangers and built more ranger stations throughout the Project Area beyond. In 2019 and 2020, two new government ranger stations were opened outside of the Project Area to strengthen park operations. Also, in 2019 and 2020, villagers from the Project Zone were recruited and trained as community rangers under the MOE. In 2021, 134 government rangers were supported by the Project. The number of government rangers and staff increased to 201 in 2022 and 258 in 2023.
2015 - Present	<u>Project Implementation</u> : Attract investors and maintain government approval for the Project – continue forest protection and community development activities.
2015 - Present	Participatory Land-use Planning: Since 2003, WA has worked with the central and provincial governments, district, and commune authorities to develop clear spatial land-use plans for the region around the Southern Cardamom REDD+ Project. This includes securing community land tenure across 15 communities, thereby helping to ensure all community rights and assisting in the management of legal agricultural land.
2016 - Present	<u>Strengthening Community Organizations</u> : WA initiated activities designed to strengthen community organizations already present in the Project Zone.
2017 - Present	Sensitization and Awareness Raising: The Project has been holding continuous community meetings and events to raise awareness of the REDD+ project. Additionally, the Project has distributed educational materials to help promote the Project to Project Zone communities.
January 2017 - May 2017	Project carbon stock measurement
July 2017 - August 2017	Proxy Area carbon stock measurement



Date	Milestone(s) in the project's development and implementation
December 2017 - January 2018	Leakage Area Assessment
2018 - Present	<b>Micro-finance</b> : WA initiated the micro-finance project activity. The Project now works with 75 village women from seven villages organized into six groups in Areng Valley.
2018 - Present	<u>Direct Employment and Training on Income Generating Activities</u> ( <u>IGAs</u> ): The Project designed activities to increase the number of Project employees and provide training on new alternative income generating activities. The Project directly employs 27 community members and provides them with on-the-job training.
April - November 2018	Project VCS/CCB Validation and Verification
May 2018	Project Registration
November 2018	First Project VCU issuance
November 2019 - March 2020	Second monitoring period forest inventory and monitoring
2020 - Present	<u>Community Scholarship Fund</u> : A program to provide a 4-year scholarship for a bachelor's degree at the Royal University of Phnom Penh and Royal University of Agriculture was initiated. As of 2022, the Fund received 34 applicants from the Project Zone. Seven students were selected for the 2022 Scholarship.
01 January 2018 - 31 December 2020	Project 2 <sup>nd</sup> VCS/CCB Verification (M2)
01 January 2015 - 31 December 2020	Project SD VISta Validation and Verification
November 2020 - March 2021	Third monitoring period forest inventory and monitoring
01 January 2021 - 31 December 2021	Project 3 <sup>rd</sup> VCS/CCB Verification (M3)
01 January 2021 - 31 December 2021	Project SD VISta 2 <sup>nd</sup> Verification (m2)



Date	Milestone(s) in the project's development and implementation
01 January 2022 - 31 December 2023	Project 4 <sup>th</sup> VCS/CCB Verification (M4)
01 January 2022 - 31 December 2023	Project SD Vista 3 <sup>rd</sup> Verification (m3)
1 November 2022	WWC hired the Project's Community Conservation Officer (CCO)
1 February 2023 - 28 Oct 2023	Fourth monitoring period forest inventory and monitoring
22 November 2022- 20 October 2023	Delivered trainings and workshops regarding REDD+, Climate Change Leadership, Human Rights, and SDGs to Community Conservation Officer
31 October 2023	Chong cultural study begins
01 November 2023 - 06 December 2023	Interviewed Chong elders and additional research to document their culture, traditions, and grievances. First Chong Indigenous Peoples report drafted.

#### 2.2.2 Baseline Reassessment (VCS, 3.2.6, 3.2.7)

Did the project undergo baseline reassessment during the monitoring p	period	d?
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□ Yes ⊠ No

#### 2.2.3 Methodology Deviations (VCS, 3.20)

#### Activity-Shifting Leakage Area

The SCRP deviates from VM0009 v3.0, Section 8.3.2.1 "Delineating the Activity-Shifting Leakage Area". The delineation of the Activity-Shifting Leakage Area utilized the MOE forest cover 2015 map as its primary landcover map. However, the map contained certain areas of "no-data" in areas of non-forest, which were filled in with the MOE 2010 forest cover map. In performing spot checks, we identified small areas that were determined to have been converted between 2010 and 2015 that cannot be delineated using said maps. The activity-shifting leakage area therefore does not technically conform to the criteria in the first paragraph of VM0009 v3.0, Section 8.3.2.1, which states "As of the project start date, the activity-shifting leakage area must be entirely unconverted (i.e., in a forest or native grassland state) ...". The activity-shifting leakage area has been delineated to include these small, identified areas of conversion. Thus, deviating from the criteria stated in Section 8.3.2.1 and, by extension, PDR.108, which requires proof that the activity-shifting leakage area is in an "entirely non-converted state".

The activity-shifting leakage area's purpose is to provide a boundary for the placement of leakage plots. The plots are required to be in unconverted areas. If a leakage plot is found to fall in a converted area, presumably due to an error in the land cover classification used to delineate the activity-shifting leakage area (errors of omission or commission are common in remote sensing, and no land cover map is 100% accurate), that plot is moved in a spatially random manner to an area that is unconverted. Small errors in land cover identification in the activity-shifting leakage area are therefore inconsequential to the calculation of emissions from activity-shifting leakage and, by extension, the deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.

The deviation relates only to the activity-shifting leakage area, represented  $A_{ASL}$ , a variable available at validation. The deviation does not relate to any other part of the methodology, VM0009 v3.0.

#### Activity-Shifting Leakage Model

The SCRP deviates from VM0009 v.3.0, Section 8.3.2.2 "The Leakage Emissions Model." This section describes the parametrization of the activity-shifting leakage model using equation "[F.48]" as indexed in the methodology. This equation is dependent on the parameters  $\alpha$ ,  $\beta$  and  $\theta$ , which are produced by the methodology's baseline emissions model (BEM), and describe the logistic function that defines the Project's baseline scenario. The SCRP elected to allocate Cambodia's national Forest Reference Emission Level (FREL), as indicated in Section 6 of VM0009. As such, the Project does not calculate a BEM and therefore the parameters  $\alpha$ ,  $\beta$  and  $\theta$  are not applicable. We modified equation [F.48] to utilize parameters from the national FREL in place of the BEM. Equation [F.48] appears in VM0009 as follows:

$$LEM_{F}(C_{P}, C_{B}, p_{LDEG}, \beta, \theta, t, x) = p_{LDEG}^{[m]} \times A_{AS} \times (C_{P} - C_{B}) - \frac{A_{AS} \times (C_{P} - C_{B})}{1 + e^{ln\left(\frac{1}{p_{LDEG}^{[m=0]} - 1}\right) - \beta t - \theta(x_{0} - x)}}$$

The modified version of equation [F.48], used for the SCRP, is as follows:

$$LEM_{F}\left(\mathcal{C}_{P},\ \mathcal{C}_{B},\ p_{L\ DEG},p_{L\ DEG}^{[m=0]},E_{B\ ASF}^{[m]}\right)=min\left\{\left[\left(p_{L\ DEG}^{[m=0]}-\ p_{L\ DEG}^{[m]}\right)\times\ A_{ASL}\ \times\ (\mathcal{C}_{P}-\ \mathcal{C}_{B})-\ E_{B\ ASF}^{[m]}\right],0\right\}$$

where:

 $p_{L\,DEG}^{[m]}$  is the proportion of leakage due to degradation in forest at the end of the current monitoring period.

 $p_{L\,DEG}^{[m=0]}$  Is the proportion of leakage due to degradation prior to the first monitoring period.

 $A_{ASL}$  Is the area of the Activity Shifting leakage area (ha).

 $E_{\it BASF}^{[m]}$  Is the baseline emissions for the activity-shifting leakage area. (t CO<sub>2</sub>e)

C<sub>P</sub> Is the Project's carbon stock at the end of the current monitoring period (t CO<sub>2</sub>e / ha)



 $C_R$  Is the baseline carbon stock at the end of the current monitoring period (t CO<sub>2</sub>e / ha)

 $\beta$  Is the effect of time on the cumulative proportion of forest conversion over time (unitless)

t Is time since Project start date (days)

 $\theta$  Is the effect of certain co-variates on the cumulative proportion of forest conversion over time (unitless)

 $x_0$  Is the covariate values as of the project start date (unitless)

x Is covariate values (unitless)

Additionally, as the Project uses the official Cambodian FREL for the project reference level, it likewise uses the FREL to determine a reference level for the activity-shifting leakage area. The reference level for the activity-shifting leakage area was allocated from the national FREL using the same data and methods as the project area reference level was. This is used then used for a new parameter  $E_{B\,ASF}^{[m]}$ . The calculations for the allocation of the reference level to the activity-shifting leakage area have been provided to the auditor in Annex 14 - SCRP Leakage Model M4. The following Figure 2.3 represents the SCRP activity shifting leakage model modified for application of the national FREL.

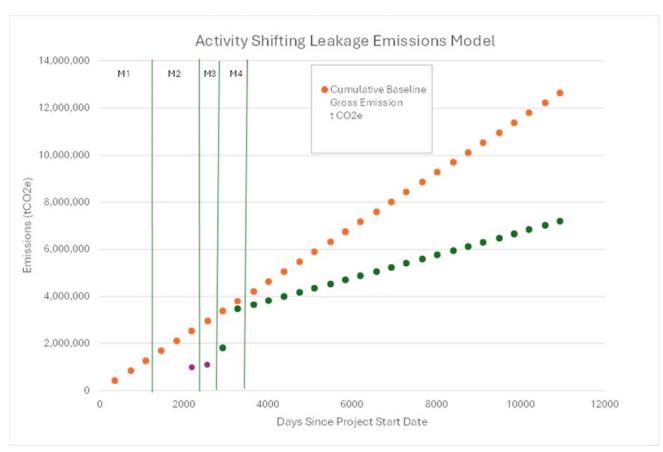




Figure 2.3 SCRP Activity Shifting Leakage model. The first emission measurement for M3 (purple) is cumulative from the beginning of the project. Starting from M4, all values following the previous monitoring period (green) are estimated.

As noted in the figure above, the significant rise during M4 period in the model is presumably due to parts of the forest cleared from the construction of a hydropower reservoir in the region. Nevertheless, this deviation does not affect the conservativeness of the calculation of emissions from activity shifting leakage. The modified model follows the same theoretical basis as the original one from the methodology. The major change results from modifying the logistic BEM model to a linear FREL. This necessitated removing several mathematical steps from the model, thereby ensuring consistency with the logistic BEM model and resulting in the simple equation shown above.

The deviation relates only to the activity-shifting leakage model and determination of emissions from activity-shifting leakage, represented by  $LEM_F$ . The deviation does not relate to any other part of the methodology, VM0009 v3.0.

#### Market Leakage Determination

The SCRP deviates from the VCS module VM0037 "Global Commodity Leakage Module: Production Approach" in several ways. These deviations have no material impact on the market leakage calculation. The first two deviations concern "section 5.1.2". Due to limited data availability, a single year of baseline commodity yields have been used in place of an average of the annual commodity yield from each year of the historical reference period. While the single yield value used for each commodity may not be fully representative of the entire historical reference period, it is the best available data source for an accurate and applicable commodity yield. This is considered conservative, as the commodity yield value both determines the total quantity in tonnes of the commodity displaced by the project and the area of forest elsewhere in the country required to replace the displaced commodity production. Therefore, the actual value used for commodities yield has a negligible effect on the final quantification of market leakage from the Project.

For the commodity yield data on sawlogs, the yield has been presented in units of m³/ha, instead of the units of t/ha as required by the module. This is a more standard presentation of a saw-log yield, and there is no quantitative impact on the calculation of leakage by this deviation. Additionally, in the determination of the yield for sawlogs, no growth rate for the yield was used. This was done because the yield for saw logs would not be expected to increase over time, as these are naturally occurring forests with no active management. Therefore, there is no effect of improved methods or technology which would lead to an increase in yields. These deviations have little to no effect on calculation of emissions from market leakage, as the module calculates leakage from commodities. As stated above with the commodity yield data, for the saw-log commodity, the same yield value is used to determine the total quantity of the commodity displaced and to then determine the amount of area required to replace the lost supply. Therefore, despite using these alternative units for the yield, the end calculation is mathematically identical as it would be if yield was converted from m³/ha to tonnes/ha.

Lastly, in section "5.4", the module states that where a monitoring period covers multiple years, equation "14" should be employed for each year included in the period. We calculated a single leakage



value that encompassed the monitoring period corresponding to one year. This deviation has no quantitative impact, and only deviates from the quantification method, where the parameter t in the market leakage module was set to the full monitoring period, calculating 1 value for market leakage covering the 3-year monitoring period. The module requires calculation of market leakage independently for each year in the monitoring period and then to sum the results. These two methods result in mathematically the same result if the exact same time period is used for each method.

Given the fact that the deviations described above are either immaterial to or have no impact on the quantitative market leakage results, the deviation can by extension be shown to have no effect on the conservativeness of the calculation of emissions from market leakage. The deviation relates only to the criteria and procedures for the monitoring or measurement of market leakage, represented by  $E_{L\,ME}^{[m]}$ , one of the parameters monitored and calculated via equation "[F.51]". The deviation does not relate to any other part of the methodology, VM0009 v3.0, or the market leakage module VMD0037.

#### 2.2.4 Minor Changes to Project Description (CCB Program Rules, 3.5.6)

The SCRP does not have any minor changes to the Project Description document.

#### 2.2.5 Project Description Deviations (VCS, 3.21; CCB Program Rules, 3.5.7 – 3.5.10)

There has been one deviation from the SCRP PD v2. During the Project's development the monitoring frequency of most social and biodiversity monitoring indicators were revised so that they better align with the Project's existing data collection and management methods and systems. However, due to an oversight during the Project's joint validation and verification, this revision was only made in the first monitoring report and not in the PD or social and biodiversity monitoring plan. The Project is continuing to utilize the monitoring frequency for each social and biodiversity indicator as shown in this first monitoring report for on-going monitoring. This deviation does not have any effect on the applicability of the methodology, additionality, or appropriateness of the baseline scenario. There is no change in the number of indicators being monitored or to the language of the indicator, and the outcome of this deviation is that the frequency of monitoring has been changed from "annual" to the "monitoring period" for most social and biodiversity indicators.

#### 2.2.6 Grouped Projects (VCS, 3.6; CCB, G1.13-G1.15, G4.1)

The SCRP is not a grouped Project. Therefore, this section is not applicable.



## 2.2.7 Risks to the Project (CCB, G1.10)

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Human induced     risks		
1.1. Slash and Burn/Unsustai nable Agriculture	The greatest human induced risk to the Project's benefits is continued deforestation. The Project Zone is undergoing large pressures for new agricultural land from both the expanding population and ongoing immigration into the area. Therefore, slash and burn agriculture is a primary risk to the SCRP benefits and thus the Project's sustainability.	Mitigation for this risk is through the Project Activities, mainly in the form of increased protection of the Project Area, creation of new income generating activities, and through the promotion of improved agricultural methods as described in the Project Description Section 2.1.11.
1.2. Charcoal Production and Illegal Logging	There are extractive activities taking place in the Project Zone, including the production of charcoal and illegal logging. These represent additional deforestation and degradation threats in the SCRP Project Area and pose significant risks to the Project's climate benefits. Government rangers and community members patrol the Project Area to prevent, discourage and stop such activities. We recognize, however, that there are still not enough government rangers to protect the sheer size of the Project Area.	The SCRP provides financial, political and human capacity support to maintain and enhance conservation law enforcement. This is achieved by employing more government rangers and providing government rangers with additional equipment, training, and technology.
1.3. Anthropogenic Fires	Another human induced threat is frequent fires; these can occur multiple times a year in the area.  Many are set intentionally with the goal of clearing trees and brush for agriculture, or some may be the unintentional result of illegal activity,	The SCRP has continued to monitor fire events and other potential contributions as part of their annual monitoring efforts to report on and account for any major loss of carbon in the Project Area. It is the goal of the Project to work with all local



Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	such as charcoal production. SCRP staff monitor the Project Area for the occurrence of fire, and work to reduce the risk of fire. In addition, the Project aims to reduce illegal incursions of people into the Project Area, thus mitigating anthropogenic fire potential.	communities to understand the value of the forest to stop illegal deforestation and the unsustainable use of forest resources, as they begin to realize tangible carbon benefits.
2. Natural Risks	The Project Area is not generally susceptible to severe or destructive natural events. Possible natural risks are geologic events, pests or disease, flooding or fire. The area is not prone to geologic activity, and this poses little to no risk to the Project. As the Project Area is a native and biodiverse ecosystem, the risk from pests or disease that result in significant emissions reversal is low.	The primary mitigation for this risk is to maintain the standing forest and ensure through monitoring that the trees and ecosystem remain healthy and intact. There can be minor seasonal flooding from the annual monsoons. The species of this area have adapted to the hydrological cycles and are not susceptible to monsoonal flooding. The Project Area is corrugated and there is a moderate risk of erosion or landslides. Due to forest protection activities, the risk of erosion or landslides is minimized. Fire has the most potential to cause damage to the forests of the Project Area. However, the risk of significant emissions from reversals is low. The evergreen and semi-evergreen forest types are of a dense, evergreen, moist forest type that is not prone to forest fires. There have been no catastrophic fires in forests of this type in this region. Therefore, natural events have low risks to the Project's benefits.
3. Political Risks	In all countries, there exists a slight risk of shifting legislation or the potential for new policies that could potentially affect natural resource	As the intent is to nest this Project into a future jurisdictional/national program, the Project's visibility will only increase as well as its importance to



Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	management and/or land tenure. There have been cases in Cambodia where the RGC has allowed protected forest lands to be cleared for agricultural or development purposes. That said, the likelihood of such changes occurring is considered to be extremely small, especially given that the Project Area is currently under government ownership and under protective status (It is both a national park and wildlife sanctuary). As a highly visible international REDD+ Project, the likelihood that the RGC would allow the SCRP Project Area to be converted is low.	the RGC. During the M4 monitoring period, there were no changes to the ownership or land tenure of the Project Area or any changes in legislation or government policies that could potentially affect natural resource management and/or land tenure in the Project Area.
4. Policy risks		
4.1. Risk of reversal The risk of Project reversal due to community opposition is considered minimal, as they have openly and widely been consulted through numerous outreach and information-sharing meetings throughout the Project development.		As a Project governance policy, all stakeholders are always able to seek further information or air grievances if desired. The Project will continue to engage the surrounding communities, provide education and support for community social services, and improved livelihood opportunities.  All these factors build and enhance community support for the Project, and include them as authentic stakeholders, thereby reducing the risk of opposition to the Project and its goals.
4.2. Insufficient Revenues	The majority of REDD+ credits are currently sold on the voluntary market, posing a risk to recurring, sustainable income flow. If credits	The SCRP has demonstrated the ability to attract buyers. The Project has been developed as a cooperative effort between Wildlife Alliance and the



Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	are not sold, there will be no revenue, and thus no monetary support for the Project over its 30-year lifetime, save initial investment.	Ministry of Environment. It is one of the largest Projects in Southeast Asia, making it an attractive Project to the greater Southeast Asian region. In addition, it is a vital forest resource to Cambodia and is a critical watershed for the Gulf of Thailand, which is an important part of Cambodia's economy because of its contributions via hydroelectricity, tourism, and fisheries. SCRP will nest into the official Cambodian jurisdictional/national REDD+ scheme once the Prakas is officially published, allowing for larger credit sale volumes, on a recurring, sustainable basis, to sovereign nations and large multi-national buyers in the international market created by the Paris Accord. Therefore, the Project proponent maintains that the risk of insufficient revenues to the Project's benefits is low.

#### 2.2.8 Benefit Permanence (CCB, G1.11)

The SCRP activities are designed to enhance the CCB benefits beyond the Project's lifetime. Community activities are designed to transform local economies over the life of the Project. In this regard, the focus of the SCRP is to develop local business and income-generating activities that are critical components of a long-term low carbon economy. Project activities that meet this overarching objective focus on education, sustainable agriculture, community-based ecotourism, and sustainable management of natural resources. These activities reduce the necessity of community members to deforest and degrade the Project Area. During the project's lifetime, this will be achieved, for example, by facilitating better education, through training farmers in sustainable agriculture, and creating long-term ecotourism programs. These activities are outlined in more detail in the Project Description Section 2.1.11 and Section 4 of this document. All these activities are projected to help maintain and enhance the climate, community, and biodiversity benefits during and beyond the project's lifetime.



### 2.3 Stakeholder Engagement & Safeguards

#### 2.3.1 Stakeholder Identification (VCS, 3.18, 3.19; CCB, G1.5)

Stakeholder composition of the SCRP has not changed since validation and is described in the SCRP PD Section 2.1.8. The stakeholder identification process is documented in the SCRP PD Section 2.1.9.

#### 2.3.2 Stakeholder Access to Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

- The Project Office and Project Sub-Office maintains a full printed version of the Project Description (PD) and Monitoring Report (MR) in English for public viewing.
- The executive summary for the PD and MR has been translated into Khmer and is posted in public places in communities throughout the Project Zone.
- Project documents are available on the Verra project registry (<a href="https://registry.verra.org/">https://registry.verra.org/</a>).
- The full monitoring report and the executive summary of the monitoring report in English and Khmer version are made available on the Project's webpage (<a href="https://southerncardamomredd.com/">https://southerncardamomredd.com/</a>) and the Project's Facebook page (<a href="https://www.facebook.com/SouthernCardamomREDD">https://www.facebook.com/SouthernCardamomREDD</a>).

#### 2.3.3 Dissemination of Summary Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

- The executive summary for the monitoring report has been translated into Khmer and is posted in public places in communities throughout the Project Zone.
- The full monitoring report versions and the executive summary of the monitoring report in English and Khmer are made available on the Project's webpage (<a href="https://southerncardamomredd.com/">https://southerncardamomredd.com/</a>) and the Project's Facebook page (<a href="https://www.facebook.com/SouthernCardamomREDD">https://www.facebook.com/SouthernCardamomREDD</a>). Additionally, other Project information will be relayed through this page.
- In addition to the executive summary, a poster/flyer in Khmer advertising the Project, and providing a contact email address was posted in communities.
- A notice in Khmer advertising the public comment period and the validation and verification field visit was posted in communities throughout the Project Zone. It included details on how a comment to the CCB can be made.

#### 2.3.4 Informational Meetings with Stakeholders (VCS, 3.18, 3.19; CCB, G3.1)

Information regarding the SCRP was communicated through a series of community meetings that took place in a culturally appropriate setting. Meetings were conducted by appointed FPIC officers and were called at public locations or usual places of gathering, such as houses of commune chiefs or village chiefs, pagodas, and schools. The existing network of WA contacts across the Project Zone, particularly local government officials, were used to publicize the FPIC events and ensure representative



community participation. In addition, two of the FPIC officers were from Project Zone communities and thus used their extensive networks to publicize the events. It is common in Cambodia to provide drinking water, food, and partial travel support at formal meetings. These customs were adhered to at all community consultations. FPIC officers used posters to explain the concept of REDD+, climate change, Project activities, and conflict resolutions as well as to bring across the Project's anticipated benefits, costs and risks. An open discussion and Q&A time followed the meetings, which often revolved around land tenure, customary use of timber and non-timber forest products, costs/benefits as well as risks and communities' concern with regard to implementation of the SCRP. All meetings were conducted in Khmer, ensuring that the information was communicated to and understood by the entire audience.

During the monitoring period, there were additional meetings with community members, which are described in section 2.3.6, 2.3.9 and 2.5.7. Please refer to Sections 2.3.3 in the PD for details on how stakeholders and communities were involved in Project design and consulted during development. This section also describes Wildlife Works' commitment to ongoing stakeholder engagement and consultation throughout the Project's lifetime.

#### 2.3.5 Risks from the Project and No Net Harm (VCS, 3.18, 3.19)

There are potential natural and human-induced risks resulting from project activities in the SCRP, and the commensurate mitigation or preventive measures in place are shown in Tables 2.3 – 2.5. These risks were identified during the SBIA process, and the mitigation measures have been implemented since the project validation to date.



Table 2.3 Risk assessment from the project - Focal Issue 1: forest destruction and land encroachment.

Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
Decrease in forest land grabbing	Some villagers with legal land tenure sell their land to speculators and become landless as a result of the sale. These villagers then encroach on government protected land to reclaim land.	Medium	High	Reduce	<ul> <li>Installed visible on-the-ground boundary posts - so the land boundaries can be easily recognized and respected. Prevent villagers from getting confused on land boundaries.</li> <li>Delivered community awareness campaigns on Protected Area Law and Land Law -so that villagers understood the seriousness of environmental crimes, especially grabbing land inside protected areas. Land grabbing is classified as one of the most serious crimes and subject to strong legal punishment/prison term.</li> <li>Recruited and trained conservation law enforcement officers to discourage and/or arrest perpetrators</li> </ul>
	Wealthy people encourage and pay poor villagers to clear the protected forest inside the Project's boundaries to illegally grab and then purchase the (government) land from the villagers. The land is	Medium	High	Reduce	<ul> <li>Delivered community awareness campaigns on the Protected Area Law and Land Law</li> <li>Recruited and trained conservation law enforcement officers to discourage and/or arrest the perpetrators</li> </ul>



Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
	bought for speculative purposes				
	Lack of will to provide honest and active participation from stakeholders (local communities, authorities, and NGOs) into land use planning activities	High	High	Reduce	<ul> <li>Delivered community awareness campaigns to educate the communities on the land law and other related sub-degrees.</li> <li>Appealed to local authorities and land management officials to respect their government role and responsibilities and to actively support and participate in the land use planning process</li> </ul>
	NGOs, relevant stakeholders, and villagers do not agree with each other on land boundaries	High	High	Reduce	<ul> <li>Encouraged sincere dialogue among all relevant stakeholders to address the root causes of land related issues</li> <li>Requested all concerned parties to negotiate and compromise to reach an agreement on land boundaries</li> <li>Delineated cultivated land and land for shifting agriculture for the local communities, including Indigenous people – to encourage people to actively participate in the land use planning and demarcation process</li> </ul>
	Insufficient budget for conducting participatory land use planning	High	High	Remove	<ul> <li>Integrated the land use planning activities as part of the commune development plan - so part of the fund for land use planning will come from the commune annual budget</li> </ul>



Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
	Insufficient budget for producing and installing demarcation posts on the ground along land boundaries	High	High	Remove	
	Insufficient support from local authorities to enforce the approved land boundary on-the-ground.	High	High	Reduce	<ul> <li>Continued to build trust and collect more political will/support from local authorities to prevent local people from creating problems with the land boundary enforcement officials</li> <li>Recruited and trained conservation law enforcement officer to prevent, discourage and/or arrest perpetrators</li> </ul>
Decrease in illegal logging	People from outside come and log in the area	Medium	High	Reduce	<ul> <li>Government rangers continued to regularly patrol around and inside the Project Area to discourage and/or arrest illegal loggers and the illegal transport of timber</li> <li>Community rangers continued to patrol the forest and to collect information on the illegal logging network to assist government rangers in stopping illegal logging</li> </ul>
	Community Protected Area is not established on time, so people still illegally	Medium	High	Reduce	<ul> <li>Continued to partner with all relevant government stakeholders to speed up the process on creating Community Protected Areas.</li> </ul>



Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
	collect NTFP for commercial purpose without permit				
	It will take a long time for villagers to give up their more lucrative illegal jobs as loggers and switch to the legal ones	Medium	High	Reduce	<ul> <li>Continued to deliver community awareness campaigns to raise awareness on the Protected Area Land Law and other sub-degrees.</li> <li>Government rangers continued to discourage, prevent and/or arrest timber and wildlife poachers.</li> </ul>

Table 2.4 Risk assessment from the project - Focal Issue 2: Wildlife poaching

Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
Reduced demand in wildlife parts and bush- meat	No adequate support from development partners and relevant institutions to help develop eco-tourism project	High	High	Reduce	<ul> <li>Actively cooperated with local communities, including Indigenous peoples, local authorities, and relevant ministries to find development partners</li> </ul>
	Insufficient support from local authorities	Medium	Medium	Reduce	Continued to build trust and collect political will/support from the local authorities and to have active participation from all local communities
	People still poach because they can make more money by	High	High	Reduce	<ul> <li>Delivered community awareness campaigns on the long-term benefits of a nature-based project – so</li> </ul>



Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
	poaching than by working in the eco- tourism project				<ul> <li>people could understand that logging is not a sustainable way of using natural resources</li> <li>Recruited and trained more government rangers to prevent, discourage and/or arrest timber and wildlife poachers.</li> </ul>
	People do not believe that eco-tourism will generate enough income for them and do not give up poaching	Medium	Medium	Reduce	<ul> <li>Delivered community awareness campaigns on the long-term benefits of a nature-based project – so people could understand that logging is not a sustainable way of using natural resources</li> <li>Recruited and trained more government rangers to prevent, discourage and/or arrest timber and wildlife poachers.</li> </ul>
	Internal land conflicts among some community members make some people boycott the Project	High	High	Reduce	<ul> <li>Strengthened the local community's bylaws/regulations on land/property management and communal land by creating an effective monitoring system that clearly outlines disciplinary measures against those who do not follow the community bylaws.</li> <li>Created a fair benefit sharing mechanism to prevent ill-will between community members.</li> </ul>
	Only small number of households join the eco-tourism project	High	High	Reduce	<ul> <li>Expanded eco-tourism activities to create more jobs.</li> </ul>

Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
	Middlemen motivate villagers to continue with illegal business activities rather than joining eco-tourism services	High	High	Reduce	<ul> <li>Expanded conservation law enforcement operations.</li> </ul>
	People do not know how to manage money and cannot pay back loans from mini-credit scheme	High	High	Reduce	<ul> <li>Provided basic family financial management and planning skills.</li> <li>Provided basic knowledge on how to build a business plan for small enterprises.</li> </ul>
	Only a small number of villagers attend the community awareness events	Medium	Medium	Reduce	Continued to deliver community awareness campaigns.
	Eco-tourism committees do not take responsibility over their roles and duties	High	High	Remove	Held fair and transparent elections to choose more committed eco-tourism committee members.
	Tourist arrivals do not increase because of a lack of sanitation facilities	High	High	Reduce	<ul> <li>Constructed more sanitation facilities and created programs to improve hygiene.</li> </ul>

Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
	Tourist arrivals do not increase because of security related issues	High	High	Reduce	<ul> <li>Actively engaged villagers and local authorities to provide security to tourists</li> </ul>
	Tourist arrivals do not increase because of poor quality or inadequate services	High	High	Reduce	<ul> <li>Prepared lodgings/rooms/services before tourists arrive</li> <li>Expanded guest services via on-the-job training</li> </ul>
	Tourists create problems to ecotourism communities	Low	Low	Reduce	<ul> <li>Explained to tourists about internal rules and regulations-including signboards in English and Khmer.</li> </ul>
	Conflict between conservation NGOs and villagers	Medium	Medium	Reduce	Established close working relations between conservation NGOs and villagers.
Reduced habitat loss	Lack of participation from local communities to help prevent habitat loss	High	High	Reduce	<ul> <li>Actively educated local communities about environmental laws so communities would understand the importance of natural resources</li> <li>Created community ranger teams so communities could directly get involved in natural resource protection activities.</li> </ul>
Difficult to poach	Insufficient human resources, materials and budgets to conduct park	High	High	Reduce	<ul> <li>Actively cooperated with local communities, including Indigenous peoples, local authorities, and relevant ministries to find support from development partners.</li> </ul>



Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
	management and conservation law enforcement operations,				<ul> <li>Regularly engaged with all relevant government stakeholders to maximize resources and share information to prevent and discourage illegal environmental activities in a timely manner.</li> </ul>

Table 2.5 Risk assessment from the project - Focal Issue 3: Poor livelihoods.

Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
Low living cost	Limited capacity of medical staff	High	High	Reduce	<ul> <li>Assisted local authorities in their request for more competent medical staff from relevant ministry so villagers would not have to go to provincial health centers for medical care.</li> </ul>
	Lack of medicine and equipment at the health posts	High	High	Reduce	<ul> <li>Cooperated with local communities and relevant institutions to find support from NGOs.</li> </ul>
	Teachers quit due to limited financial support and poor living condition	High	High	Reduce	<ul> <li>Communities often provide teachers with funds and land to build their house as government salaries are too low.</li> <li>Recruited and train local villagers to become teachers in their own community to prevent outside teachers from quitting.</li> </ul>



Result	Potential Risk	Likelihood	Magnitude	Mitigation strategy	Explanation
High income	Too many villagers are not adopting new agricultural techniques	High	High	Reduce	<ul> <li>Recruited more agriculture technicians to help local farmers in the field on a daily basis.</li> </ul>
	Lack of market	High	High	Reduce	<ul> <li>Continued to train and show new farming methods so farmers could grow and harvest more produce/crops, and to offer better products- more competitive on the market.</li> </ul>



#### 2.3.6 Community Costs, Risks, and Benefits (CCB, G3.2)

The SCRP has been designed through engagement of relevant local communities and stakeholders and has involved them in decision-making and implementation from the outset. Collaboration amongst the Project partners, with the goal of initiating a carbon-crediting project, began in 2012. The role of the Project partners is central to the SCRP, due to their relationship with the local communities. Communities are already familiar with the Project partners and open communication channels were established prior to the start of the Project's design phase. The SCRP builds on these structures, which makes it possible to disseminate information to all communities in a quick and timely manner as well as to encourage their involvement in the Project. During 2017, when the Project was being developed, the Project partners conducted a Social and Biodiversity Impact Assessment (SBIA) and suite of community meetings focused on Free, Prior, and Informed Consent (FPIC). These meetings were the basis for which the Project's costs, risks, and benefits to communities were communicated.

A Project sub-office was established in the Koh Kong MOE office branch in late 2017, and a REDD+ office was created. This office serves as an information hub for the SCRP and is open to all community members and stakeholders. There they can find information about the Project and/or place comments or raise grievances. The primary communication method to stakeholders and communities is through the Project partner's existing channels of communication to the respective communities in their area. Meetings are typically announced via phone or by informing the leader of a specific community group (e.g., women's groups, youth groups, etc.) in a timely fashion, who in turn communicates the information to the members of that group.

Project partners are kept up to date with regular communication and dissemination of Project documentation. Community members are encouraged to pay a visit to these headquarters to access Project material. The Project office constructed seven info signboards - installed at strategic points around the Project Area and Project Zone. The SBIA community meetings took place on August 15-17 and August 23-25, 2017, in the MOE Koh Kong offices. In addition, community FPIC meetings took place in two phases between August and October 2017 (24 meetings) and December 2017 and March 2018 (27 meetings).

During the previous monitoring period (M3) in 2021, 85 community awareness events on the Southern Cardamom REDD+ activities were delivered in 29 villages (3 meetings/village) across 10 communes and 4 districts in Koh Kong. Around 397 community members and 5,650 students were reached through sensitization and awareness raising events, school visits, and community night shows. Education materials were also distributed with 6,720 posters, 6,047 books, and 6,514 pens. Overall, 51 meetings were held and attended by more than 2,500 community members from the Project Zone throughout the FPIC campaign. Significant time was given between the initial SBIA stakeholder consultation and deadlines for formal Project decisions.

During this monitoring period from January 2022 until December 2023, the Project increased the number of community awareness events on the Southern Cardamom REDD+ activities, delivering 316 meetings in 29 villages (around 11 meetings/village). A total of 3,241 community members attended,



including students. In the education sector, seven students benefited from the Project's bursary scheme; seven students were granted scholarships to study in Phnom Penh for four years.

FPIC meetings are also conducted and maintained annually, where more than 1,500 people from 15 communes attended from early 2022 to mid-2023. All the comments received from the meetings were compiled, analyzed, and submitted to the CEO of Wildlife Alliance.

#### 2.3.7 Information to Stakeholder on Verification Process (VCS, 3.18.6, 3.19; CCB, G3.3)

- The Project's monitoring report executive summary, including project information and project benefits has been translated into Khmer and is posted in public places in communities throughout the Project Zone.
- During community meetings held by Project staff as part of the project outreach process, the verification process was described.
- A poster/notice in Khmer advertising the Project's public comment period and the verification field visit was posted in communities throughout the Project Zone. It included details on how a comment to the CCB can be made.
- In addition to the executive summary and the public comment period advertisement, a
  poster/flyer in Khmer advertising the project, and providing a contact email address was posted
  in communities.
- The full monitoring report and the executive summary of the monitoring report in English and Khmer version are made available on the Project's webpage (<a href="https://southerncardamomredd.com/">https://southerncardamomredd.com/</a>) and the Project's Facebook page (<a href="https://www.facebook.com/SouthernCardamomREDD">https://www.facebook.com/SouthernCardamomREDD</a>).

# 2.3.8 Site Visit Information and Opportunities to Communicate with Auditor (VCS, 3.18.6, 3.19; CCB, G3.3)

The Project Proponent has actively communicated to all community members and stakeholders about the start of the Public Comment Period and the methods with which they can submit comments on the Project as well as how to view the full Project documentation. This was accomplished by communicating the Project - Public Comment Period and Verification field visit dates to previously identified stakeholders, community leaders, leaders of faith-based communities, and public officials. They were then requested to pass that information onto their communities.

The Project partner will arrange for community meetings with all stakeholders during the verification site visit. During these meetings, the auditor will be able to independently inquire with stakeholders regarding the FPIC and SIA consultations.



#### 2.3.9 Stakeholder Consultation (VCS, 3.18; CCB, G3.4)

The SCRP has conducted a series of stakeholder consultations since the stage of project development. The process of community and stakeholder identification was conducted through a series of key informant/expert interviews, workshop discussions, an analysis of rights, and a literature review. Through these methods, it was possible to obtain a well-informed and comprehensive understanding of all communities and community groups in the Project Area. The process of community and stakeholder identification was conducted through a series of key informant/expert interviews. A complete list of stakeholder consultations can be seen in the SCRP PD Sections 2.1.8, 2.1.9, and 2.3.7. All consultations have significantly influenced the SCRP activities, and it is a recurring process where the Project is always open to any suggestions put forward by the communities and relevant stakeholders. Below is the summary of key stakeholder consultations that were conducted and how each has influenced the project design and implementation.

Wildlife Alliance conducted a round of FPIC consultations from February through May 2023 with all 29 target communities in the Project Zone to understand community preferences and ways to improve the grievance mechanism. We learned about preferred and less preferred communication methods: (1) the unwillingness of villagers to use grievance boxes, (2) Preference for speaking directly to community leaders, and (3) Preference for speaking to project staff directly or over a phone call.

To address concerns of community members at an early stage, the Project has selected a network project community focal point. This network comprises 45 volunteers to assist the Project by disseminating important information to families across their respective communities. Each community has one or two such focal points. During the 7th round of FPIC held in February 2023 - May 2023, the Project has introduced the idea of calling for volunteers who would be willing to serve as community focal point; of the volunteers, 45 candidates were identified and will be selected in consultation with the community in the next round of FPIC consultation meetings. These candidates were identified for displaying direct engagement and strong relationship with communities, village administrators, commune council members, social workers, and indigenous leaders. The focal points will ensure constant and robust engagement with the community members, will also collect, document, categorize, and priorities grievances according to the importance of the grievances for the community, for which the focal point represents. In addition, the community focal points will organize, when needed, outreach and community awareness raising programs. They will also educate community members about their rights and encourage them to voice their concerns using the Feedback Grievances Redress Mechanism.

Ongoing consultation

Free, Prior, and Informed Consent (FPIC): The FPIC meetings and assemblies were held with the aim of consulting communities on their decision on whether to develop the REDD+ project and to create an opportunity for open dialogue between community members, CFPP rangers, and the Project staff. This dialogue also offers an opportunity for grievances and suggestions to be directly

addressed to CFPP rangers, project staff, and relevant stakeholders. Grievances and suggestions are addressed on the spot if possible and if not, are documented and directed into the FGRM channels to be answered at a later date. FPIC meetings are ongoing to maintain communication between the Project and local communities, to ensure that communities are fully informed about the Project and address any issues that arise during the Project's implementation.

Some of the key components of the Project that were discussed at these FPIC meetings are listed below:

- Development, obligations, and benefits of REDD+ projects, including importance of the SCRP and sensitization and awareness raising.
- Conflict resolution.
- Feedback and Grievance Redress Mechanism (FGRM).
- · Ratification of the project agreement.
- Inputs for the Benefit Sharing Mechanism.
- Reference levels of the project.
- Risks of deforestation.

## Date(s) of stakeholder consultation

January 2022 to May 2023

## Communication of monitored results

The full results of the climate monitoring are included in this Project Monitoring Report, which is made publicly available in the Project Area by having a hard copy available for review at the Project Office and digitally on the VCS registry and the Project's website. The monitoring results have been further communicated to the local communities, including the Indigenous peoples and other stakeholders (including the government and local authorities) using diverse methods including presentations, reports, and orally during community awareness and sensitization meetings, and when SBIA workshops are held. Additionally, a monitoring report



	summary has been written and provided to communities throughout the Project Area in English and Khmer.
Consultation records	Table 2.8 of the PD details dates, locations, and the number of attendees to these FPIC meetings.
	These meetings were registered, with documentary evidence supporting the process.
Stakeholder input	The FPIC meetings are organized at the commune level to increase participation. It has been observed that organizing community members in larger groups increases engagement and offers individuals greater confidence when raising concerns. The agenda and minutes of each FPIC meeting are endorsed by the respective Commune Council as proof of approval/consent. In addition, the FPIC process was presented in Khmer language to ensure that the information was communicated to and understood by the whole audience. Section 2.3.7 in the PD highlights the FPIC workspaces that constituted a fundamental basis for the design of the project.

#### 2.3.10 Continued Consultation and Adaptive Management (VCS, 3.18; CCB, G3.4)

The adaptive management plan for the Southern Cardamom REDD+ Project is outlined in the PD Section 4.4.1. Please refer to this section for a detailed explanation of the iterative processes the SCRP is using throughout the life of the Project. An example of the project's participatory process is the Project's work with Sovanna Baitong. Over a 12-month period, the Project had a participatory planning process involving 280 families of landless farmers in the SCRP Project Zone from 3 Districts and 4 Villages. These families had been dependent on forest resources for their livelihood without access to education or healthcare. They asked for assistance in moving from their historical livelihood of shifting cultivation to a sedentary agricultural system allowing them to stay in one place. Lastly, they asked for access to healthcare, education, and farm inputs. As a result of the participatory planning process, the project activities for this community were designed based on the families' requests to gain tenure to their land, healthcare, education and assistance on agricultural methods, inputs, and crop varieties. Please see Section 2.3.9 for updated results on how communication and consultation about the project has continued between the SCRP and communities and other stakeholders. Please refer to Section 2.3.11 for a detailed description of the processes used to consider this input and how this communication and consultation has influenced the project through adaptive management.

One example of how project design has been affected by stakeholder input is the road project implemented in Pur Beoung. Wildlife Alliance conducted a socio-economic survey and discussed infrastructure plans with Pour Bang village chief and the Commune Council. They found that the most urgent need to improve livelihoods was the completion of the road from Pur Beoung Village to Sre



Ambel town and the 26 concrete culverts to enable villagers to bring their agriculture products to Sre Ambel market. In addition, a bridge across the river to Pur Beoung village, a secondary school and health center were identified as essential infrastructure needed by the community. Wildlife Alliance also found that the road, bridge, school, and health center are for the public benefit and was part of Dang Peng commune development plan before the financial support was disbursed. Construction of the bridge, secondary school, and health center will be implemented in future monitoring periods.

In this current monitoring (M4), 77 comments were collected through the conducted FPICs, FGRM, and other form of consultations. The summary of these comments and requests are provided in **Error! Reference source not found..** 

Table 2.6 Summary of comments received, and actions taken

Summary of comments received	Actions taken
During this monitoring period, the requests	The project was able to integrate the input into
that were received from the FPIC meetings	proposed activities in the project annual
are requests for projects such as for	workplan and has allocated a total amount of
building and repairing roads, bridges,	\$3,304,530 (\$1,258,797 for 2022 and
schools, water wells, scholarships, job	\$2,045,733 for 2023) for community livelihood
creation community projects, etc.	improvement and infrastructure construction.

Aside from the comments received, there was an improvement to the grievance redress mechanism with the FGRM, where aside from holding periodical consultations, WWC hired a Community Conservation Officer (CCO) and appointed community focal points as representatives to help gather inputs and issues from the villagers through this improved mechanism. The label "suggestion boxes" is now changed to "grievance boxes" to accurately reflect their purpose and the number of grievance boxes that were put and spread across different locations within the communes surrounding the project area, are increased to further reach the residing villagers. In addition to the grievance boxes, posters and publications regarding FGRM are also posted in prominent places to provide information to the villagers on how to engage community member representatives, CFPP rangers, Project staff, and the CCO to express issues or provide inputs.

#### 2.3.11 Stakeholder Consultation Channels (CCB, G3.5)

The Project held a significant number of community meetings and workshops during the Project development process. The SCRP PD Sections 2.1.8 and 2.3.3 list the community meetings and workshops that were held for all Project stakeholders at project development. A complete report of the SBIA workshops and community meetings held during the project development, including pictures and meeting results have been provided to the verifier. During this monitoring period (M4), stakeholder consultations continued with public meetings held throughout the project communities (Table 2.8).

These meetings are open to all and advertised by the Project's community outreach staff using the dominant methods of communication for the area. At these meetings, stakeholders are informed of the project and are provided information on the project's benefits and opportunities available to them



through the project activities and can provide comments, suggestions, or complaints to Project staff. This is generally through Facebook messenger, word of mouth, and phone calls. Stakeholders additionally provide consultation to the project directly through anonymous or signed comments in suggestion boxes that are placed in 5 locations in the Project Zone; responses received through Facebook comment, Facebook messenger or other digital methods; and personal communications to project staff, either directly or through community leaders, political leaders, or faith leaders. As per this monitoring period, the label "suggestion boxes" is changed to "grievance boxes" and the number increased from 5 to 22 which are spread in prominent places in the communes in the Project Zone. Project information is also communicated to the Project stakeholders by providing copies of this monitoring report at various locations in the project zone and digitally on the project's website and the Project's Facebook page. A summary of this monitoring report containing the project's monitoring results and other key information is translated into Khmer and posted throughout the project zone and digitally on the Project's website and Facebook site.

To further support the attendance of formal communications, effective use of grievance mechanism, and addressing issues, the Community Conservation Officer (CCO) was hired by WWC on 1 November 2022 and was later commissioned to work under the SCRP in March 2024. The CCO works with Indigenous peoples and local communities to facilitate open dialogue and address concerns through the Feedback and Grievance Redress Mechanism (FGRM). Together with Indigenous peoples and local communities, the CCO also developed a direct communication channel through Telegram App preferred by the villagers, reducing the hesitance to raise different issues.

One of the primary reasons to retain the CCO is in recognition of the effectiveness of addressing community members' concerns through direct, ongoing interactions. While WA has established a strong relationship with the villagers in the Southern Cardamoms, a gap existed between traditional communication methods and the FGRM introduced in 2017.

Before the Southern Cardamom REDD+ Project was established, for 15 years preceding the existence of the FGRM, WA staff directly addressed villagers' concerns through direct, ongoing interactions (phone calls, e.g., Tractor got stuck in the mud, villagers call for help when their kids are sick). This informality fostered trust and positioned WA as a reliable problem-solver, handling activities ranging from agriculture, transport, and sharing tools. Villagers developed close personal connections with WA staff, seeing them as readily available and responsive. This comfort level with informal channels may have discouraged them from using the more formal FGRM processes, such as grievance boxes or the hotline. Villagers might have seen the formal channels as less efficient compared to direct communications with familiar staff. While the informal approach fosters trust, it lacked formal record keeping. The FGRM, on the other hand, ensures documented grievance redress and adherence to best practices.

The CCO will conduct regular awareness campaigns educating villagers about their rights and the importance of using the FGRM. Demonstrating responsiveness to feedback will further build trust in the formal system. The CCO has already attended 2 REDD+ training programs and have joined an internal human resources and human rights training program conducted by WA.



Furthermore, under the improved FGRM, communities will elect a community focal point who will act as the community's representative for recording and voicing grievances and enhancing communication with the project. The elected focal point will receive FGRM training. In addition, the community focal points will facilitate outreach meetings, whenever necessary working closely with the CCO, to educate community members about their rights and encourage them to voice their concerns.

# 2.3.12 Stakeholder Participation in Decision-Making and Implementation (VCS, 3.18, 3.19; CCB, G3.6)

To ensure effective participation of SCRP communities, it was important to hold meetings and workshops at times and periods when stakeholders could attend. As such, all meetings and workshops were held during the day and at times when other work did not interfere with full community participation. Invitations were extended to community leaders, local government officials and commune leaders within a respectful timeframe and so each stakeholder could respond, including via written invitations and phone calls. All communication was conducted in the local Khmer language.

WA has incorporated gender equality and sensitivity into their existing stakeholder participation and decision-making practices and strives to ensure gender equality is represented in stakeholder participation. Women were consulted and are included in all Project activities. All capacity building activities in the local communities in the Project Zone will be open to all villagers, including Indigenous peoples, women and vulnerable populations. The SCRP operates a strict non-discrimination policy such that women and vulnerable groups of people will receive equal chances regardless of the type of work. Equal opportunity is also extended to all capacity building activities (CBA). All employees and any interested local community members, including women and vulnerable populations shall be allowed to join any CBA which includes agricultural training and other technical skills, English language, cooking and hospitality training for Community Based Ecotourism service providers to improve the livelihood of their families and community. It is acknowledged that in the Cambodian traditional family structure, women are responsible for caring for their children, which may restrict their ability and willingness to travel away from home for certain activities. However, based on participation records from the SBIA workshops and FPIC meetings, women represented 37% and 58% (56% for M4 specifically) respectively of participating attendees. In addition, 41.4% of CBET members are women.

#### 2.3.13 Anti-Discrimination Assurance (VCS, 3.19; CCB, G3.7)

The SCRP is committed to fair treatment and equal opportunity for all Project stakeholders, community members, and employees. Neither the project, nor any agent of the project, will discriminate against any person for any reason, including, but not limited to, gender, religion, ethnicity, nationality, or sexual identity. The Project has established an equal opportunity policy that ensures no engagement in, or complicity with, any form of discrimination. The SCRP is committed to providing a workplace and programs that are safe and free from all sexual harassment or unwelcome sexual advances. The Project has developed a document outlining a sexual harassment policy, defining sexual harassment, and describing the recourse that any employee who feels that they have suffered sexual harassment should take. These project policies are provided in Annex 02. Additionally, the Project has established a



grievance system (see the SCRP PD Section 2.3.12) that provides all project employees, stakeholders, community members, and participants with a recourse method, in the event that any discriminatory action or sexual harassment does occur.

To date, no cases of discrimination or sexual harassment have been reported due to the project activities. The SCRP has been continuing to commit to creating safe and inclusive places for all entities involved in the project activities.

#### 2.3.14 Grievances (VCS, 3.18.4; CCB, G3.8)

There were few grievances raised along with the resolution and outcome provided from January until October 2022, as shown in Table 2.7 below. Some of the locals who raised the issues prefer to be anonymous. These grievances are documented in the grievance logbook along with the updated grievance policy in Annex 01. As set out in the PD, the SCRP has a feedback and grievance redress policy and process for resolving complaints in an efficient, fair, and accessible manner.

Table 2.7 Grievances received and their resolutions

maintained since the number of visits

decreased during the COVID-19 pandemic.

#### Grievances received Resolution and outcome Kamlot Village, Dong Peng Commune: There The Project will pay more attention on are locals who still hunt wild animals and wildlife and forest land monitoring in the clear forests to use land illegally. These wild areas around Kamlot Village to prevent animals will then be commercialized and illegal activities such as poaching and land exported, such as to Vietnam. These kinds of clearing from happening. The project will activities are still present because the locals also install more monitoring network. were bribed and offered a lot of money from the traders. Mr. Touch Morn, Chief of Chambok CPA, No resolution or outcome was written in the Village 3, Chambok Commune: A request was logbook. However, as the financial support made to the project to renovate the damaged from the project will be allocated to the infrastructure in Chambok CPA, to serve the project's operational and community funds, tourist's visitation for visiting the waterfall. the funding should be utilized by the commune for this matter. The resolution of The infrastructure such as bridges and stairs' handrail were damaged as they were not this issue may be included in the allocated

funds for infrastructure construction as

stated in Section 2.3.10.

Community members and Project stakeholders are encouraged to submit grievances, comments, or feedback to the Project Office through several channels. The primary method for communication is through the Project office or sub-office located at the Ministry of Environment's branch office in Koh Kong town, the MOE ranger stations located throughout the Project Zone, and the Community Based Ecotourism offices in Chi Phat and Areng. In addition, the MOE/WA has published an email address, phone number, and Facebook page that Project stakeholders can use to make comments or voice



grievances. The SCRP has also spread "grievance boxes" throughout prominent locations in the communes for villagers to express their concerns through writing and inserting them into the boxes. The full grievance policy is outlined in the document "Southern Cardamom REDD+ Project Grievance Redress Mechanism" made available to the verifier.

#### 2.3.15 Worker Training (VCS, 3.19; CCB, G3.9)

The SCRP considers local employment a priority and local sourcing is strongly encouraged at all levels of the Project, from casual workers up to management positions. The SCRP recognizes that local hiring, especially women, marginalized and vulnerable community members, is a major benefit to the implementation and operation of the Project due to the knowledge and familiarity local people possess of the landscape, its communities, and biodiversity. Their involvement will also ensure the sustainability and continuity of the Project throughout the Project's Lifetime and beyond. To date, 1,441 community members have been trained in ecotourism management and hospitality and guiding skills in Chi Phat and Chhay Areng; 304 families (984 cumulative) have been trained in sustainable agriculture techniques. In addition, 258 (959 cumulative) government rangers and staff have been trained in conservation law enforcement, health and safety, patrolling, and legal skills; 15 community members from the Project Zone have been trained in biomass inventory for the carbon plots. In addition, the Project has also hired a Community Conservation Officer (CCO) and delivered 5 workshops in relation to the preparation of this position and its programs since November 2022.

The Project is designed to focus on the employment and training of local people, with a focus on women and marginalized and vulnerable community members, with a goal to increase local participation in the Project and build local capacity, knowledge, and a robust skills base. This includes hiring local community members as community rangers to monitor their community forests for illegal activities, with special attention paid to the hiring of Indigenous peoples, women and/or vulnerable and marginalized community members. The SCRP advertises open positions broadly, with special attention paid to the recruitment of villagers and youth living in the Project Zone. Indigenous peoples and women are highly encouraged to apply for these positions. The Project has a policy of prioritizing Indigenous peoples and women in the hiring process, which will be given to women who are qualified and willing to commit to a period of work with the Project.

MOE/WA train local community members with the latest monitoring techniques, data collection methods, and laws to conduct effective enforcement. Training is conducted on an ad-hoc basis as turnover happens to the community rangers to maintain a pool of trained local rangers. Local community members are hired and trained to support and manage other activities including IGAs, agricultural intensification, and biodiversity monitoring. In all positions, informal training will happen for each position and local community members are prioritized on being hired.

The first training of the sampling team occurred during 17 to 23 January 2017 and was conducted by WWC team members Jeremy Freund, VP of Carbon Development, and Brian Williams, Director of Asia. All members of the plot sampling team and several key Project management staff, including Thomas Grey and Romica Grosu of WA, were present for this training. The training consisted of both classroom and field components and included training in the biomass sampling and proxy area sampling SOPs,



general field procedures, methods for proper equipment use, and field safety procedures. Further training and technical support were provided to the field sampling team specifically on the biomass plot sampling process via email and phone calls. A second field-based training of the plot sampling team was held by Brian Williams on 2-3 December 2017. All members of the plot sampling team and several key Project management staff, including Thomas Grey and Romica Grosu of WA, were present for this training, which focused on the leakage plot measurement SOPs and field equipment use. For the M2 biomass and leakage plot data collection, two additional training courses were held. The first was held on 24-29 April 2019 and was focused on refreshing and retraining the plot sampling team. A second training was held on 18-19 April 2020, focused on refreshing and retraining of the leakage plot sampling SOP. Both trainings were led by the SCRP biomass inventory manager Romica Grosu and held on-site in the Project Area.

During the M3 monitoring period, biomass inventory training was held from 3-7 December 2021. The training covered the SCRP Forest Inventory SOP for the biomass and leakage plot sampling on the SCRP. Ten biomass inventory team members participated in the training, four of which were existing team members, while six were new members to the team. Other training activities involving local community members that were implemented during M3 included planting and care of fruit trees, CBET Managers training on IGAs, tourism hospitality, nature guiding, housekeeping, cooking skills, and financial literacy.

During the M4 monitoring period, training activities were maintained and had an increase of participation compared to the previous monitoring period, such as training on agricultural methods, preparation of tour guides and forest rangers and staff, ecotourism for community members, and biomass inventory sampling. The training related to tourism has resulted in the increase of families providing eco-tourism services, while training related to forest security has increased the number of forest rangers and staff employment. The number of individuals participating in these various training activities are summarized in the Standardized Benefit Metrics table found in Section 1.2 of the MR.

Educating communities and employees in different areas related to the carbon Project are still ongoing. Capacity building on aspects revolving around carbon measurement, accounting, climate change, and carbon offsets will continue to take place in the form of meetings, workshops, or training days. To date, the primary training on REDD+ Project management and carbon measurement has been focused on WA staff and management based in Koh Kong town. It is anticipated that future training will no longer be needed by external experts but will be carried out by locally sourced employees who were trained in the initial stages of the Project.

#### 2.3.16 Community Employment Opportunities (VCS, 3.19.13; CCB, G3.10)

The SCRP PD Section 2.3.13 describes the measures that the project has implemented to ensure that the communities are provided with equal opportunity for employment with the Project. The auditor was provided with evidence on-site during the verification field visit demonstrating the Project's hiring process and compliance with this rule. Please see Section 2.3.15 and Section 4.3.1.1 for a detailed description of activities and processes implemented to ensure all community members were given a



fair chance to be trained for and to fill positions during the current monitoring period (M4). In summary, the SCRP has implemented the following policies in the hiring process.

- The SCRP provides equal employment opportunity to all employees and employment applicants without regard to race, color, religion, sex, ethnicity, nationality, age, or disability. The placement of successful applicants to vacant positions is based solely on their merits.
- Job vacancies are to be advertised publicly through posters, signboards/billboards, and online
  media to inform both internal and external applicants of the opportunity. The Project
  Management Unit, in conjunction with the head of the relevant management units for which the
  vacancy is advertised will be closely involved in the selection process.
- In the case of multiple equally qualified applicants, preference shall be given to the applicant that lives closest to the vacancy location. Unsuccessful applicants will be provided with an explanation for why they were not selected in order to assist them to improve if there is another vacancy in the future.
- Equal opportunity is also extended to all capacity building activities (CBA). All employees and any interested local community members, including Indigenous peoples, women and vulnerable populations shall be allowed to join any CBA which includes agricultural training and other technical skills, English language, cooking and hospitality training for Community Based Ecotourism service providers to improve the livelihood of their families and community. An assessment of the needs for capacity building with the forestry community members and other stakeholders in the project zone will be conducted to identify their priorities and needs.

#### 2.3.17 Occupational Safety Assessment (VCS, 3.19; CCB, G3.12)

The SCRP abides by all relevant Cambodian worker's rights laws and regulations. Workers are informed about their rights at the point of their employment during the employee's orientation. Additionally, as described in the Health and Safety plan, during the employee(s)'s orientation, workers are informed about the potential safety risks of their job and the methods to mitigate the risks. A hard copy of the relevant laws is kept at the Project Office and any worker is free to consult them at any time during working hours. The Health and Safety Plan can be found in Annex O2.

The SCRP ensures that workers' health and safety are always protected to the best of the project's ability and across all sites. Risks are identified, mitigation strategies are produced, and appropriate measures are adopted to minimize any risks.

Given the nature of the Project and its geographical surroundings, it is recognized that certain occupations inherently present a risk to the health and safety of workers, in particular occupations that require spending long periods walking in difficult environments. These include, though not exclusively, plot samplers and forest protection rangers, who are faced with challenging terrain as well as the risk of encountering illegal loggers, illegal forest land clearer, and wildlife hunter. In addition, forest fires may also pose a safety risk if they spread rapidly and unexpectedly. The project has created a comprehensive Health and Safety Plan that ensures that all workers' health and safety is protected,



and that all workers are fully informed about workplace risks and safe practices to mitigate those risks. These include training in safe working practices, first aid training for some staff members as well as the enforcement of requirements for safe handling of equipment and other materials. This Health and Safety Plan additionally provides a comprehensive list of the measures that are taken to inform employees of their rights, to assign roles and responsibilities to supervisors and workers and provide a safe workplace culture. This document is revisited regularly and revised as needed to ensure that it contains current information and includes all job categories and potential risks. A copy of the plan has been provided to the verifier and is kept at the Project office and is readily available for any consultation. In addition, the SCRP has set up a Health and Safety Fund from the revenue from the sale of SCRP credits. The fund is used to compensate Project workers for an accident during their working hours/work mission. The SCRP ensures a detailed orientation of newly recruited employees so that they are fully aware of their rights as well as responsibilities. All law enforcement rangers and full-time WA Project staff are provided with full health and life insurance.

WA confirms that they have and continue to, over the duration of the monitoring period, inform workers about job related risks, and take steps to mitigate these risks where possible. During the recruitment and selection process for new employees, all workers are informed about job related risks, and during the probationary period, workers receive on-the-job training and are given the opportunity to understand and become familiar with the potential risks that their job entails. To mitigate work related risks, WA provides on-the-job training to new employees, provides appropriate and adequate work equipment suited for the specific job, and also provides health insurance to employees. As part of the orientation process received by all new WA employees, workers are informed of work-related risks and safe working practices are given according to the WA's Health and Safety Plan. Ongoing training activities are implemented which cover various health and safety related topics. For example, SCRP field staff has received training on first aid and patrol safety, patrol strategy and technique, rescue and care for snared wildlife, guidance on identifying venomous snake and snake bite response, and conflict resolution for apprehending poachers and illegal loggers.

### 2.4 Management Capacity

#### 2.4.1 Required Technical Skills (VCS, 3.19; CCB, G4.2)

The key technical skills required to implement the SCRP are an understanding of the science of remote sensing, biomass sampling, and conservation biology, experience implementing community and livelihood development programs, effective forest protection enforcement and monitoring, and overall project management.

The Royal Government of Cambodia's MOE is the lead agency in protected area management and biodiversity conservation. The staff have been trained in Project management, the science of remote sensing, biomass sampling, and conservation biology. They have the human resources to support these areas of the SCRP.



Wildlife Alliance is a leader in forest and biodiversity protection as well as community development. Its staff is highly trained in project management, the science of remote sensing, biomass sampling, and conservation biology. They have the human resources to support these areas of the SCRP.

Wildlife Works Carbon is one of the leaders in REDD+ Project development. It has global experience in REDD+ Project design and implementation. The company was also the first to have a REDD+ Project under the VCS standard. It has the skills to support all REDD+ activities, remote sensing, biomass sampling, biodiversity sampling, project management, and forest protection.

The collaborating team consisting of the MOE, Wildlife Alliance, and Wildlife Works Carbon, has the skills and resources to successfully implement the SCRP.

#### 2.4.2 Management Team Experience (VCS, 3.19; CCB, G4.2)

The team working on this Project has extensive experience and competence in land management and carbon management, such as:

#### Dr. Suwanna Gauntlett - Chief Executive Officer - Wildlife Alliance

Since 1995, Dr. Suwanna Gauntlett has designed, implemented, and supported bold, front-line conservation programs to protect threatened rainforests, save endangered wildlife populations, and directly address the causes of poverty in the tropical belt. A formative experience with a jaguar tortured by poachers in the Brazilian rainforest sparked her early connection to the environment. After pursuing her undergraduate, master's, and doctorate degrees in France and Switzerland, she began consulting for wildlife conservation organizations, assisting them with strategic planning for direct protection to wildlife in danger.

#### Mr. Brian Williams - Director of Asia - Wildlife Works Carbon - SCRP Project Lead

Mr. Brian Williams is an experienced conservationist that has been working in Asia since 1997. With a master's in environmental studies from San José State University, Mr. Williams founded Red Panda Network, an organization dedicated to protecting red pandas in the wild. He transferred lessons learned from this experience into the development and management of REDD+ Projects in India, Cambodia, Indonesia, and Nepal.

In addition to these managers, there is a strong Project team with a wealth of land management and carbon Project experience that will support Project management and implementation.

#### Mr. Romica Gruso - GIS/Monitoring Manager - Wildlife Alliance - SCRP Monitoring Manager

A former French Legionnaire, Mr. Gruso supports carbon monitoring and forest protection. Mr. Gruso has 14 years' experience working in the Southern Cardamom and understands how to work with local communities. He understands the need for following protocols and how to implement protocols with community members.

Mr. Sokun Hort – Community Engagement Manager – Wildlife Alliance – SCRP Community Engagement lead



Having worked in the region for the last 10 years, Mr. Hort understands the nuances of local communities and government officials. He will be supporting all community engagement activities for the SCRP.

#### Mr. Jeremy Freund - VP Carbon Development - Wildlife Works Carbon - SCRP MRV

Mr. Freund is a global leader in REDD+ Project and program development with over 15 years' experience in international conservation. He co-wrote VCS methodology VM0009, one of the first and most widely used VCS REDD+ methodologies. He has led Wildlife Works in the most validations and verification under the VCS/CCB standard and will lead SCRP monitoring, reporting, and verification efforts. Mr. Freund has a B.S. in Aerospace Engineering from CU Boulder and a Masters in Geography from UC Santa Barbara where he focused on remote sensing for agriculture and food security.

#### Mr. Simon Bird - Director of Forest Science - Wildlife Works Carbon - SCRP MRV

Mr. Bird has been working in the forest ecology and environmental conservation industry for over 10 years. Mr. Bird has a B.S. in Environmental Science and a M.S. in Soil Science from the University of Vermont. Simon works in the Carbon Development department at Wildlife Works Carbon's Burlington, Vermont office. There, he assists the development of REDD+ Projects, including validation, verification, and monitoring, and reporting and verification (MRV) for existing REDD+ Projects. Mr. Bird's duties include overseeing biomass sampling methods and protocols, forest modeling, technical writing, and reporting for both the VCS and CCB standards. Mr. Bird has also participated in the revision process of VCS REDD methodology VM0009.

#### 2.4.3 Project Management Partnerships/Team Development (VCS, 3.19; CCB, G4.2)

The SCRP does not have any other partner organization because all the necessary expertise is satisfied by existing human resources within Wildlife Alliance and Wildlife Works Carbon. During the monitoring period, WWC hired a Community Conservation Officer (CCO). The responsibilities of the CCO include, but are not limited to, building stronger relations between communities and the REDD+ project government conservation operations. The CCO helps WA and WWC achieve conservation goals with the aim to build healthy, inclusive, respectful relations with all forest communities.

#### 2.4.4 Financial Health of Implementing Organization(s) (CCB, G4.3)

The Project Proponent is the Royal Government of Cambodia's Ministry of Environment, which is a government supported administrative unit. The development of the project has been primarily supported by fundraising from Wildlife Alliance. Additionally, the MOE receives annual budget support from the central government. The Project Proponent is also supported by Wildlife Works in the development of the project. Wildlife Works is experienced in marketing and sales of REDD+ credits in the global market. It has used this applied experience to make conservative estimates for expected annual credit sales for the SCRP.

Moreover, the Project Proponent, Wildlife Alliance and Wildlife Works' combined REDD+ Project development experience (five successful prior VCS/CCB validated & verified Projects) contributed to the



creation of a detailed financial model for the development and management of the SCRP. Predicted credit sales and an accurate estimated annual budget demonstrate sufficient cash flow from predicted contracted sales to sustain the project through the end of the crediting period. The Project Proponent has already received grants to fund project design and start-up costs. Documents supporting these investments are produced for the project auditor to review.

The implementation of project activities up to this monitoring period has also been supported by revenues gained from the VCU sales. The SCRP has developed strategies for VCU sale marketing to optimize the revenues from the sales so that the financial health for implementing project activities can be maintained.

#### 2.4.5 Avoidance of Corruption and Other Unethical Behavior (VCS, 3.19; CCB, G4.3)

To ensure avoidance of corruption, a separate limited liability corporation has been created by the MOE and WA to manage the funds of the Project. This company, called the Cardamom Carbon Company (CCC), is based in the United States and under the management authority of Wildlife Alliance. There are two agreements, the CCC Agency of Delegation Agreement and Southern Cardamom Project Agreement, that outline the Project's benefit sharing and ensure transparent financial transactions of the Project. These documents were shared with the validator and shared upon request with the verifier.

# 2.4.6 Commercially Sensitive Information (VCS, 3.5.2-3.5.4; CCB Program Rules, 3.5.13 – 3.5.14)

Some information required by the VCS and/or CCB standards is confidential or sensitive in nature and cannot be released publicly by the Royal Government of Cambodia. The only commercially sensitive information that has been excluded from the MR is not related to "the determination of the baseline scenario, the demonstration of additionality, and the estimation and monitoring of GHG emission reductions and removals". Such commercially sensitive information about the project is related to the Project Partner's technical knowledge regarding the execution of REDD+ projects which differentiates them from other competitors in the market, and certain financial records.

This information has been supplied freely to the VVB but will not be included in the public version of this document. All efforts have been made by Project Proponent to make as much information freely available to the public as possible. All necessary supporting information shall be provided to the validator but may not be distributed publicly. See also Appendix 3: Commercially Sensitive Information.

#### 2.5 Legal Status and Property Rights

#### 2.5.1 National and Local Laws (VCS, 3.1, 3.6, 3.7, 3.14, 3.18, 3.19; CCB, G5.6)

The SCRP meets all local, national, and international laws that are relevant to this Project. These laws include the employment laws, as well as the additional laws outlined below.

Law on Environmental Protection and Natural Resources Management (1996)



The Objective of this law is to protect and upgrade the environment quality and public health by means of prevention, reduction, and control of pollution; to assess the environmental impacts of all proposed Projects prior to the issuance of decision by the Royal Government; to ensure the rational and sustainable preservation, development, management, and the use of the natural resources of the Kingdom of Cambodia; to encourage and provide possibility to the public to participate in the protection of the environment and the management of the natural resources.

The mechanism for implementing this law is through the National Environmental Plan.

#### The Land Law (2001)

The Land Law classifies the different types of property and ownership rights in Cambodia: (1) State Public Property, (2) State Private Property, and (3) Private property:

- 1) State Public Property: According to Articles 15 & 16 of this law, State Public Property is land held by the State which carries a public interest use. State Public Property includes properties of natural origin, such as the Permanent Forest Reserve. State Public Property cannot be sold or transferred to other legal entities, although it may be subject to rights of occupancy or use that are temporary in nature (such as a logging concession in the Permanent Forest Reserve).
- 2) State Private Property: Under Article 17, State Private Property is land that is owned by the State or public entities that do not have a public interest use (i.e., owned by the state or public entity, but does not fit the definition of State Public Property as mentioned above). In addition, State Private Property can be described as excess or idle land that is held by the State or public entities. State Private Property may actually be sold or transferred to other legal entities, such as use for social or economic land concessions.
- 3) Private Property: Private property is property owned by natural persons or legal entities other than the State or public entities. Private property can be owned by individuals, collectives, or business organizations/associations.

#### The Forestry Law (2002)

The Forestry Law is an important sector-specific law that defines the management framework for harvesting, use, development, conservation, and protection of forests in Cambodia. It aims to ensure sustainable forest management and customary user rights of forest resources for indigenous and local communities. Reaffirming the Constitution, the Forestry Law provides that all forests (referred to as the Permanent Forest Estate), including state and private, noting that there is currently a lack of proper demarcation of Cambodia's forest estate. Furthermore, the Permanent Forest Estate is defined as all forested land within the Kingdom of Cambodia. Land within the Permanent Forest Estate can also be zoned as a Protected Area.

The Permanent Forest Estate is divided as: 1. Permanent Forest Reserves – which are State Forests and fall under the jurisdiction of the Forestry Administration (FA) which is housed by the Ministry of Agriculture, Forestry and Fisheries (MAFF); 2. Private Forest – forests located on private land that has been legally registered as private title under the laws and procedures in Cambodia. Private Forests are



those that are individually owned, and these forests are managed by the owners for a range of benefits. The owners have the free will to utilize these forests the way they deem fit and in addition, forest carbon in private forests belongs to the owners.

On the other hand, all categories of state forests fall within the definition of the Permanent Forest Reserves - including forests that occur on state private lands, flooded forests, wetland forests, and mangrove forests. While all forests under the Permanent Forest Reserves are under the jurisdiction of the FA, wetland and mangrove forests outside the Protected Areas (PA) are under the jurisdiction of the Fisheries Administration (FA) of the MAFF. Permanent Forest Reserves consist of three sub-categories:

- 1) Production Forests: Production Forests are forests that are managed primarily for the sustainable production of timber and non-timber forest products. In these forests, protection is a secondary objective. The Production Forests include Forest Concessions and Community Forests. Areas under Production Forests include those forests where harvesting is permitted (e.g., annual bidding coupes for domestic wood supply), degraded forests, forests to be rehabilitated, and forests reserved for regeneration or plantation. The government may grant an area of production forest, not under use, to a forest concession through public bidding consistent with the National Forest Management Plan and after conducting consultation with the concerned ministries, local authorities and communities. However, in January 2002, the RGC issued a Declaration on the Suspension of Forest Concession Logging in the country.
- 2) Protection Forests: Protection Forest are forests that deemed to have essential ecosystem services which are, but not limited to: biodiversity; water catchment and watershed conservation; wildlife habitat and aquatic resources; prevention of floods, erosion, and sea water intrusion; maintaining soil fertility; and preserve cultural heritage and public interest. However, protection forests under the Forestry Law does not include Protected Areas (PA) under the jurisdiction of the MOE pursuant to the Environmental Protection and Natural Resources Management Law 1996.
- 3) Conversion Forests: state forests that shall be converted for other development purposes, which are temporarily categorized within the Permanent Forest Reserve until the RGC designates the land for a specific use and purpose.

There is also another category, Community Forests – forests owned by the state that have been allocated to communities under a 15-year renewable agreement. The primary goal of community forests is to protect and rehabilitate forests and to enhance the sustainable use of forest resources by local communities.

#### Protected Area Law (2008)

Protected Areas fall under the jurisdiction of the Ministry of Environment (MOE); applicable law includes the Protected Area Act 2008 and the Environmental Protection and Natural Resource Management Law 1996. Provides the Ministry of Environment the authority to manage all protected areas in Cambodia. It lists the type of protected areas under the MOE's purview as:



- 1) National Park
- 2) Wildlife sanctuary
- 3) Protected landscape
- 4) Multiple use area
- 5) Ramsar site
- 6) Biosphere reserve
- 7) Natural heritage site
- 8) Marine Park

It also states that protected areas shall be defined by a sub-decree. The law and the process by which protected areas can be created or altered.

#### The Cambodian Community Forestry Sub-Decree (2003)

The National Forestry Program aims to register 1000 community forestry groups nationally and cover two million hectares by 2030. To achieve this target, the government adopted various guidelines and policies to support the development of community forests such as the community forestry sub-decree, community forestry guideline, and national community forestry program.

#### Declaration on Classification and List of Wildlife Species NO: 020 PR. MAFF (2007)

This declaration lists and classifies all wild species in Cambodia. The decree groups species into three main categories, i.e., endangered, rare, and common. The decree also declares that all wild species are technically owned by the State and are protected under this provision.

#### Code of Criminal Procedure adopted by COM

The purpose of the criminal code is to define the rule of law in Cambodia. It distinguishes what is a criminal and civil action and set the rule of law in Cambodia. The Project Proponent uses it to enforce protection of forests in the SCRP.

# 2.5.2 Relevant Laws and Regulations Related to Worker's Rights (VCS, 3.18, 3.19; CCB, G3.11)

#### The Labor Law, 1997, amended 2007

This law provides regulations on the relationship between employees and employers, and the sociolegal rights and obligations resulting from a labor relationship. All people engaged in work in Cambodia, including Cambodian citizens and foreign nationals, are subject to the regulations of the Labor Law (Peng et al., 2012).

In addition to the Labor Law in Cambodia, there are several international legal standards that cover labor rights in Cambodia, which includes 13 International Labor Organization conventions that



Cambodia has ratified (Peng et al., 2012). Also, there are many government labor regulations, including royal decrees, sub-decrees, prakas, decisions, circulars, and notices that have been issued by the Royal Government of Cambodia, and particularly by the Ministry of Labor and Vocational Training. The Project Proponent will ensure that any relevant international convention or government regulation is fully followed.

Wildlife Alliance confirms that they have and continue to, over the duration of the monitoring period, strictly and fully respect the Labor Law of the Kingdom of Cambodia, under the Ministry of Labor and Vocational Training. During the recruitment and selection process for new employees, all workers are informed about their rights. All employees, including part-time workers of Wildlife Alliance receive orientation of WA's HR Policy Manual which covers all HR related aspects, including Labor Laws. A copy of the HR Policy Manual has been made available to the verifier.

#### 2.5.3 Human Rights (VCS, 3.19)

Cambodia has adopted the UN Declaration on the Rights of Indigenous Peoples in 2007. The Government has still not ratified ILO Convention No. 169 on Indigenous and Tribal Peoples. In line with this international law, Cambodia has several domestic laws concerning the right and protection of Indigenous people and local communities. Those include the Land Law of 2001 and the Protected Area Law of 2008. The SCRP maintains the responsibility and commitment to recognize, respect, and promote the rights of all local communities involved in Project activities, complying with the mandates of the Land Law of 2022 (Art.23) that explicitly recognize the existence of Indigenous communities and their right to manage their community and immovable property according to their traditional customs and of the Protected Area Law of 2008 (Art.4) that guarantees the rights of Indigenous people to participate in decision-making on the sustainable management and conservation of biodiversity. Further, the exercise of all ownership rights related to immovable properties of a community and the specific conditions of the land use are subject to the responsibility of the traditional authorities and mechanism for decision-making of the community according to their customs and the law on environmental protection (The Land Law of 2022, Art.26).

In compliance with these principles, the SCRP commits to recognize, respect, and promote the protection of the rights of IPs, LCs, and customary rights holders. This is shown by some Project activities that seek to maintain and strengthen the protection of their rights, as follows.

- Participatory land use planning that aims to strengthen land tenure security in the project area since outsides/immigrant often come to the project area to start clearing forestland and then cultivate the land illegally.
- Capacity building for community groups and institutions so that local stakeholders will have sufficient capacity and capability to implement sustainable natural resources. Several training topics include natural resource governance, land tenure and land rights, responsibilities, forest and fuelwood management and natural resource management education.



On top of that, the SCRP ensures that a community consultation is conducted prior to the implementation of Project activities. Whether such project activity moves towards the implementation or not depends on the community agreement. All Project activities should align with local values and cultural practices.

In view of the allegations that were made by the Human Rights Watch (HRW) regarding human rights abuses in the project in 2023, the SCRP has promptly implemented actions to address and prevent such alleged incidents from happening in the future and enhance the protection of human rights for the IPLCs by conducting the following actions, as recommended by Verra and the HRW:

- 1. Meeting with all community members In addition to seek consent from the local communities, the SCRP has conducted FPIC consultation meetings to open dialogue to gather grievances and suggestions from the community members. The SCRP has also appointed a full time CCO to identify complaints, improve communications between villagers and CFPP government rangers, and help facilitate solutions to any conflicts identified. Furthermore, the SCRP has elected community focal points under the improved FGRM and will receive FGRM training to better facilitate outreach meetings on behalf of the communities, working closely with the CCO, and to educate community members through explanation and distribution of the Universal Declaration on Human Rights.
- 2. Improved Grievance Redress Mechanism the FGRM was reviewed and implemented improvements to align with the Verra program rules and the UN Guiding Principles on Business and Human Rights' effectiveness criteria; integrated anti-retaliation policies in consultation with community members; established, as needed, alternative and complementary community engagement and conflict resolution methods that are culturally appropriate; ensured the sufficiency of grievance boxes in public locations; enabled the anonymous filing of complaints; and protecting the confidentiality and identity of complainants.
- 3. Updated Human Rights Policy and Code of Conduct WA has made significant revisions to its Human Rights Policy after engaging with the HRW in November 2023. Accommodating HRW's recommendations, WA integrated the UN Guiding Principles on Business and Human Rights into its policy under the guidance of an experienced human rights law expert, Gare A. Smith. Following through on the revisions, Stephan Bognar, WWC Asia Pacific Director of Sustainability, designed a special training workshop called "Human Rights thru REDD+" which includes documents such as UN Declaration of Human Rights, UN Declaration on the Rights on Indigenous Peoples, The Chitnam Declaration of 2019, and the Ranger Code of Conduct of 2020. Furthermore, the training also includes the recently developed Wildlife Alliance Values and Ethics Policy (W.A.V.E) and Code of Conduct that promotes a deep understanding and awareness of WA's core values and guides the organization on how to work with local communities at all times. The training was delivered to all 18 WA conservation personnel and 204 CFPP government conservation officers. The SCRP has also committed to providing refresher workshops to all WA conservation personnel and government rangers every 6 months.



#### 2.5.4 Indigenous Peoples and Cultural Heritage (VCS, 3.18, 3.19)

Preserving and protecting Indigenous cultural heritage has become a key SCRP project activity. In 2008, Wildlife Alliance assisted in establishing a community-based ecotourism project in Chi Phat Village without the official recognition of the Chong people's cultural heritage. Today, SCRP has committed to strengthening its conservation-community program by recognizing the rights and cultural heritage of the Chong people in the Project Area.

In October 2023, the Project team conducted the first study on the Chong of SCRP (see Section 4.3.1). The Project team also attended two Chong IP registration ceremonies with the government's Department of Ethnic Minorities of the Ministry of Rural Development. The study helped the team to better understand the Chong community — its history, heritage, language, and customs. The study also helped the Project team understand the grievances and challenges the Chong people experience. Understanding, recognizing, and respecting the IP of SCRP are the first steps needed to create an inclusive conservation model that creates IP ownership of their cultural heritage in the Southern Cardamoms. The new IP cultural heritage project activities are expected to strengthen and promote Chong cultural heritage, rights and community welfare across all Chong villages, and strengthen the REDD+ program.

#### 2.5.5 Recognition of Property Rights (VCS, 3.7, 3.18, 3.19; CCB, G5.1)

Under Order 001, all land in the Project Zone has been titled and all property clearly delineated. As such, the Project works with communities to clarify property zones and demarcate boundaries between separate property types. This is an important Project activity that avoids land tenure conflicts. During the current M4 monitoring period, the zoning and demarcation activities have continued so that the land for local communities is clearly delineated. This is indicated with the 6 land use planning meetings that have been conducted with participation and support from the local authorities and the 146 demarcation posts that were installed in Russey Chrum commune in 2022. Section 4.3.1.1 provides greater detail of the Project's achievements in participatory land use planning. During this monitoring period, no significant disputes occurred.

Disputes over rights to territories and resources

There are some minor conflicts or disputes over land, territory, or resources in the SCRP Project Zone between the communities during the last 20 years – all based on uncertain land tenure rights. Additionally, illegal land clearing and intrusion by outsiders has, and continues to, occur causing some levels of conflicts between specific local individuals and the MOE. Therefore, the project has committed to working with these communities to identify the boundaries of their lands, and to assist them in acquiring official tenure to them. One of the Project Activities that has been implemented is specifically targeted at helping these communities do this.

From the series of allegations made by the Human Rights Watch, there had only been one incident identified by WA in 2021 and has been dismissed with ongoing review by Verra, where a young woman from Chamnar village, Pralay commune was unlawfully arrested from her farm. The arrest was made by a Judicial Police Officer (JPO) from the Provincial Department of Environment (PDOE) at the Chhay Areng Patrol Station at 13:20 PM on 11 April 2021. The woman claimed that the property (forest) she allegedly encroached belonged to her parents and her grandparents, and therefore the 'clearing the forest' was within her rights. WA tracked the land records and identified that the land was within the boundaries of Sub-decree NO. 30, thereby showing that the forest clearing was in fact unlawful without the permission given by the provincial government. The nearly 1-hectare area of cleared old growth forest claimed to be owned by the woman lies 700 meters from the community area boundary. The JPO assigned a WA local (Cambodian) Station Advisor to drive the woman to the village's chief house with a motor bike. However, as the JPO didn't know which house belonged to the village chief, he accidentally rode past the house for about 15 meters. The woman got nervous and subsequently jumped off the bike. She sustained minor scratches. This incident led to HRW's conclusion that the woman was beaten by the Project's government rangers. The incident was confirmed false by the investigation conducted by WA. WA records and interviews with the woman (Ms. A) confirmed that this beating did not happen.

#### Respect for property rights

The SCRP has ongoing measures to protect and preserve the property rights of stakeholders, IPs, LCs, and customary rights holders, mainly through the implementation of participatory land use planning. The Project has continued to assist the local communities to identify the boundaries of their lands and secure official tenure. Since it is designed to assist communities in obtaining evidence for land tenure, there is no potential for dispute resulting from the activity. Any disputes over tenure will be resolved by the relevant RGC land registry ministry in accordance with national and local laws. The SCRP has

been working closely with local authorities, community members, and relevant provincial departments to implement this program.

#### 2.5.6 Benefit Sharing Mechanism (VCS, 3.18, 3.19)

## Summary of the benefit sharing plan

As per this current monitoring period, the SCRP has not stipulated any formal agreements or contracts on benefit sharing mechanism. The sharing mechanisms of the revenue accrued from the Project activities are based on privately signed or written agreements with the communities and the local regulations, which are adjusted reasonably based on their needs and requests.

In view of the Human Rights Watch report and Verra's review, the SCRP is committed to improving the existing benefit sharing mechanism, where the next phase of increased investment will be community-directed with the establishment of the Southern Cardamom REDD+ Community Fund in the future.

## Benefit sharing during the monitoring period

For instance, the revenue accrued from eco-tourism activities provided by the local communities are shared accordingly based on the agreed arrangements in the commune, such as in Community-Based Ecotourism (CBET) where the proceeds are shared between families working as service providers and the community operational funds in each commune – the Chi Phat and Chhay Areng CBETs have accrued a total of USD \$181,081.55 (\$131,610.75 shared to service providers and \$49,470.43 shared to community operation fund) and \$36,243.33 (\$31,489.66 shared to service providers and \$4,753.64 shared to community operation fund) respectively during this 2-year monitoring period.

Meanwhile, the revenues accrued from sales of Non-Timber Forest Products (NTFP) are proceeded to the households involved in selling the products, based on the prices agreed by the local market and merchants in the communes that are selling the commodities. From 2022 to 2023, the total average revenue of NTFP sales in the SCRP is \$292,578, which creates an average income of \$62 per



household annually, assuming it's proportionately divided through all the 4,719 families in the SCRP.

The project has not, and will not encroach on private property, community property, or government property. Therefore, appropriate restitution or compensation has not been applicable. Land tenure of the project area is outlined in the SCRP PD Section 2.5.

#### 2.5.7 Free, Prior, and Informed Consent (VCS, 3.18, 3.19; CCB, G5.2)

During the monitoring period, WA has implemented strategies to improve community engagement, including structure, representation, voting, and participation at FPIC meetings. There was increased promotion of FPIC meetings ahead of time and provision of information at the meetings. This effort increased community participation substantially compared to previous years.

#### Consent

The 15 communes and 29 villages surrounding the Project Area are the main targets in obtaining their consent and provided with knowledge through FPIC meetings and consultations, as their property and resource rights are affected by the project and must be accommodated accordingly to ensure optimum protection of the forests. The meetings with the communities took place in a culturally appropriate setting and called at public locations, such as schools and prominent buildings in the village. In addition, posters and publications were used in easy-to-see locations to help explain the concept of REDD+, climate change, project activities, conflict resolution, and contact information, which provide continuous flow of information outside of the meetings. Information on the outcome and follow up activities was also posted at culturally appropriate public places.

All community members and stakeholders were encouraged to partake in FPIC consultation meetings as all inputs to the Project are valued. The FPIC process was presented in Khmer language to ensure that the information was communicated to and understood by the whole audience. The meetings were held at the communes to improve direct participation of the Chong Indigenous People.

#### **Outcome of FPIC**

About 56 FPIC meetings were delivered during M4, and attended by a total of more than 1,500 people from 15 communes in all 29 villages. The FPIC workshops introduced the Project's new CCO. Furthermore, the FPIC workshops were also opportunities to understand community preferences and the ways to improve the grievance mechanism (FGRM), such as increasing the number of

grievance boxes and placing most of them in more prominent and trustworthy locations, like the residence of the commune chiefs.

The FPIC also offered an opportunity for grievances and suggestions to be directly addressed to the CFPP government ranger, Project staff, and relevant stakeholders. Grievances and suggestions are addressed on the spot, if possible. If not, they are documented and directed into the FGRM channels to be answered at a later date. FPIC meetings are ongoing to maintain communications between the Project and local communities, to ensure that communities are fully informed about the Project and address any issues that arise during the Project's implementation.

The meetings produced recorded endorsements/approval from the commune chiefs or representatives. It is important to note that local participants may have attended multiple meetings and may have been counted more than once. While the Project has detailed records of all participants, no analysis has been conducted to determine the cumulative number of distinct individuals attending the FPIC meetings. Overall, the endorsements have clearly demonstrated that the villagers surrounding the Project Area have consented to and are aware of the project activities.

Table 2.8 Location, date, and attendance of FPIC meetings held during M4 (2022 - 2023).

Location	Commune	District	Date	Place	Total Pa	ırticipants
					Total	Female
Trapang Chher Trav	Thmor Bang	Thmor Bang	06/01/2022	Russey Chrum Commune Hall	7	4
Kokir Chrum	Thmor Bang	Thmor Bang	06/01/2022	Russey Chrum Commune Hall	14	9
Kokir Chrum	Thmor Bang	Thmor Bang	10/01/2022	Mrs. Nut Dany's residence at Kokir Chrum Village	13	3
Trapang Chher Trav	Thmor Bang	Thmor Bang	11/01/2022	Mouk Tha's residence at Trapang Chher Trav Village	6	3
Samraong	Pralay	Thmor Bang	11/01/2022	Samraong Village Chief's residence	40	10

Location	Commune	District	Date	Place	Total Pa	ırticipants
					Total	Female
Pralay	Pralay	Thmor Bang	12/01/2022	Pralay Village Chief's residence	41	19
Chrak Russey	Chumnoab	Thmor Bang	16/01/2022	Chumnoab Commune Hall	40	23
Koh Andet	Ta Tai Krom	Koh Kong	17/01/2022	Techor Pur Ream Pagoda	24	13
Chi Meal	Andong Teuk	Botum Sakor	22/01/2022	Mrs. Yen Leng's residence at Chi Meal Village	16	12
Chi Meal	Andong Teuk	Botum Sakor	22/01/2022	Mrs. Rin Tha's residence at Chi Meal Village	11	5
Bak Angrout	Dorng Peng	Sre Ambel	25/01/2022	Toap Cheang Pagoda	40	25
Koh	Thmor Donpov	Thmor Bang	27/01/2022	Koh Primary School	25	14
Prek Svay	Thmor Donpov	Thmor Bang	28/01/2022	Thmor Donpov Commune Hall	41	24
Anlong Vak	Ta Tai Krom	Koh Kong	03/02/2022	Pur Kirimondol Pagoda	20	16
Chumnoab	Chumnoab	Thmor Bang	08/02/2022	Commune Council member's residence	34	17
Dey Tomneab (Veal tapou)	Tropeang Roung	Koh Kong	10/02/2022	Veal Tapou Almshouse	18	9
Tropeang Roung	Tropeang Roung	Koh Kong	10/02/2022	Mr. Ben Vok's residence at Trapeang Roung Village	21	7
Sovanna Baitang	Komdoul	Botum Sakor	10/02/2022	Community Chief's residence	66	32
Dey Tomneab	Tropeang Roung	Koh Kong	11/02/2022	Tropeang Roung Pagoda	21	5

Location	Commune	District	Date	Place	Total Pa	rticipants
					Total	Female
Tropeang Roung	Tropeang Roung	Koh Kong	11/02/2022	Mr. Vat Chandern's residence at Trapeang Roung Village	24	17
Pur Boeng (Chhay reab)	Dorng Peng	Sre Ambel	15/02/2022	Chhay Reab Pagoda	43	25
Pur Boeng (Komlot)	Dorng Peng	Sre Ambel	16/02/2022	Srong Sat Komlot Pagoda	44	26
Kamlot	Chi Phat	Thmor Bang	18/02/2022	Kamlot Village Chief's residence	33	18
Cham Slar	Chi Phat	Thmor Bang	18/02/2022	Kingdergarten at Cham Slar Village	46	34
Chi Phat	Chi Phat	Thmor Bang	19/02/2022	Om Louy's residence at Chi Phat village	29	17
Teuk L'ark	Chi Phat	Thmor Bang	19/02/2022	Teuk L'ark Pagoda	22	15
Krang Chek	Chambak	Phnom Srouch	21/02/2022	Chambak Dangkom Almshouse	41	29
Ramieng Sa	Ta Sal	Aoral	22/02/2022	Ramieng Sa Village Hall	47	24
Chi Meal	Andong Teuk	Botum Sakor	03/03/2022	Mrs. Heng Nget's residence at Chi Meal village	52	31
Chambok	Chamok	Phnom Srouch	06/03/2022	Village meeting hall	42	28
Chi Phat	Chi Phat	Thmor Bang	10/04/2022	Mr. Chen Kmao's residence at Chi Phat village	27	14
Chorm Sla	Chi Phat	Thmor Bang	21/02/2023	Mr. Oung Srang's residence at Chorm Sla village	32	18

Location	Commune	District	Date	Place	Total Pa	ırticipants
					Total	Female
Komlot	Chi Phat	Thmor Bang	23/02/2023	Mr. Mouen's residence at Komlot village	39	27
Teuk Laak	Chi Phat	Thmor Bang	27/02/2023	Chi Phat pagoda	33	21
Chrak Russei	Chumnob	Thmor Bang	01/03/2023	Chumbob commune hall	28	27
Chumnob	Chumnob	Thmor Bang	09/03/2023	Chumbob commune hall	25	11
Bak Angrout	Dang Peng	Sre Ambel	11/03/2023	Bak Angrout primary school	59	39
Pur Boeng (Chhay Reab)	Dang Peng	Sre Ambel	15/03/2023	Chhay Reab pagoda	36	13
Pur Boeng (Komlot)	Dang Peng	Sre Ambel	23/03/2023	Komlot pagoda	31	11
Sovanna Baitang	Kondoul	Botum Sakor	27/03/2023	Sovanna Baitong community meeting hall	48	28
O'Som	O'Som	Veal Veng	27/03/2023	O'som commune hall	31	16
Chhay louk	O'Som	Veal Veng	28/03/2023	Village chief's house	55	32
Kien Chungruk	O'Som	Veal Veng	29/03/2023	Mr. Sao Nuth's residence at Kien Chungruk village	33	10
Samrong	Pralay	Thmor Bang	30/03/2023	Samrong village chief's house	30	17
Top Khley	Pralay	Thmor Bang	03/04/2023	Village Member's residence	18	12
Chamnar	Pralay	Thmor Bang	07/04/2023	Chamnar Village Chief's residence	20	12
Pralay	Pralay	Thmor Bang	08/04/2023	Pralay village chief's residence	34	17



Location	Commune	District	Date	Place	Total Pa	ırticipants
					Total	Female
Korki Chrum	Russei Chrum	Thmor Bang	09/04/2023	Russei Chrum commune hall	64	40
Trapeang Chheutrav	Russei Chrum	Thmor Bang	10/04/2023	Russei Chrum commune hall	35	19
Romeang Sar	Tasal	Aoral	25/04/2023	Village meeting hall	50	36
Koh Andet	Tatai Krom	Koh Kong	26/04/2023	Koh Andet pagoda	23	14
Anlong Vak	Tatai Krom	Koh Kong	26/04/2023	Tatai pagoda	34	19
Prek Svay	Thmor Dunpov	Thmor Bang	27/04/2023	Thmor Dunpov commune hall	22	10
Koh	Thmor Dunpov	Thmor Bang	28/04/2023	Koh primary school	21	11
Trapeang Rung	Trapeang Rung	Koh Kong	01/05/2023	Village Member's residence	25	8
Veal Tapou	Trapeang Rung	Koh Kong	04/05/2023	Village meeting hall	32	14
Dey Tumneab	Trapeang Rung	Koh Kong	10/05/2023	Trapeang Rung pagoda	31	20
Consultation Total					1837	1030

Table 2Table 2.8 below details the time, place, and number of participants of the FPIC meetings held in the communes while Table 2.9 shows the number of attendees from FPICs held in each commune in 2022 and 2023.

Table 2.8 Location, date, and attendance of FPIC meetings held during M4 (2022 – 2023).

Location	Commune	District	Date	Place	Total Pa	articipants
					Total	Female
Trapang Chher Trav	Thmor Bang	Thmor Bang	06/01/2022	Russey Chrum Commune Hall	7	4
Kokir Chrum	Thmor Bang	Thmor Bang	06/01/2022	Russey Chrum Commune Hall	14	9

Location	Commune	District	Date	Place	Total Pa	ırticipants
					Total	Female
Kokir Chrum	Thmor Bang	Thmor Bang	10/01/2022	Mrs. Nut Dany's residence at Kokir Chrum Village	13	3
Trapang Chher Trav	Thmor Bang	Thmor Bang	11/01/2022	Mouk Tha's residence at Trapang Chher Trav Village	6	3
Samraong	Pralay	Thmor Bang	11/01/2022	Samraong Village Chief's residence	40	10
Pralay	Pralay	Thmor Bang	12/01/2022	Pralay Village Chief's residence	41	19
Chrak Russey	Chumnoab	Thmor Bang	16/01/2022	Chumnoab Commune Hall	40	23
Koh Andet	Ta Tai Krom	Koh Kong	17/01/2022	Techor Pur Ream Pagoda	24	13
Chi Meal	Andong Teuk	Botum Sakor	22/01/2022	Mrs. Yen Leng's residence at Chi Meal Village	16	12
Chi Meal	Andong Teuk	Botum Sakor	22/01/2022	Mrs. Rin Tha's residence at Chi Meal Village	11	5
Bak Angrout	Dorng Peng	Sre Ambel	25/01/2022	Toap Cheang Pagoda	40	25
Koh	Thmor Donpov	Thmor Bang	27/01/2022	Koh Primary School	25	14
Prek Svay	Thmor Donpov	Thmor Bang	28/01/2022	Thmor Donpov Commune Hall	41	24
Anlong Vak	Ta Tai Krom	Koh Kong	03/02/2022	Pur Kirimondol Pagoda	20	16
Chumnoab	Chumnoab	Thmor Bang	08/02/2022	Commune Council member's residence	34	17
Dey Tomneab (Veal tapou)	Tropeang Roung	Koh Kong	10/02/2022	Veal Tapou Almshouse	18	9



Location	Commune	District	Date	Place	Total Pa	ırticipants
					Total	Female
Tropeang Roung	Tropeang Roung	Koh Kong	10/02/2022	Mr. Ben Vok's residence at Trapeang Roung Village	21	7
Sovanna Baitang	Komdoul	Botum Sakor	10/02/2022	Community Chief's residence	66	32
Dey Tomneab	Tropeang Roung	Koh Kong	11/02/2022	Tropeang Roung Pagoda	21	5
Tropeang Roung	Tropeang Roung	Koh Kong	11/02/2022	Mr. Vat Chandern's residence at Trapeang Roung Village	24	17
Pur Boeng (Chhay reab)	Dorng Peng	Sre Ambel	15/02/2022	Chhay Reab Pagoda	43	25
Pur Boeng (Komlot)	Dorng Peng	Sre Ambel	16/02/2022	Srong Sat Komlot Pagoda	44	26
Kamlot	Chi Phat	Thmor Bang	18/02/2022	Kamlot Village Chief's residence	33	18
Cham Slar	Chi Phat	Thmor Bang	18/02/2022	Kingdergarten at Cham Slar Village	46	34
Chi Phat	Chi Phat	Thmor Bang	19/02/2022	Om Louy's residence at Chi Phat village	29	17
Teuk L'ark	Chi Phat	Thmor Bang	19/02/2022	Teuk L'ark Pagoda	22	15
Krang Chek	Chambak	Phnom Srouch	21/02/2022	Chambak Dangkom Almshouse	41	29
Ramieng Sa	Ta Sal	Aoral	22/02/2022	Ramieng Sa Village Hall	47	24
Chi Meal	Andong Teuk	Botum Sakor	03/03/2022	Mrs. Heng Nget's residence at Chi Meal village	52	31



Location	Commune	District	Date	Place	Total Pa	articipants
					Total	Female
Chambok	Chamok	Phnom Srouch	06/03/2022	Village meeting hall	42	28
Chi Phat	Chi Phat	Thmor Bang	10/04/2022	Mr. Chen Kmao's residence at Chi Phat village	27	14
Chorm Sla	Chi Phat	Thmor Bang	21/02/2023	Mr. Oung Srang's residence at Chorm Sla village	32	18
Komlot	Chi Phat	Thmor Bang	23/02/2023	Mr. Mouen's residence at Komlot village	39	27
Teuk Laak	Chi Phat	Thmor Bang	27/02/2023	Chi Phat pagoda	33	21
Chrak Russei	Chumnob	Thmor Bang	01/03/2023	Chumbob commune hall	28	27
Chumnob	Chumnob	Thmor Bang	09/03/2023	Chumbob commune hall	25	11
Bak Angrout	Dang Peng	Sre Ambel	11/03/2023	Bak Angrout primary school	59	39
Pur Boeng (Chhay Reab)	Dang Peng	Sre Ambel	15/03/2023	Chhay Reab pagoda	36	13
Pur Boeng (Komlot)	Dang Peng	Sre Ambel	23/03/2023	Komlot pagoda	31	11
Sovanna Baitang	Kondoul	Botum Sakor	27/03/2023	Sovanna Baitong community meeting hall	48	28
O'Som	O'Som	Veal Veng	27/03/2023	O'som commune hall	31	16
Chhay louk	O'Som	Veal Veng	28/03/2023	Village chief's house	55	32
Kien Chungruk	O'Som	Veal Veng	29/03/2023	Mr. Sao Nuth's residence at Kien Chungruk village	33	10



Location	Commune	District	Date	Place	Total Pa	ırticipants
					Total	Female
Samrong	Pralay	Thmor Bang	30/03/2023	Samrong village chief's house	30	17
Top Khley	Pralay	Thmor Bang	03/04/2023	Village Member's residence	18	12
Chamnar	Pralay	Thmor Bang	07/04/2023	Chamnar Village Chief's residence	20	12
Pralay	Pralay	Thmor Bang	08/04/2023	Pralay village chief's residence	34	17
Korki Chrum	Russei Chrum	Thmor Bang	09/04/2023	Russei Chrum commune hall	64	40
Trapeang Chheutrav	Russei Chrum	Thmor Bang	10/04/2023	Russei Chrum commune hall	35	19
Romeang Sar	Tasal	Aoral	25/04/2023	Village meeting hall	50	36
Koh Andet	Tatai Krom	Koh Kong	26/04/2023	Koh Andet pagoda	23	14
Anlong Vak	Tatai Krom	Koh Kong	26/04/2023	Tatai pagoda	34	19
Prek Svay	Thmor Dunpov	Thmor Bang	27/04/2023	Thmor Dunpov commune hall	22	10
Koh	Thmor Dunpov	Thmor Bang	28/04/2023	Koh primary school	21	11
Trapeang Rung	Trapeang Rung	Koh Kong	01/05/2023	Village Member's residence	25	8
Veal Tapou	Trapeang Rung	Koh Kong	04/05/2023	Village meeting hall	32	14
Dey Tumneab	Trapeang Rung	Koh Kong	10/05/2023	Trapeang Rung pagoda	31	20
Consultation Total						1030

Table 2.9 Number of FPIC attendees 2022-2023.

Commune	2022	2023
Pralay	145	102



Commune	2022	2023
Chumnoab	74	53
O'Som	86	43
Thmor Dunpove	66	157
Pur Beung (Chhay Reab)	43	97
Chi Phat	29	114
Cheam Sla	46	78
Bak Angrout	40	90
Komlot	33	126
Chi Meal	27	71
Pur Beung (Komlot)	44	73
Chambak	41	42
Sovana Baitong	66	48
Tuek Laak	22	33
Romiang Sar	47	50
Total	809	766

#### 2.5.8 Property Right Protection (VCS, 3.18, 3.19; CCB, G5.3)

Since the beginning of project implementation, the SCRP does not require involuntary removal or relocation of communities or any activities important for their livelihood and culture. Until the current monitoring period (M4), no project activities have been identified as requiring the relocation of property rights holders from their lands and territories.

#### 2.5.9 Identification of Illegal Activity (VCS, 3.19, CCB, G5.4)

The Project Area is comprised of two protected areas under the jurisdiction of the MOE, and as such is protected from deforestation activities. Under the Cambodian Land Law and Forestry Law, the forest should be protected from resource extraction or conversion to other land uses. However, these activities are commonly observed to be occurring, including illegal logging, charcoal production, poaching for meat, and conversion of forestland through slash and burn to agricultural land. These activities are all illegal under current law, and despite the MOE's best efforts at controlling them to date, they are still widely and openly occurring.



All the above illegal activities could have negative effects on the SCRP's climate and biodiversity goals. The SCRP has designed to expand the government ranger force, strengthen all community organizations, including Indigenous peoples' organizations, promote agricultural intensification, microfinance, and strengthen forest land use planning and secure forest land tenure, eco-charcoal, and income generating activities, such as the resin enterprise as well as deforestation-free commodities in the Project design to reduce the occurrence of these illegal activities. Additionally, increasing the Project's efforts to confiscate chainsaws and other logging equipment being used illegally within the PA will reduce illegal activities. The strengthening of community organizations will give local organizations the ability to protect community lands and stop the flow of migrants into the PA. By conducting training on agricultural intensification, providing micro-finance, and supporting local businesses, the goal is to generate alternative income to abate illegal activities within the PA. The aim is that the diversification of incomes will overtime shift the local economy from one unsustainable to another sustainable use.

The activities developed by the SCRP comply with the Cambodian regulatory framework and will not generate conduct contrary to law. When selecting personnel for the development of the Project activities, SCRP respects the personnel selection policy and guarantees that the Project activities will not generate human trafficking, forced labor, or child labor.

#### 2.5.10 Ongoing Disputes (VCS, 3.18, 3.19; CCB, G5.5)

There are some minor conflicts or disputes in the SCRP Project Zone between the communities. Some communities have had minor conflicts or disputes over the land, territory, or resources in the Project Area during the last 20 years, all based on uncertain land tenure rights. This has been especially true in the Project community of Teuk Laak. Additionally, illegal land clearing and intrusion by outsiders has and continues to occur, causing some levels of conflicts between specific local individuals and the MOE.

The Project has committed to working with these communities to identify the boundaries of their lands, and to assist them in acquiring official tenure for them. One of the Project Activities (detailed in the SCRP PD Section 2.1.11) that has been implemented is specifically targeted at helping these communities to accomplish this task. These activities are designed to enable communities to collect the evidence needed to prove ownership of their lands and gain tenure. Therefore, there is no potential for the Project to prejudice any decision or outcome of a dispute through its activities, as the determination of land tenure and resolution of any disputes over tenure is made by the relevant RGC land registry ministry in accordance with national and local laws.

Refer to Section 4.3.1 of the MR for additional information on the Participatory Land Use Planning activities carried out by the SCRP, including land-use planning activities implemented during M4 monitoring period. In addition, supporting documentation on the six Participatory Land Use Planning Meetings held during the fourth monitoring period was made available to the verifier.



## 3 CLIMATE

### 3.1 Monitoring GHG Emission Reductions and Removals

### 3.1.1 Data and Parameters Available at Validation (VCS, 3.16)

Data Unit / Parameter:	RL
Data unit:	Percent
Description:	The deforestation rate for Cambodia
Source of data:	Reference area and historic reference period
Value applied:	2.38
Justification of choice of data or description of measurement methods and procedures applied:	Data source is the Royal Government of Cambodia Ministry of Environment submission to the UNFCCC technical committee (Ministry of Environment, 2016)
Purpose of Data:	Determination of baseline scenario
Any comment:	Based on Cambodian national forest reference emission level (FREL) data.

Data Unit / Parameter:	α
Data unit:	unitless
Description:	Effect of time on the cumulative proportion of conversion over time for the Project Accounting Area
Source of data:	Reference area and historic reference period
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Time and place in which the logistic model is fit
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not Used

Data Unit / Parameter:	β



Data unit:	unitless
Description:	Effect of time on the cumulative proportion of conversion over time for the Project Accounting Area
Source of data:	Reference area and historic reference period
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Time and place in which the logistic model is fit
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not Used

Data Unit / Parameter:	γ
Data unit:	days
Description:	Time shift from beginning of historic reference period to project start date
Source of data:	Historic reference period
Value applied:	
Justification of choice of data or description of measurement methods and procedures applied:	Time in which the logistic model is fit.
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not Used

Data Unit / Parameter:	$oldsymbol{ heta}$
Data unit:	unitless
Description:	Effect of certain covariates on the cumulative proportion of conversion over time
Source of data:	Reference area and historic reference period
Value applied:	N/A



Justification of choice of data or description of measurement methods and procedures applied:	Time and place in which the logistic model is fit
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used

Data Unit / Parameter:	$\lambda_{SOC}$
Data unit:	proportion (unitless)
Description:	Exponential soil carbon decay parameter
Source of data:	Value from literature: Davidson, E., and Ackerman, I. 1993. Changes in soil carbon inventories following cultivation of previously untilled soils. Biogeochemistry, 20(3), 161-193.
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Soil carbon is not an included carbon pool.
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not Used

Data Unit / Parameter:	$\widehat{\sigma}_{EM}$
Data unit:	standard deviation (unitless)
Description:	The estimated standard deviation of the state observations used to fit the logistic function for the Project Accounting Area BEM
Source of data:	Remote sensing image interpretation
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	As the BEM is not used for the determination of the baseline scenario this parameter cannot be calculated.
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not Used



Data Unit / Parameter:	$\mathcal{B}$
Data unit:	set
Description:	The set of all selected carbon pools in biomass. Is a subset of $\ensuremath{\mathcal{C}}$
Source of data:	PD
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. These measurements were established at validation.
Purpose of Data:	Determination of baseline scenario
Any comment:	

Data Unit / Parameter:	c
Data unit:	set
Description:	The set of all selected carbon pools
Source of data:	Monitoring records
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement.
Purpose of Data:	Calculation of baseline emissions
Any comment:	

Data Unit / Parameter:	I
Data unit:	set



Description:	The set of all observations of conversion. When superscripted with a monitoring period, the conversion observations are taken for leakage analysis.
Source of data:	Remote sensing image interpretation or field observations in the leakage area.
Value applied:	N/A
Justification of choice of	N/A
data or description of	
measurement methods	
and procedures applied:	
Purpose of Data:	Calculation of baseline emissions
Any comment:	Parameter not Used as the BEM is not used, and leakage monitoring does not utilize remote sensing methods.

Data Unit / Parameter:	${\mathcal M}$
Data unit:	set
Description:	The set of all monitoring periods
Source of data:	Monitoring records
Value applied:	N/A
Justification of choice of	N/A
data or description of	
measurement methods	
and procedures applied:	
Purpose of Data:	Calculation of baseline emissions
Any comment:	

Data Unit / Parameter:	${\mathcal T}$
Data unit:	ha
Description:	The set of all species/categories of livestock
Source of data:	Monitoring records
Value applied:	N/A
Justification of choice of	N/A
data or description of	



measurement methods and procedures applied:	
Purpose of Data:	Determination of baseline emissions
Any comment:	Parameter not used

Data Unit / Parameter:	$A_{PAA}$
Data unit:	ha
Description:	Area of Project Accounting Area
Source of data:	GIS analysis prior to sampling
Value applied:	442,870.85
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. Measurements were established at validation.
Purpose of Data:	Calculation of baseline emissions
Any comment:	

Data Unit / Parameter:	$A_{PX}$
Data unit:	ha
Description:	Area of proxy area for the Project Accounting Area
Source of data:	GIS analysis prior to sampling
Value applied:	27,717.7
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. Measurements were established at validation.
Purpose of Data:	Calculation of baseline emissions
Any comment:	



Data Unit / Parameter:	$A_{ASL}$
Data unit:	ha
Description:	Area of the Activity Shifting Leakage Area
Source of data:	GIS analysis prior to sampling
Value applied:	43,883
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 and the SCRP's standard operating procedure Annex 07 - Standard Operating Procedure_Densiometer Forest Leakage. Wildlife Works was responsible for the measurement. Measurements were established at validation.
Purpose of Data:	Calculation of baseline emissions
Any comment:	Immaterial to measurement of emissions from activity-shifting leakage.

Data Unit / Parameter:	$c_{Lp}$
Data unit:	tCO <sub>2</sub> e/ha
Description:	Carbon stocks in project leakage area
Source of data:	Leakage area sampling
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	N/A
Purpose of Data:	Calculation of baseline emissions
Any comment:	Parameter not used
Data Unit / Parameter:	$f_{LSi}$
Data unit:	kg CH4 head <sup>-1</sup> yr <sup>-1</sup>



Description:	Emission factor for the defined livestock population, $\emph{i}$
Source of data:	IPCC default values
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Obtained directly from IPCC default values
Purpose of Data:	Determination of baseline emissions
Any comment:	Parameter not used

Data Unit / Parameter:	m
Data unit:	tCO <sub>2</sub> e/ha
Description:	Average carbon in merchantable trees cut each year as a result of legally sanctioned commercial logging
Source of data:	Timber harvest plans or measurement of carbon stocks in merchantable trees in the Project Accounting Area.
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Should use the most accurate of the two data sources if both are available
Purpose of Data:	Determination of baseline emissions
Any comment:	Parameter not used

Data Unit / Parameter:	$n_d$
Data unit:	unitless
Description:	Number of spatial points in the Forest Project Accounting Area reference area
Source of data:	Remote sensing image interpretation
Value applied:	N/A
Justification of choice of data or description of	N/A



measurement methods and procedures applied:	
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used as BEM was not used.

Data Unit / Parameter:	$o_i$
Data unit:	unitless
Description:	State observation for the $i^{th}$ sample point in the Project Accounting Area reference area
Source of data:	Remote sensing image interpretation
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	N/A
Purpose of Data:	Calculation of baseline emissions
Any comment:	Parameter not used as BEM was not used.

Data Unit / Parameter:	$p_{_{LME}}$
Data unit:	unitless
Description:	Portion of leakage related to market
Source of data:	VCS methodology VM0009 Section 8.3.3
Value applied:	0.67
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. Measurements established at validation.
Purpose of Data:	Calculation of leakage
Any comment:	



Data Unit / Parameter:	q
Data unit:	days
Description:	Lag between start of degradation and conversion
Source of data:	Expert knowledge, results from the PRA or reports from peer- reviewed literature
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Commonly accepted methods in the social sciences, choice determined and justified by Project Proponent
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used

Data Unit / Parameter:	r <sub>CF b</sub>
Data unit:	unitless
Description:	Carbon fraction of biomass for burned wood or herbaceous material $\boldsymbol{b}$
Source of data:	Literature estimates or direct measurement
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	No burning of wood or herbaceous material in project
Purpose of Data:	Calculation of baseline emissions
Any comment:	Parameter not used

Data Unit / Parameter:	$r_{ m \scriptscriptstyle RS}$
Data unit:	unitless
Description:	Expansion factor for above-ground biomass to below-ground biomass (root/shoot ratio)
Source of data:	IPCC Guidelines for National Greenhouse Gas Inventories, 2006, Volume 4: Agriculture, Forestry and Other Land Use, Chapter 4: Forest Land, Table 4.4



Value applied:	0.37
Justification of choice of data or description of measurement methods and procedures applied:	IPCC default value for Tropical rainforest
Purpose of Data:	Calculation of baseline emissions
Any comment:	

Data Unit / Parameter:	$r_{\scriptscriptstyle U}$
Data unit:	unitless
Description:	Onset proportion of conversion immediately adjacent to project area
Source of data:	GIS analysis and image interpretation
Value applied:	19.06%
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 section 6.17 and the SCRP's standard operating procedures. Wildlife Works was responsible for the measurement. Measurements established at validation.
Purpose of Data:	Determination of baseline scenario
Any comment:	

Data Unit / Parameter:	t
Data unit:	days
Description:	Time since project start date
Source of data:	Monitoring records
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	N/A
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used



Data Unit / Parameter:	$t_i$
Data unit:	days
Description:	The point in time of the observation made at point $\emph{i}$
Source of data:	Remote sensing image interpretation
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	N/A
	Determination of baseline scenario
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used

Data Unit / Parameter:	$oldsymbol{t}_{PA}$
Data unit:	days
Description:	Time prior to the Project Start Date when the primary agent began commercial logging in the Project Accounting Area.
Source of data:	Harvest plans prepared for the Project Accounting Area, or by public record
Value applied:	N/A
Justification of choice of	N/A
data or description of	
measurement methods and procedures applied:	
and procedures applica.	
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used

Data Unit / Parameter:	$t_m$
Data unit:	days
Description:	Length of project or logging in baseline scenario
Source of data:	PD
Value applied:	N/A



Justification of choice of data or description of measurement methods and procedures applied:	N/A
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used

Data Unit / Parameter:	$t_{PL}$
Data unit:	days
Description:	Length of project crediting period
Source of data:	PD
Value applied:	10,957
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 section 6 and the SCRP's standard operating procedures. Wildlife Works was responsible for the measurement. Measurement established at validation.
Purpose of Data:	Determination of baseline scenario
Any comment:	

Data Unit / Parameter:	$t_{PAI}$
Data unit:	days
Description:	Number of days after the project start date for the start of a project activity instance in a grouped project
Source of data:	PD
Value applied:	N/A
Justification of choice of	N/A
data or description of	
measurement methods	
and procedures applied:	
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used



Data Unit / Parameter:	$t_{SA}$
Data unit:	days
Description:	Arrival of secondary agents after start of commercial logging
Source of data:	Participatory rural appraisal, or expert knowledge
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Should use the most accurate of the data sources if both are available
Purpose of Data:	N/A
Any comment:	Parameter not used

Data Unit / Parameter:	$w_i$
Data unit:	unitless
Description:	weight applied to the $i^{th}$ sample point in the Project Accounting Area reference area
Source of data:	Remote sensing image interpretation
Value applied:	N/A
Justification of choice of	N/A
data or description of	
measurement methods	
and procedures applied:	
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used as BEM not used

Data Unit / Parameter:	x
Data unit:	unitless
Description:	Covariate values
Source of data:	Participatory Rural Appraisal, analysis of public records, and/or expert interpretation of inventory data or remotely sensed imagery
Value applied:	N/A



Justification of choice of data or description of measurement methods and procedures applied:	Should use the most accurate of the data sources if both are available
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used as BEM not used

Data Unit / Parameter:	$x_i$
Data unit:	geographic coordinates
Description:	Latitude of the $i^{th}$ sample point
Source of data:	Remote sensing image interpretation
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	N/A
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used as BEM not used

Data Unit / Parameter:	$x_o$
Data unit:	unitless
Description:	Covariate values as of the project start date
Source of data:	Participatory Rural Appraisal, analysis of public records, and/or expert interpretation of inventory data or remotely sensed imagery
Value applied:	
Justification of choice of data or description of measurement methods and procedures applied:	Should use the most accurate of the data sources if both are available
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used as BEM not used



Data Unit / Parameter:	$x_{SA}$
Data unit:	unitless
Description:	Covariate values as of the arrival of the secondary agents
Source of data:	Participatory Rural Appraisal, analysis of public records, and/or expert interpretation of inventory data or remotely sensed imagery
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	Should use the most accurate of the data sources if both are available
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used as BEM not used

Data Unit / Parameter:	$y_i$
Data unit:	geographic coordinates
Description:	Longitude of the $i^{th}$ sample point
Source of data:	Remote sensing image interpretation
Value applied:	N/A
Justification of choice of data or description of measurement methods and procedures applied:	N/A
Purpose of Data:	Determination of baseline scenario
Any comment:	Parameter not used as BEM not used

Data Unit / Parameter:	$\mathcal{Y}_{j,t}$
Data unit:	Tonne / ha
Description:	Yield for non-aromatic rice
Source of data:	literature
Value applied:	3.117



Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the World Bank and Royal Government of Cambodia. Wildlife Works was responsible for gathering this parameter from the literature. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$\mathcal{Y}_{j,t}$
Data unit:	Tonne / ha
Description:	Yield for maize
Source of data:	Cambodian Agriculture in Transition: Opportunities and Risks. Economic and Sector Work, Report no 96308-KH
Value applied:	4.414
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the World Bank and Royal Government of Cambodia. Wildlife Works was responsible for gathering this parameter from the literature. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	${oldsymbol y}_{j,t}$
Data unit:	Tonne / ha
Description:	Yield for pumpkins (value for vegetables used)
Source of data:	Cambodian Agriculture in Transition: Opportunities and Risks. Economic and Sector Work, Report no 96308-KH
Value applied:	7.597
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the World Bank and Royal Government of Cambodia. Wildlife Works was responsible for gathering this parameter from the literature. All measurements were made between 2018 and 2020. Accuracy



	level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$\mathcal{Y}_{j,t}$
Data unit:	m <sup>3</sup> / ha
Description:	Yield for sawlog
Source of data:	Forest Degradation in Cambodia: An Assessment of Monitoring Options in the Central Cardamom Protected Forest. Halperin and Turner (2013)
Value applied:	525
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the World Bank and Royal Government of Cambodia. Wildlife Works was responsible for gathering this parameter from the literature. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	Н
Data unit:	Number
Description:	Number of historical reference years
Source of data:	Jurisdictional program description or based on data availability
Value applied:	1
Justification of choice of	The project's historical reference period is 2006-2014. The
data or description of	commodity yield data sources were limited to that of 2012 and
measurement methods and	2013. Justification of the accuracy and conservativeness of this
procedures applied:	data has been provided to the auditor.
Purpose of Data:	Calculation of leakage
Any comment:	



Data Unit / Parameter:	$r_{j}$
Data unit:	%
Description:	Annual percent increase in yield
Source of data:	VCS VMD0037 Global Commodity Leakage Module: Production Approach
Value applied:	2.5
Justification of choice of data or description of measurement methods and procedures applied:	This parameter is the default value for the annual percent increase in yield for a country. Wildlife Works was responsible for gathering this parameter from the literature. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$PD_{j}$
Data unit:	%
Description:	Percent of area where deforestation was avoided that would have been used for production of non-aromatic rice
Source of data:	Census of Agriculture in Cambodia 2013, National Institute of Statistics, Ministry of Planning in Collaboration with Ministry of Agriculture, Forestry and Fisheries
Value applied:	95
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the World Bank and Royal Government of Cambodia. Wildlife Works was responsible for gathering this parameter from the literature. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$PD_{j}$
Data unit:	%



Description:	Percent of area where deforestation was avoided that would have been used for production of maize.
Source of data:	Census of Agriculture in Cambodia 2013, National Institute of Statistics, Ministry of Planning in Collaboration with Ministry of Agriculture, Forestry and Fisheries
Value applied:	3
Justification of choice of	This parameter was calculated using data from the World Bank
data or description of	and Royal Government of Cambodia. Wildlife Works was
measurement methods and	responsible for gathering this parameter from the literature. All
procedures applied:	measurements were made between 2018 and 2020. Accuracy
	level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$PD_{j}$
Data unit:	%
Description:	Percent of area where deforestation was avoided that would have been used for production of pumpkins.
Source of data:	Census of Agriculture in Cambodia 2013, National Institute of Statistics, Ministry of Planning in Collaboration with Ministry of Agriculture, Forestry and Fisheries
Value applied:	2
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the World Bank and Royal Government of Cambodia. Wildlife Works was responsible for gathering this parameter from the literature. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$PD_{j}$
Data unit:	%



Description:	Percent of area where deforestation was avoided that would have been used for production of sawlogs.
Source of data:	Census of Agriculture in Cambodia 2013, National Institute of Statistics, Ministry of Planning in Collaboration with Ministry of Agriculture, Forestry and Fisheries
Value applied:	100
Justification of choice of	This parameter was calculated using data from the World Bank
data or description of	and Royal Government of Cambodia. Wildlife Works was
measurement methods and	responsible for gathering this parameter from the literature. All
procedures applied:	measurements were made between 2018 and 2020. Accuracy
	level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	IS
Data unit:	%
Description:	Proportion of leakage resulting in increased supply outside the jurisdiction
Source of data:	VCS Global Leakage Module VMD0037 Default value
Value applied:	75
Justification of choice of	This parameter is the default value as required by the VCS
data or description of	Global Leakage module VMD0037. For background information
measurement methods and	on the default value see Appendix 2.
procedures applied:	
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	NL
Data unit:	%
Description:	Proportion of increased supply coming from new land brought into production
Source of data:	VCS Global Leakage Module VMD0037 Default value
Value applied:	40



Justification of choice of data or description of measurement methods and	This parameter is the default value as required by the VCS Global Leakage module VMD0037. For background information on the default value see Appendix 2.
procedures applied:	
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	NLD
Data unit:	%
Description:	Proportion of new land brought into agricultural production resulting in deforestation
Source of data:	VCS Global Leakage Module VMD0037 Default value
Value applied:	100
Justification of choice of	This parameter is the default value as required by the VCS
data or description of	Global Leakage module VMD0037. For background information
measurement methods and	on the default value see Appendix 2.
procedures applied:	
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$d_d$
Data unit:	ha
Description:	Cambodia area of deforestation 2006-2014
Source of data:	Data source is the Royal Government of Cambodia Ministry of Environment submission to the UNFCCC technical committee (Ministry of Environment, 2016)
Value applied:	2,313,554
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the Royal Government of Cambodia. Wildlife Works was responsible for the measurement. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage



Any comment:	In the M2 MR, the value for this parameter was incorrectly reported as reported as 2,319,087 ha. The Total Deforested Area in Cambodia (2006-2014) was miscalculated in the previous monitoring period (M2). Previously, the value was determined by calculating the difference between the total nonforested area in 2006 and the total nonforested area in 2014. It has since been corrected to calculate the difference between total forested area in 2006 and total forested area in 2014. No downstream calculations were affected because of this correction as the deforestation rate (%) was previously calculated correctly.
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Data Unit / Parameter:	${g}_d$
Data unit:	ha
Description:	Global deforestation 2006-2014
Source of data:	FAOSTAT, Food and Agriculture Organization
Value applied:	104,036,361.40
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the FAO Stat data service. Wildlife Works was responsible for gathering this parameter from the online database. All measurements were made from the period 2006 to 2014. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$d_{cs}$
Data unit:	Tonnes C
Description:	Cambodia at-risk carbon stock
Source of data:	Data source is the Royal Government of Cambodia Ministry of Environment submission to the UNFCCC technical committee (Ministry of Environment, 2016)
Value applied:	193,796,061.55
Justification of choice of data or description of	This parameter was calculated using data from the Royal Government of Cambodia. Wildlife Works was responsible for the measurement. All measurements were made between 2018



measurement methods and procedures applied:	and 2020. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	Calculation of leakage
Any comment:	

Data Unit / Parameter:	$g_{cs}$
Data Unit	Tonnes C
Description:	Global at-risk carbon stock
Source of data:	FAOSTAT, Food and Agriculture Organization
Value applied:	8,638,799,429.73
Justification of choice of data or description of measurement methods and procedures applied:	This parameter was calculated using data from the FAO Stat data service. Wildlife Works was responsible for gathering this parameter from the online database. All measurements were made from the period 1961 to 2018. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Purpose of Data:	This parameter was calculated using data from the FAO Stat data service. Wildlife Works was responsible for gathering this parameter from the online database. All measurements were made from the period 2006 to 2014. Accuracy level achieved is good and is associated with the quality of the of the underlying data and calculations.
Any comment:	Calculation of leakage
Description:	

Data Unit / Parameter:	$R_d$
Description:	ha
Source of data:	Cambodia area in other REDD+ Projects
Value applied:	The relevant Project Documents for each REDD+ project
Justification of choice of data or description of measurement methods and procedures applied:	N/A
Purpose of Data:	N/A



Any comment:	Calculation of leakage
Description:	Parameter not used. Conservative default value from VMD00037 used.

Data Unit / Parameter:	$R_{cs}$
Description:	ha
Source of data:	Cambodia carbon stock in other REDD+ Projects
Value applied:	The relevant Project Documents for each REDD+ project
Justification of choice of	N/A
data or description of	
measurement methods and	
procedures applied:	
Purpose of Data:	N/A
Any comment:	Calculation of leakage
Description:	Parameter not used. Conservative default value from VMD00037 used.

## 3.1.2 Data and Parameters Monitored (VCS, 3.16)

MRR.85 List of parameters from Appendix H, their values and the time last measured.

MRR.86 Quality assurance and quality control measures employed for each.

MRR.87 Description of the accuracy of each.

Data Unit / Parameter:	$\mathcal{W}^{[m]}$
Data unit:	set
Description:	The set of all burned wood or herbaceous material
Source of data:	Monitoring records
Description of measurement methods and procedures to be applied:	N/A
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A



QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of project emissions
Calculation method:	N/A
Any comment:	Parameter not used

Data Unit / Parameter:	$A_{B\ \Delta\ PAA}^{[m]}$
Data unit:	ha
Description:	Area of avoided conversion
Source of data:	Generated from equation
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.3.3.4
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of project emissions
Calculation method:	Equation [F.52]
Any comment:	Parameter not used as BEM not used

Data Unit / Parameter:	$A_{P1}^{[m=0]}$
Data unit:	ha
Description:	Area of Project Accounting Area stratum 1 prior to first verification event – Evergreen Forest
Source of data:	GIS analysis prior to sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 section 6.2. Wildlife Works was responsible for the measurement. Measurements were made prior to the first verification event. Accuracy level achieved is good and is associated



	with the limits of Arc GIS software and quality of the shapefiles.
Frequency of monitoring/recording:	First monitoring period
Value monitored:	424,910.65
Monitoring equipment:	Computer with ArcGIS software
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 and the VCS standard. This includes a review of the GIS products and visual assessments of the accuracy of the shapefiles.
Purpose of data:	Calculation of baseline emissions
Calculation method:	GIS analysis
Any comment:	

Data Unit / Parameter:	$A_{P2}^{[m=0]}$
Data unit:	ha
Description:	Area of Project Accounting Area stratum 2 prior to first verification event – Deciduous Forest
Source of data:	GIS analysis prior to sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 section 6.2. Wildlife Works was responsible for the measurement. Measurements were made prior to the first verification event. Accuracy level achieved is good and is associated with the limits of ArcGIS software and quality of the shapefiles.
Frequency of monitoring/recording:	First monitoring period
Value monitored:	17,792.63
Monitoring equipment:	Computer with ArcGIS software
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 and the VCS standard. This includes a review of the GIS products and visual assessments of the accuracy of the shapefiles.



Purpose of data:	Calculation of baseline emissions
Calculation method:	GIS analysis
Any comment:	

Data Unit / Parameter:	$A_{P3}^{[m=0]}$
Data unit:	ha
Description:	Area of Project Accounting Area stratum 3 prior to first verification event – Out Area
Source of data:	GIS analysis prior to sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 section 6.2. Wildlife Works was responsible for the measurement. Measurements were made prior to the first verification event. Accuracy level achieved is good and is associated with the limits of Arc GIS software and quality of the shapefiles.
Frequency of monitoring/recording:	First monitoring period
Value monitored:	167.56
Monitoring equipment:	Computer with ArcGIS software
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 and the VCS standard. This includes a review of the GIS products and visual assessments of the accuracy of the shapefiles.
Purpose of data:	Calculation of baseline emissions
Calculation method:	GIS analysis
Any comment:	

Data Unit / Parameter:	$m{B}_b^{[m]}$
Data unit:	tonnes
Description:	Biomass in burned wood or herbaceous material b
Source of data:	Measurements of biomass



Description of measurement methods and procedures to be applied:	Scale
Frequency of monitoring/recording:	Every monitoring period
monitoring/recording.	
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Summation
Any comment:	Parameter not used as there is no biomass burning in Project

Data Unit / Parameter:	$\mathcal{C}_B^{[m]}$
Data unit:	tCO <sub>2</sub> e/ha
Description:	Baseline carbon stocks at the end of the current monitoring period for the Project Accounting Area
Source of data:	Proxy Area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Section 6.4 and Appendix B.4 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2017-2018. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	1.61
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the



	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations [F.2],[F.3],[F.4],[F.5],[F.6],[F.7],[F.57]
Any comment:	

Data Unit / Parameter:	${\cal C}^{[m]}_{BBGB}$
Data unit:	tCO <sub>2</sub> e
Description:	Carbon not decayed in BGB at the end of the current monitoring period
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 v3 Section 8.1.4
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.16]
Any comment:	Parameter omitted due to superseding of BEM by national FREL

Data Unit / Parameter:	${\cal C}_{BDW}^{[m]}$
Data unit:	tCO <sub>2</sub> e
Description:	Carbon not decayed in DW at the end of the current monitoring period
Source of data:	Proxy area sampling



Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 v3 Section 8.1.3
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.16]
Any comment:	Carbon pool not included

Data Unit / Parameter:	$\mathcal{C}_{BSOC}^{[m]}$
Data unit:	tCO <sub>2</sub> e
Description:	Carbon not decayed in SOC at the end of the current monitoring period
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.5
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	[F.16]
Any comment:	Carbon pool not included

Data Unit / Parameter:	$C_{B\ WP}^{[m]}$
Data unit:	tCO <sub>2</sub> e



Description:	Carbon not decayed in WP at the end of the current monitoring period
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Appendix C
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [C.1], [F.16]
Any comment:	Carbon pool not included

Data Unit / Parameter:	$C_{B\ AGMT}^{[m]}$
Data unit:	tCO <sub>2</sub> e/ha
Description:	Baseline carbon stocks in above-ground merchantable trees at the end of the current monitoring period
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 v3 Appendix B.2.1
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Weighted per ha average. Equations: [F.37],[F.38],[F.39],[F.40]
Any comment:	Carbon pool not included



Data Unit / Parameter:	${\cal C}_{B\ BGMT}^{[m]}$
Data unit:	tCO <sub>2</sub> e/ha
Description:	Baseline carbon stocks in below-ground merchantable trees at the end of the current monitoring period
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 v3 Appendix B.2.1
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Weighted per ha average. Equations: [F.37],[F.38],[F.39],[F.40]
Any comment:	Carbon pool not included

Data Unit / Parameter:	$C^{[m=0]}_{PAGMT}$
Data unit:	tCO <sub>2</sub> e
Description:	Project carbon stocks in above-ground merchantable trees at project start
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 v3 Appendix B.2.1
Frequency of monitoring/recording:	At project start
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records



Purpose of data:	Calculation of baseline emissions
Calculation method:	Summation across plots. Equation [F.1]
Any comment:	Carbon pool not included

Data Unit / Parameter:	$C_{P\ BGMT}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e
Description:	Project carbon stocks in below-ground merchantable trees at project start
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 v3 Appendix B.2.3
Frequency of monitoring/recording:	At project start
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Summation across plots. Equation: [F.1]
Any comment:	Carbon pool not included

Data Unit / Parameter:	$c_{Bb}^{[m]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Baseline scenario average carbon stock in selected carbon pools
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.1.5 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible



	for the measurement. All measurements were made in 2017 and 2018. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	1.61
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations [F.18] and [F.24]
Any comment:	

Data Unit / Parameter:	$c_{B\;BM}^{[m]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Baseline carbon stocks in biomass at the end of the current monitoring period for the Project Accounting Area
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.1.1.1 and Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2017 and 2018. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period



Value monitored:	1.61
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.19],[F.20],[F.21],[F.24],[F.52]
Any comment:	

Data Unit / Parameter:	$c_{B SOC}^{[m]}$
Data unit:	tCO2e/ha
Description:	Baseline soil carbon stocks at the end of the current monitoring period for the Forest Project Accounting Area
Source of data:	Proxy area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 v3 Appendix B.2.6
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.25],[F.27],[F.28]
Any comment:	Carbon pool not included in the Project

Data Unit / Parameter:	$c_p^{[m]}$
Data unit:	tCO <sub>2</sub> e / ha



Description:	Project carbon stocks at the end of the current monitoring period for the Forest Project Accounting Area
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.1.5 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	405.66
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [B.33],[F.41],[F.57]
Any comment:	

Data Unit / Parameter:	$c_p^{[m-1]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks at the beginning of the current monitoring period
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix



	B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2020 and 2021. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior monitoring period
Value monitored:	422.65
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [B.33],[F.41]
Any comment:	

Data Unit / Parameter:	$c_p^{[m=0]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks prior to first verification event for the Project Accounting Area
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made prior to the first verification event. Accuracy level achieved is



	good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior monitoring period
Value monitored:	425.31
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.7]
Any comment:	

Data Unit / Parameter:	$c_{P1BM}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 1 at Project start – Evergreen Forest
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made prior to the first verification event. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior to first monitoring event
Value monitored:	431.2



Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation: [F.24]
Any comment:	

Data Unit / Parameter:	$c_{P\ 2\ BM}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 2 at Project start – Deciduous Forest
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made prior to the first verification event. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior to first monitoring event
Value monitored:	285.38
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5%



	of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Average of plot measurements in a given stratum. Equations: [F.24]
Any comment:	

Data Unit / Parameter:	$c_{P\;3\;BM}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 3 at Project start – Out Area
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2018 and 2020. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior to first monitoring event
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Average of plot measurements in a given stratum. Equations: [F.24]



## Any comment:

## Strata was added in M2.

Data Unit / Parameter:	$c_{P1}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 1 at end of prior monitoring period – Evergreen Forest
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2020 and 2021. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	20% of biomass plots are remeasured annually
Value monitored:	428.87
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.23]
Any comment:	

Data Unit / Parameter:	$c_{P\ 2\ BM}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e / ha



Description:	Project carbon stocks in biomass in Project Accounting Area stratum 2 at the end of the prior monitoring period – Deciduous Forest
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2020 and 2021. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior to first monitoring event
Value monitored:	274.03
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Average of plot measurements in a given stratum. Equations: [F.19],[F.20],[F.21],[F.52]23]
Any comment:	

Data Unit / Parameter:	$c_{P3BM}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 3 at the end of the prior monitoring period Out Area
Source of data:	Project accounting area sampling



Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2020 and 2021. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior to first monitoring event
Value monitored:	0
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Average of plot measurements in a given stratum. Equations: [F.19],[F.20],[F.21],[F.52]23]
Any comment:	Strata was added in M2.

Data Unit / Parameter:	$c_{P1}^{[m=3]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 1 at end of the current monitoring period – Evergreen Forest
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure



	Cardamom – Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	20% of biomass plots are remeasured annually
Value monitored:	411.17
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.23]

Data Unit / Parameter:	$c_{p2}^{[m3]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 1 at end of current monitoring period – Deciduous Forest
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.



Frequency of monitoring/recording:	20% of biomass plots are remeasured annually
Value monitored:	274.01
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions.
Calculation method:	Average of plot measurements in a given stratum [F.23]
Any comment:	

Data Unit / Parameter:	$c_{P3}^{[m3]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in biomass in Project Accounting Area stratum 1 at end of current monitoring period – Out Area
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	20% of biomass plots are remeasured annually
Value monitored:	0
Monitoring equipment:	Equipment list in Annex 18



QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Average of plot measurements in a given stratum [F.23]
Any comment:	

Data Unit / Parameter:	$c_{PAGMT}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Project carbon stocks in above-ground merchantable trees prior to first verification event
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Appendix B.2.1
Frequency of monitoring/recording:	Prior to first monitoring event
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Average of plot measurements in a given stratum
Any comment:	Carbon pool not included

Data Unit / Parameter:	$c_{P\;BM}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e
Description:	Project carbon stocks in biomass prior to first verification event
Source of data:	Project accounting area sampling



Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom – Forest Inventory" and "Standard Operating Procedure Cardamom – Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made prior to the first verification event. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior to first monitoring event
Value monitored:	188,359,161.76
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.19], [F.20], [F.21], [F.52]
Any comment:	

Data Unit / Parameter:	$c_{P\ b}^{[m4]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Average carbon in biomass in the project accounting area
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is



	associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	405.66
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the
	document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations [F.17]
Any comment:	

Data Unit / Parameter:	$c_{Psoc}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e/ha
Description:	Project soil carbon stocks prior to first verification event in the Forest Project Accounting Area
Source of data:	Project Accounting Area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Appendix B.2.6
Frequency of monitoring/recording:	At Project Start
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of project emissions
Calculation method:	Average of plot measurements in a given stratum. Equations: [F.25],[F.27],[F.28]
Any comment:	Carbon pool not included in Project



Data Unit / Parameter:	$C^{[m4]}_{P_{\Delta}WP}$
Data unit:	tCO₂e
Description:	Project carbon stocks in wood products at the end of the current monitoring period
Source of data:	Project accounting area sampling
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Appendix C
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [C.2], [F.41]
Any comment:	Carbon pool not included in Project

Data Unit / Parameter:	$E_{\Delta\;GER}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	GERs for the current monitoring period
Source of data:	Area measurements
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.4.1 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom – Forest Inventory" and "Standard Operating Procedure Cardamom – Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.



Frequency of monitoring/recording:	Every monitoring period
Value monitored:	8,025,370
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of GER calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.55], [F.57]
Any comment:	

Data Unit / Parameter:	$E_{\Delta\;GER}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e
Description:	GERs for monitoring period $(m-1)$
Source of data:	Equation [F.54], measurements in the PAA and Proxy Area
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.4.1 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2021 and 2022. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior monitoring period
Value monitored:	4,271,282
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the



	document, "QA_QC Procedure Cardamom v1.6" This includes a review of GER calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.54]
Any comment:	

Data Unit / Parameter:	$E_{\Delta NER}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e
Description:	NERs for monitoring period $(m-1)$
Source of data:	Equation [F.56], measurements in the PAA and Proxy Area
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.4.3 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2021 and 2022. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	prior monitoring period
Value monitored:	3,841,272
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of NER calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation F.56



## Any comment:

Data Unit / Parameter:	$E_B^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions at the end of the current monitoring period
Source of data:	Equation [F.15], measurements in the PAA and Proxy Area
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.1 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	39,580,516
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.15]
Any comment:	

Data Unit / Parameter:	$E_B^{[m-1]}$
Data unit:	tCO <sub>2</sub> e



Description:	Cumulative baseline emissions at the beginning of the current monitoring period
Source of data:	Equation [F.15], measurements in the PAA and Proxy Area
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.1 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between 2021 and 2022. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior monitoring period
Value monitored:	31,071,237
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.15]
Any comment:	

Data Unit / Parameter:	$E_{B\;\Delta}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Change in baseline emissions
Source of data:	Proxy area measurement
Description of measurement	This parameter was measured in accordance with the
methods and procedures to be	VCS standard and AFOLU guidance, using the procedures
applied:	outlined in the VCS methodology VM0009 v3 section 8.1 and the SCRP's standard operating procedures



	"Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	8,509,279
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.9],[F.10],[F.14],[F.53],[F.57]
Any comment:	

Data Unit / Parameter:	$E_{B  \Delta  BGB}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e
Description:	Change in baseline emissions from below-ground biomass during monitoring period (m-1)
Source of data:	Monitoring the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Appendix B.2.3
Frequency of monitoring/recording:	Prior monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records



Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.32]
Any comment:	Parameter not used as BGB decay models are not used.

Data Unit / Parameter:	$E_{B \; \Delta \; DW}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e
Description:	Baseline emissions from dead wood from monitoring period (m-1)
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Appendix B.2.4 and B.2.5
Frequency of monitoring/recording:	Prior monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.36]
Any comment:	Parameter not used as carbon pool is not included

Data Unit / Parameter:	$E_{B\DeltaSOC}^{[m4]}$
Data unit:	tCO2e
Description:	Baseline change in emissions from soil carbon
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.2.1, 8.1.2.2, 8.1.2.3 and Appendix B.2.6
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A



Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.15], [F.33]
Any comment:	Parameter not used as carbon pool is not included

Data Unit / Parameter:	$E_{B  \Delta  SOC}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e
Description:	Baseline emissions from soil carbon in monitoring period (m-1)
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.2.1, 8.1.2.2, 8.1.2.3 and Appendix B.2.6
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.15], [F.33]
Any comment:	Parameter not used as carbon pool is not included

Data Unit / Parameter:	$E_{B\ AGMT}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions from above-ground commercial trees at the end of the current monitoring period
Source of data:	Measurements in the proxy area



Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.6.1, 8.1.6.2, 8.1.6.3
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.34], [F.51]
Any comment:	Parameter not used as BEM is not used

Data Unit / Parameter:	$E_{B\ BGB}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions from below-ground biomass at the end of the current monitoring period
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.4
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.31]
Any comment:	Parameter not used as BEM is not used

Data Unit / Parameter:	$E_{B\ BGB}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e



Description:	Cumulative baseline emissions from below-ground biomass at the beginning of the current monitoring period (m-1)
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.4
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.31]
Any comment:	Parameter not used as BEM is not used

Data Unit / Parameter:	$E_{B\ BM}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions from biomass at the end of the current monitoring period
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.1, 8.1.1.5.1  This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.1.1 and 8.1.1.5.1, and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made during 2018, 2019, 2020, 2021, 2022, and 2023.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	39,580,516
Monitoring equipment:	Equipment list in Annex 18



QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.16], [F.30], [F.52]
Any comment:	

Data Unit / Parameter:	$E_{B\ DW}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions from dead wood at the end of the current monitoring period
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.3
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.35]
Any comment:	Parameter not used as carbon pool is not included

Data Unit / Parameter:	$E_{B\ DW}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions from dead wood at the beginning of the current monitoring period
Source of data:	Measurements in the proxy area



Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.3
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.35]
Any comment:	Parameter not used as carbon pool is not included

Data Unit / Parameter:	$E_{BSOC}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions from soil carbon at the end of the current monitoring period
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.2.1, 8.1.2.2, 8.1.2.3
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.16], [F.26]
Any comment:	Parameter not used as carbon pool is not included

Data Unit / Parameter:	$E_{BSOC}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e



Description:	Cumulative baseline emissions from soil carbon at the end of the current monitoring period
Source of data:	Measurements in the proxy area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.2.1, 8.1.2.2, 8.1.2.3
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.26]
Any comment:	Parameter not used as carbon pool is not included

Data Unit / Parameter:	$E_{B\ ASF}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative baseline emissions from activity-shifting leakage
Source of data:	Royal Government of Cambodia Ministry of Environment submission to the UNFCCC technical committee (Ministry of Environment, 2016)
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.3.2, and B.2.9.  This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.3.2, and B.2.9., and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Leakage". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	3,794,237
Monitoring equipment:	Computer



QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured for comparison to initial sampling.
Purpose of data:	Calculation of leakage
Calculation method:	Section Error! Reference source not found.
Any comment:	This value represents the reference level for the activity shifting leakage area

Data Unit / Parameter:	$E_{BA}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative emissions allocated to the buffer account at the end of the current monitoring period
Source of data:	Monitoring records
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.4.4 and the SCRP's standard operating procedures. Wildlife Works was responsible for the measurement. All measurements were made between 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	4,224,911
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.55]



## Any comment:

Data Unit / Parameter:	$E_L^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative emissions from leakage at the end of the current monitoring period
Source of data:	Measurements in the leakage area(s)
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.3, the SCRP's standard operating procedure "Standard Operating Procedure Cardamom – Densiometer Forest Leakage" or the VCS tool Global Commodity Leakage Module: Production Approach VMD0037. Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	270,920
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured for comparison to initial sampling.
Purpose of data:	Calculation of leakage
Calculation method:	Equation [F.44]
Any comment:	

Data Unit / Parameter:	$E_L^{[m-1]}$
Data unit:	tCO <sub>2</sub> e



Description:	Cumulative emissions from leakage at the beginning of the current monitoring period
Source of data:	Measurements in the leakage area(s)
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.3, the SCRP's standard operating procedure "Standard Operating Procedure Cardamom – Densiometer Forest Leakage" or the VCS tool Global Commodity Leakage Module: Production Approach VMD0037. Wildlife Works was responsible for the measurement. All measurements were made in 2021. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Prior monitoring period
Value monitored:	216,786
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured for comparison to initial sampling.
Purpose of data:	Calculation of leakage
Calculation method:	Equation [F.44]
Any comment:	

Data Unit / Parameter:	$E_{L\Delta}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Change in emissions due to leakage
Source of data:	Measurements in the leakage area(s) and calculations
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.3, the SCRP's standard operating procedure "Standard Operating Procedure Cardamom – Densiometer Forest Leakage" or the VCS tool Global



	Commodity Leakage Module: Production Approach VMD0037. Wildlife Works was responsible for the measurement. All measurements were made between 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	54,134
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured for comparison to initial sampling. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Purpose of data:	Calculation of leakage
Calculation method:	Equation [F.53]
Any comment:	

Data Unit / Parameter:	$E_{LASF}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative emissions from activity-shifting leakage at the end of the current monitoring period
Source of data:	Measurements in the activity-shifting leakage area
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.3 and the SCRP's standard operating procedure "Standard Operating Procedure Cardamom – Densiometer Forest Leakage". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period



Value monitored:	0
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.3 and the SCRP's standard operating procedure "Standard Operating Procedure Cardamom – Densiometer Forest Leakage". Wildlife Works was responsible for the measurement. All measurements were made between 2022 and 2023.
Purpose of data:	Calculation of leakage
Calculation method:	Equation [F.45]
Any comment:	

Data Unit / Parameter:	$E_{LASG}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative emissions from activity-shifting leakage in native grassland strata at the end of the current monitoring period
Source of data:	Measurements in the activity-shifting leakage area
Description of measurement methods and procedures to be applied:	N/A
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	N/A
Purpose of data:	Calculation of leakage
Calculation method:	Equations: [F.44], [F.45]
Any comment:	Parameter not used

Data Unit / Parameter:	$E_{LME}^{[m4]}$



Data unit:	tCO <sub>2</sub> e
Description:	Cumulative emissions from market leakage at the end of the current monitoring period
Source of data:	Global Commodity Leakage Module: Production Approach VMD0037
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.3, the SCRP's standard operating procedure "Standard Operating Procedure Cardamom – Densiometer Forest Leakage" or the VCS tool Global Commodity Leakage Module: Production Approach VMD0037. Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	270,920
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations and monitoring records.
Purpose of data:	Calculation of leakage
Calculation method:	Equation [F.45]
Any comment:	

Data Unit / Parameter:	$E_{P_{\Delta}}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Change in project emissions
Source of data:	Monitoring records for Forest Fire, Burning, logging, wood products, and natural disturbance events

Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between M3 and M4. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	429,774
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of project emissions
Calculation method:	Equation [F.53]
Any comment:	

Data Unit / Parameter:	$E_{P\ \Delta BRN}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative Project emissions due to burning at the end of the current monitoring period
Source of data:	Monitoring plots in the project
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 section 8.2.2 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made between M3 and M4. Accuracy level



Frequency of monitoring/recording:	achieved is good and is associated with the quality of the field measurements and calculations.  Every monitoring period
Frequency of monitoring/recording.	Every monitoring period
Value monitored:	0
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of project emissions
Calculation method:	Equation [F.41]
Any comment:	

Data Unit / Parameter:	$E_{P \; \Delta LS}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative project emissions due to livestock grazing within the Project Area.
Source of data:	Monitoring in the Project Area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.2.4
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of project emissions
Calculation method:	Equation [F.43]
Any comment:	No livestock grazing in Project Area.

Data Unit / Parameter:	$E_{P\ \Delta SF}^{[m4]}$



Data unit:	tCO <sub>2</sub> e
Description:	Cumulative Project emissions due to the use of synthetic fertilizers within the Project Area.
Source of data:	Monitoring in the Project Area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.2.5
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of project emissions
Calculation method:	CDM A/R methodological tool Estimation of direct and indirect (e.g. leaching and runoff) nitrous oxide emission from nitrogen fertilization. Equation [F.53]
Any comment:	No synthetic fertilizer used in Project Area

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Data Unit / Parameter:	$E_U^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	Cumulative confidence deduction at the end of the current monitoring period
Source of data:	N/A
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Section 8.4.1.1 and the SCRP's standard operating procedures. Wildlife Works was responsible for the measurement. All measurements were made in 2021 and 2022. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	0
Monitoring equipment:	Equipment list in Annex 18



QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.55]
Any comment:	

Data Unit / Parameter:	$n_{LSi}$
Data unit:	count
Description:	The number of head of livestock species/ category in the Project Area
Source of data:	Monitoring in the Project Area
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.2.4
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Use of literature or expert knowledge. Equation [43]
Any comment:	Parameter not used, no livestock in Project Area

Data Unit / Parameter:	$p_{_{LDEG}}^{[m4]}$
Data unit:	proportion (unitless)
Description:	Portion of leakage due to degradation in forest at the end of the current monitoring period
Source of data:	Monitoring in the leakage area

Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Section 8.3.2.3 and B2.9, and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom – Densiometer Forest Leakage". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	0.81
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample.
Purpose of data:	Calculation of leakage
Calculation method:	Summation across leakage plots. Equations: [F.46], [F.47], [F.48], [F.49]
Any comment:	

Data Unit / Parameter:	$p_{_{LDEG}}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e
Description:	proportion (unitless)
Source of data:	Portion of leakage due to degradation prior to first verification event
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Section 8.3.2.3 and B2.9, and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom – Densiometer Forest Leakage". Wildlife Works was responsible for the measurement. All measurements were made prior to the first verification event. Accuracy level achieved is good and is



	associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	At project start
Value monitored:	1.01
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample.
Purpose of data:	Calculation of leakage
Calculation method:	Summation across leakage plots. Equation [F.48]
Any comment:	

Data Unit / Parameter:	$p_{LCONG}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e
Description:	proportion (unitless)
Source of data:	Portion of leakage due to native grasslands prior to first verification event
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Section 8.3.2.4, and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom – Densiometer Forest Leakage". Wildlife Works was responsible for the measurements, which were all made prior to the first verification event. Accuracy level achieved is good, and is associated with the quality of the field measurements and calculations
Frequency of monitoring/recording:	N/A
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records



Purpose of data:	Calculation of leakage
Calculation method:	Summation across leakage plots. Equations: [F.47], [F.49]
Any comment:	Parameter not used.

Data Unit / Parameter:	$p_{LCONG}^{[m4]}$
Data unit:	tCO <sub>2</sub> e
Description:	proportion (unitless)
Source of data:	Portion of leakage due to native grasslands at the end of the current monitoring period.
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Section 8.3.2.4, and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom – Densiometer Forest Leakage". Wildlife Works was responsible for the measurements, which were all made in 2023. Accuracy level achieved is good, and is associated with the quality of the field measurements and calculations
Frequency of monitoring/recording:	N/A
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of leakage
Calculation method:	Summation across leakage plots. Equations: [F.47], [F.49]
Any comment:	Parameter not used.

Data Unit / Parameter:	$p_{LCONG}^{[m-1]}$
Data unit:	tCO <sub>2</sub> e
Description:	proportion (unitless)



Source of data:	Portion of leakage due to native grasslands at the end of the previous monitoring period.
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Section 8.3.2.4, and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom – Densiometer Forest Leakage". Wildlife Works was responsible for the measurements, which were all made between 2018 - 2023. Accuracy level achieved is good, and is associated with the quality of the field measurements and calculations
Frequency of monitoring/recording:	N/A
Value monitored:	N/A
Monitoring equipment:	Equipment list in Annex 18
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of leakage
Calculation method:	Summation across leakage plots. Equations: [F.47], [F.49]
Any comment:	Parameter not used.

Data Unit / Parameter:	$p_{SL}^{[m4]}$
Data unit:	proportion (unitless)
Description:	Proportion of AGMT that is not merchantable and goes into slash estimated from inventory
Source of data:	Estimated from inventory
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 8.1.6.3
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions



Calculation method:	Conservatively used volume of a cone. Equation [F.34]
Any comment:	Parameter not used, no commercial logging in Project area

Data Unit / Parameter:	$t^{[m4]}$
Data unit:	days
Description:	Time from project start date to end of current monitoring period
Source of data:	Monitoring records
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures. Wildlife Works was responsible for the measurement. All measurements were made between the project start date and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	3285
Monitoring equipment:	N/A
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Subtraction. Equations: [F.19], [F.20], [F.24], [F.21], [F.25], [F.27], [F.28], [F.32], [F.33], [F.36], [F.37], [F.38], [F.39], [F.40]
Any comment:	

Data Unit / Parameter:	$t^{[m-1]}$
Data unit:	days



Description:	Time from project start date to beginning of current monitoring period
Source of data:	Monitoring records
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.2 and the SCRP's standard operating procedures. Wildlife Works was responsible for the measurement. All measurements were made between project start date and 2021. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	2556
Monitoring equipment:	N/A
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of calculations, monitoring records for errors.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Subtraction. Equations: [F.10], [F.36]
Any comment:	

Data Unit / Parameter:	$U_B^{[m4]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Total uncertainty in proxy area carbon stock estimate
Source of data:	Equation [B.34] and field measurements in the Proxy Area
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.1.5 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements



	were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	1.06
Monitoring equipment:	N/A
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [B.57]
Any comment:	

Data Unit / Parameter:	$U_{EM}^{[m4]}$
Data unit:	tCO <sub>2</sub> e / ha
Description:	Total uncertainty in Baseline Emissions Models for the Project Accounting Area
Source of data:	N/A
Description of measurement methods and procedures to be applied:	VCS Methodology VM0009 Section 6.8.10
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.57]
Any comment:	Parameter not used as BEM not used



Data Unit / Parameter:	$U_P^{[m4]}$
Data unit:	tCO₂e / ha
Description:	Total uncertainty in the Project Accounting Area carbon stock estimate
Source of data:	Field measurements in the PAA
Description of measurement methods and procedures to be applied:	This parameter was measured in accordance with the VCS standard and AFOLU guidance, using the procedures outlined in the VCS methodology VM0009 v3 Appendix B.1.5 and the SCRP's standard operating procedures "Standard Operating Procedure Cardamom - Forest Inventory" and "Standard Operating Procedure Cardamom - Proxy Area". Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the field measurements and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	15.07
Monitoring equipment:	N/A
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 section B.5 and are outlined in the document, "QA_QC Procedure Cardamom v1.6" This includes a review of monitoring records for errors and 5% of plots being remeasured and compared to initial sample with a t-test.
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equation [F.57]
Any comment:	

Data Unit / Parameter:	$wc_{Pi}^{[m=0]}$
Data unit:	tCO <sub>2</sub> e
Description:	Weighted average carbon stocks for biomass or SOC in the project for the set of selected strata
Source of data:	Biomass inventory



Description of measurement methods and procedures to be applied:	Inventory or GIS
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.29], [F.24]
Any comment:	Parameter is not used

Data Unit / Parameter:	$\chi^{[m4]}$
Data unit:	varies
Description:	Covariate values
Source of data:	Participatory Rural Appraisal, analysis of public records, and/or expert interpretation of inventory data or remotely sensed imagery
Description of measurement	N/A
methods and procedures to be applied:	
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	N/A
Monitoring equipment:	N/A
QA/QC procedures to be applied:	Review of monitoring records
Purpose of data:	Calculation of baseline emissions
Calculation method:	Equations: [F.19], [F.20], [F.21], [F.24], [F.25], [F.27], [F.28], [F.37], [F.38], [F.39], [F.40]
Any comment:	Parameter is not used

Data Unit / Parameter:	$d_t$
Data unit:	ha



Description:	Area of avoided deforestation for monitoring period.
Source of data:	Data source is the Royal Government of Cambodia Ministry of Environment submission to the UNFCCC technical committee (Ministry of Environment, 2016)
Description of measurement methods and procedures to be applied:	This parameter was calculated using data from the Royal Government of Cambodia. Wildlife Works was responsible for the measurement. All measurements were made in 2022 and 2023. Accuracy level achieved is good and is associated with the quality of the underlying data and calculations.
Frequency of monitoring/recording:	Every monitoring period
Value monitored:	21,060
Monitoring equipment:	Computer
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 and the VCS standard. This includes a review of the calculations and data used.
Purpose of data:	Calculation of leakage
Calculation method:	equation
Any comment:	

Data Unit / Parameter:	LM
Data unit:	tonnes
Description:	Leakage mitigation achieved by the jurisdictional program in terms of production of a given commodity
Source of data:	Agricultural production data from leakage mitigation projects implemented by the jurisdictional program or data on the reduction in the production demanded as generated by the jurisdictional program.
Description of measurement methods and procedures to be applied:	A jurisdictional program should measure the volume of production through agricultural records.
Frequency of monitoring/recording:	The data may be monitored once at the end of the monitoring period but should be reported on an annual basis.
Value monitored:	0



Monitoring equipment:	Computer
QA/QC procedures to be applied:	QAQC procedures are in line with the requirements of VM0009 v3 and the VCS standard. This includes a review of the calculations and data used.
Purpose of data:	Calculation of leakage
Calculation method:	Value from literature
Any comment:	Leakage mitigation is conservatively excluded

### 3.1.3 Monitoring Plan (VCS, 3.16, 3.20)

A plan has been developed to monitor the SCRP's impact on its climate related objectives, namely the reduction in the emissions of tCO<sub>2</sub>e by reducing deforestation in the Project Area. The primary objective of the monitoring plan is to ensure accurate estimates of carbon stocks and carbon emission reductions from the REDD+ Project over the crediting period of the Project. The climate monitoring plan includes three primary monitoring activities that will be performed throughout the lifetime of the SCRP. These activities, and their frequency are shown in Table 3.1.

Table 3.1 The three primary monitoring activities, the frequency that they will be performed and the method to be used.

Activity	Frequency	Method
Forest Patrols and Perimeter Observation	Annually	Patrol teams inspect perimeter of project area via ground-based assessments and by air with a helicopter.
Plot Measurements	Bi-Annually	Sampling teams visit a portion of plots in project and proxy areas
Identification of significant disturbance	Once every 2-3 years or after major disturbance event	Periodic inspection of aerial imagery or videography, with ground inspection when necessary

Descriptions of these monitoring activities are described in Annex 3 – Climate Monitoring Plan. In addition to these three primary Project monitoring activities, several additional monitoring activities will happen at informal frequencies during the Project Partners' general operations. This includes regular forest ranger patrols through the Project Area and outreaches to the communities. Additionally, two times per month aerial patrolling is performed by helicopter. These additional monitoring activities will serve to identify many instances of encroachment or tree harvesting that may occur in the Project Area.

The monitoring plan is meant as a guide to maintain consistency during monitoring, and also includes training and internal audit procedures for quality control. It is meant as a working document to be revised as needed during the course of the Project. When revisions are necessary, they should be noted



as monitoring deviations in the subsequent monitoring report prepared for a VCS and CCB verification event.

#### Roles and responsibilities

Wildlife Alliance is responsible for the field-based monitoring and Wildlife Works is responsible for the remote sensing-based monitoring. Romica Grosu, Watershed, Zoning and Demarcation Protected Area Manager at Wildlife Alliance, oversees the field-based monitoring, ensuring that all team members are trained and overseeing the quality assurance of all measurements. Simon Bird, the Director of Forest Science at Wildlife Works supports the field measurement process. The remote-sensing based monitoring is overseen by Vincent Haller, the Geospatial Manager of Wildlife Works.

#### MRR.88 Documentation of training for field crews.

A primary training event for the field crews was held on January 16 – 23, 2017 in the Project Area. WWC staff members Jeremy Freund and Brian Williams led this training. During the training all field crew members were instructed in the biomass sample plot SOP, the proper usage of all equipment, and in best practices for the safe and successful field data collection. A secondary on-site training was held December 2-3, 2017, by Brian Williams specifically on the leakage area data collection SOP. In addition to these two on-site training courses, continuous support and training was provided by WWC staff by email and phone calls to answer any questions by the field team and to address any issues that arose.

For the M2 biomass and leakage plot data collection 2 additional training courses were held. The first was held on April 24 – 29, 2019 and was focused on refreshing and retraining the plot sampling team. A second training was held on April 18 – 19, 2020 and was focused on the refreshing and retraining on the leakage plot sampling SOP. Both trainings were led by the SCRP biomass inventory manager Romica Grosu and held on-site in the Project Area.

During the third monitoring period, biomass inventory training was held from 3 – 7 December 2021. The training covered the SCRP Forest Inventory SOP and its implementation for the biomass plot sampling on the SCRP. 10 biomass inventory team members participated in the training, 4 of which were existing team members, while 6 were new members to the team. In addition, the same 10 members of the biomass inventory team were trained in the leakage plot sampling procedures.

As per this monitoring period, biomass inventory training was kept ongoing, where the training covered the usual material with 15 community members participating and conducting the plot sampling. Supporting documentation on this training activity has been made available to the verifier.

# MRR.90 Documentation of data quality assessment such as a check cruise and plots of the data such as diameter distributions by strata or plot.

In terms of assessing the accuracy of data samples, please refer to 'Annex O9 – QA\_QC Procedure Cardamoms' for the quality control standard operating procedure that the Project uses to assess data measurement quality and thoroughness. In accordance with the QC SOP, 5% of the biomass inventory plots are randomly selected. These QC plots were remeasured by a different plot sample team than originally measured the plot as close in time to the original plots as possible to avoid any errors due to



natural regeneration/growth, although it is widely understood that some natural variation will occur between these two measurement events. The team that remeasures the plot does not have access to the data sheet from the initial plot measurement, nor should have discussed any element of the plot with the team that performed the initial measurement. The plots cover all strata present in the Project Area. Table 3.2 displays the results of the paired T-Test, which showed no significant difference was found.

Table 3.2 Results of the QA/QC analysis.

Paired T-Test	QC Basis	Inventory Basis
1% of Estimated Mean (tCO <sub>2</sub> e)	2.2485	2.2531
Estimated Mean of Paired Differences (tCO <sub>2</sub> e)	0.0264	0.0264
Standard Error of Paired Differences (tCO <sub>2</sub> e)	0.8108	0.8108
Difference between 1% and Paired Difference (tCO2e)	-2.2220	-2.2267
t Statistic	-2.7407	-2.7463
Degrees of Freedom	7	7
p Value (1 - alpha)	0.9856	0.9857
HO: No difference between 1% and Paired Difference at 90% Level	True	True
H1: Difference greater than or equal to 1% and Paired Difference at 90% Level	False	False

If the T-Test fails, the plot monitoring team lead and VP Carbon Development shall identify any systematic errors in the data that is resulting in the overserved differences. If a systematic error resulting from either the field or the data transcription is identified the VP of Carbon Development shall rectify or account for the systematic errors using the following options:

a. If the systematic error stems from field measurement, determine the difference between the average carbon stocks of the QC plot set from the average carbon stocks of the original plot set. Subtract this difference from the overall average of carbon stocks used to determine credit generation as a global QC discount. If this approach is selected, it then becomes important for Wildlife Works to rectify the systematic error over the course of future biomass measurements/plot remeasurements to avoid future global QC discounts.

OR

b. If the systematic error stems from field measurement, rectify the error by retaking all measurements on effected plots in the original inventory. An example would be if it was determined that all multi-trunk trees' circumference was calculated too low to the ground. In



this case, the effected plots would be only those containing multi-trunk trees. Recalculate the overall average carbon stocks used to quantify credit generation based on updated and correct measurements.

c. If the systematic error stems from desk procedures, rectify the error and recalculate the overall average carbon stocks used to quantify credit generation based on updated and correct values. Examples of desk-level error rectification are changing/upgrading software, manually updating erroneous values or modifying data entry forms to include dropdown menus if not already employed.

If the t-test fails and no systematic errors (as described in step 4) are identified, apply a global QC discount as described in step a above.

If systematic errors are discovered, the VP Carbon Development will perform further team training and/or amend relevant procedures before the field measurements are taken or recorded during the next monitoring period. If further training is required, it shall be performed within 3 months of the verification event.

#### MRR.91 Maps of a stratification (if any) and references to plot allocation.

Please refer to Figure 2.2 for a map of the Project Accounting Area's forest stratification, and to Figure 3.1 for a map of the biomass sample plot locations.

#### MRR.92 List of plot GPS coordinates.

For a comprehensive list of all sample plots and their GPS coordinates, please refer to Annex 03 – the Climate Monitoring Plan.

# MRR.93 Description of plot sizes and layout (such as the use of nests and their sizes) for each carbon pool.

A permanent circular nested plot design was used for the biomass sample plots. The tree plot radius for this Project is 15 meters, which is a 0.07 ha plot area. The minimum diameter for considering an individual plant as a tree for the Project is 10 cm diameter at 1.3 m above the ground (DBH). All smaller woody plants are considered shrubs. The shrub plot radius for the Project is 5 meters.

Table 3.3 The radii used for the Southern Cardamom REDD+ Project tree and shrub plots.

Area	Plot Radius
Tree Plots	
All Plots	15 meters
Shrub Plots	
All Plots	5 meters



During this monitoring period (M4), frequency of monitoring plots 53 Project biomass plots (21% of the total) and 36 Leakage Area sample plots were measured. For the frequency of monitoring for all of these plots, please refer to the Climate Monitoring Plan in Annex 03.

There were 15 community members who participated in biomass inventory sampling. The sampling was conducted on 53 randomized plots within the project area. Table 3.4 below estimates the calculated carbon stock based on the data acquired from the assigned number of plots in the Project Area.

MRR.95 The estimated carbon stock, standard error of the total for each stock, and the sample size for each stratum in the area selected.

Table 3.4 The estimated carbon stock, error and number of plots for each forest strata in the Project Area.

Stratum	Carbon Stock (t CO <sub>2</sub> e / ha)	Error (t CO <sub>2</sub> e / ha)	Number of Plots
Evergreen Forest	411.17	15.67	197
Deciduous Forest	274.01	27.16	53
Project Area	405.66	15.07	250

MRR.97 Deviations from the measurement methods set out in Appendix B or the monitoring plan, per current VCS requirement.

There were no deviations from the Methodology Appendix B or from the Project Climate Monitoring Plan in Annex O3.

MRR.98 The frequency of monitoring for each plot for all plots – all plots should be measured for the first verification. All leakage plots should be measured every verification, and all proxy and project accounting area plots at least every five years, or after a significant event that changes stocks.

There were 53 project biomass plots (21% of the total) and 36 leakage area sample plots measured for this monitoring period. For the frequency of monitoring for all of these plots please refer to the Climate Monitoring Plan in Annex 03.

#### 3.1.4 Dissemination of Monitoring Plan and Results (VCS, 3.18; CCB, CL4.2)

The Climate Monitoring Plan has been established and accepted by the Project Proponent. The monitoring plan was made available for public review at the SCRP Project Office and has been made available to each Commune in the Project Zone communities. The full results of the climate monitoring activities are included in this project Monitoring Report, which is made publicly available in the Project Area by having a hard copy available for review at the Project Office, and downloadable on the VCS registry and the project's website. The monitoring results have been further communicated to the communities and other stakeholders (including the Government and Local Authorities) using diverse methods including presentations, reports, and orally during community awareness and sensitization



meetings, and when SBIA workshops are held. Additionally, a monitoring report summary has been written and provided to communities throughout the Project Area in English and Khmer.

#### 3.2 Quantification of GHG Emission Reductions and Removals

### 3.2.1 Baseline Emissions (VCS, 3.15)

Table 3.5 below summarizes without-Project (baseline) carbon emissions and corresponding deductions for leakage and risk of reversal buffer and shows the calculation of baseline emissions for the current baseline emissions, including for the previous monitoring period. The baseline emissions are calculated as a yearly allotment of total emissions pro-rated for the monitoring period length. As the SCRP opted to use Cambodia's national FREL submission to the UNFCCC, a summary of equations is provided below. A more complete justification is provided in the Royal Government of Cambodia's Initial Forest Reference Level under the UNFCCC Framework (MoE, 2016). This document also provides submission information for the reader to reproduce the reference level calculation.

During a conversation with Verra concerning the Southern Cardamom REDD+ Project and other WWC projects and how to address their project baselines in light of anticipated new VCS requirements on the determination of a project's baseline. The SCRP project's validated baseline utilizes an allocation of the Cambodian national FREL to the project area, as submitted to and accepted by the UNFCCC. At this meeting, Verra advised us to not update either the SCRP baseline or reference level and to maintain the use of the validated baseline until Verra has more certainty in their new approach to project baselines. The SCRP's next baseline reassessment is due in 2024 – there is no requirement to reassess the baseline at this time.

Table 3.5 Baseline carbon emissions and deductions for the Southern Cardamom REDD+ Project.

Component	First monitoring period (M1) t CO <sub>2</sub> e	Second monitoring period (M2) t CO <sub>2</sub> e	Third monitoring period (M3) t CO <sub>2</sub> e	Fourth monitoring period (M4) t CO <sub>2</sub> e	Total to date t CO₂e
Gross NERs (t CO2e)	13,384,794	13,252,916	4,300,092	8,079,504	39,017,306
Buffer tonnes to VCS (t CO <sub>2</sub> e)	1,338,479	1,325,292	430,009	1,131,131	4,224,911
Activity Shifting Leakage Deduction	0	0	0	0	0
Market Leakage Deduction	99,181	88,795	28,811	54,134	270,920



Component	First monitoring period (M1) t CO <sub>2</sub> e	Second monitoring period (M2) t CO <sub>2</sub> e	Third monitoring period (M3) t CO <sub>2</sub> e	Fourth monitoring period (M4) t CO <sub>2</sub> e	Total to date t CO₂e
Net GHG emission reductions or removals (tCO2e)	11,947,133	11,838,830	3,841,272	6,894,239	34,521,475

# MRR.10 Calculations of current baseline emissions $E_{B\Delta}^{[m4]}$ as of the current monitoring period.

Table 3.5 above shows the calculation of baseline emissions for the current baseline emissions. These are calculated as a yearly allotment of total emissions pro-rated for the monitoring period length. Please see MRR.12 for the calculation of current baseline emissions of the SCRP.

# MRR.11 Calculations of baseline emissions $E_{R\lambda}^{[m-1]}$ from prior monitoring periods.

Table 3.5 above shows the calculation of baseline emissions for the baseline emissions from the previous monitoring period. These are calculated as a yearly allotment of total emissions pro-rated for the monitoring period length.

M1:

Baseline emissions  $E_{B\Delta}^{[m1]}$  for M1 for the SCRP was calculated using equation [F.15]:

$$E_{B\Delta}^{[m1]} = E_{B}^{[m1]} - E_{B}^{[m0]}$$

Where;

 $E_B^{[m1]}$ = Cumulative baseline emissions from biomass at the end of monitoring period (M1); Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_B^{[m0]}$ = Baseline emissions from biomass at monitoring period (M0). Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_{B\,\Delta}^{[m1]}$ = Change in baseline emissions (M1); t CO<sub>2</sub>e

**13**, **384**, **794** 
$$t CO_2 e = 13$$
, 384, 794  $- 0$ 

M2:

Baseline emissions  $E_{B\Delta}^{[m2]}$  for M2 for the SCRP was calculated using equation [F.15]:

$$E_{B\Delta}^{[m2]} = E_{B}^{[m2]} - E_{B}^{[m2-1]}$$

Where:



 $E_B^{[m2]}$  = Cumulative baseline emissions from biomass at the end of monitoring period (M2); Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_B^{[m2-1]}$ = Cumulative baseline emissions from biomass from the previous monitoring period (M1). Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_{RA}^{[m2]}$  = Change in baseline emissions; t CO<sub>2</sub>e

$$13,252,916 \ t \ CO_2e = 26,637,710 - 13,384,794$$

M3:

Baseline emissions  $E_{B\,\Delta}^{[m3]}$  for M3 are calculated using equation [F.15]:

$$E_{R\Lambda}^{[m3]} = E_{R}^{[m3]} - E_{R}^{[m3-1]}$$

Where;

 $E_B^{[m3]}$ = Cumulative baseline emissions from biomass at the end of the current monitoring period; Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_B^{[m3-1]}$ = Cumulative baseline emissions from biomass from the previous monitoring period. Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_{B\,\Delta}^{[m3]}$  = Change in baseline emissions; t CO<sub>2</sub>e

$$\mathbf{4,433,527} \ t \ CO_2 e = 31,071,237 - 26,637,710$$

MRR.12 Calculations of cumulative baseline emissions for each selected pool ( $E_{B\,BM}^{[m]}$  and  $E_{B\,SOC}^{[m]}$ ) and undecayed carbon ( $C_{B\,BGB}^{[m]}$ ,  $C_{B\,DW}^{[m]}$ ,  $C_{B\,SOC}^{[m]}$ , and  $C_{B\,WP}^{[m]}$ ) as of the current monitoring period.

Current baseline emissions for the SCRP  $E_{B\,\Delta}^{[m4]}$  (M4) are calculated using equation [F.15]:

$$E_{RA}^{[m4]} = E_{R}^{[m4]} - E_{R}^{[m4-1]}$$

Where:

 $E_B^{[m4]}$ = Cumulative baseline emissions from biomass at the end of the current monitoring period; Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_B^{[m4-1]}$ = Cumulative baseline emissions from biomass from the previous monitoring period. Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period; t CO<sub>2</sub>e

 $E_{RA}^{[m4]}$  = Change in baseline emissions; t CO<sub>2</sub>e



$$8,509,279 \ t \ CO_2e = 39,580,516 \ t \ CO_2e - 31,071,237 \ t \ CO_2e$$

Equation [F.16] is utilized to calculate the cumulative baseline emissions at the end of the current monitoring period M4:

$$E_{B}^{[m4]} = E_{BM}^{[m4]} + E_{BSOC}^{[m4]} - C_{BSOC}^{[m4]} - C_{BBGB}^{[m4]} - C_{BDW}^{[m4]} - C_{BWP}^{[m4]}$$

where:

 $E_{BM}^{[m4]}$  = Cumulative baseline emissions from biomass; t CO<sub>2</sub>e

 $E_{RSOC}^{[m4]}$  = Cumulative emissions from soil organic carbon; t CO<sub>2</sub>e

 $C_{B\ SOC}^{[m4]}$  = Carbon not decayed in soil organic carbon (SOC) at the end of the current monitoring period; t CO<sub>2</sub>e

 $C_{B\ BGB}^{[m4]}$  = Carbon not decayed in belowground biomass (BGB) at the end of the current monitoring period; t CO<sub>2</sub>e

 $C_{B\,DW}^{[m4]}$  = Carbon not decayed in deadwood (DW) at the end of the current monitoring period; t CO<sub>2</sub>e

 $C_{B\ WP}^{[m4]}$  = Carbon not decayed in long-lived wood products (WP) at the end of the current monitoring period; t CO<sub>2</sub>e

Per the communique received from Verra on 27 February 2018, WWC was instructed to omit the 10-year decay model for belowground biomass due to the fact that the national FREL does not observe this decay model. By extension, the additional decay models that are listed in the AFOLU requirements, including those for soil organic carbon, deadwood, and long-lived wood products are also omitted, as these models are applicable to a Project scale, and similarly not employed in Cambodia's national FREL calculation:

Table 3.6 Justification of below-ground biomass values omitted from the baseline emission calculation.

Variable	Units	Description	Value applied	Comments
$E_{BM}^{[m]}$	tCO <sub>2</sub> e	Total baseline emissions from biomass (BGB + AGB)	8,509,279	Included in RGC's national FREL. Yearly baseline emissions pro-rated for the current monitoring period (M4)
$E_{B\ SOC}^{[m]}$	tCO <sub>2</sub> e	Baseline emissions from soil organic carbon	0	Carbon pool not included in RGC's national FREL
$C_{B\ SOC}^{[m]}$	tCO <sub>2</sub> e	Carbon <i>not decayed</i> in soil organic carbon	0	Carbon pool not included in RGC's national FREL



$C_{B\ BGB}^{[m]}$	tCO <sub>2</sub> e	Carbon <i>not decayed</i> in belowground biomass	0	VCS decay model superseded by use of national FREL, which does not employ a decay model for BGB.
$C_{B\ DW}^{[m]}$	tCO <sub>2</sub> e	Carbon not decayed in deadwood	0	VCS decay model superseded by use of national FREL, which does not employ a decay model for dead wood. Pool conservatively omitted from SCRP.
$\mathcal{C}_{B\;WP}^{[m]}$	tCO <sub>2</sub> e	Carbon <i>not decayed</i> in long-lived wood products	0	VCS carbon storage for long-lived wood products model superseded by use of national FREL, which does not employ a carbon storage model for long-lived wood products.

Cumulative baseline emissions are then calculated as follows:

$$E_B^{[m4]} = (8,509,279 + 0 - 0 - 0 - 0 - 0)tCO_2e = 8,509,279 \ tCO_2e$$
 [F.16] 
$$E_{B\Delta}^{[m4]} = E_B^{[m4]} = 8,509,279 \ tCO_2e$$
 [F.15]

## 3.2.1.1 Calculating Baseline Emissions from Biomass

Historical emission estimates were developed based on the national FRL activity data from 2006 to 2014. Annual CO<sub>2</sub> Emissions and Removals (tCO<sub>2</sub>e / year) are calculated by the following equation:

$$\Delta C_B = \frac{(C t_2 - C t_1)}{(t_2 - t_1)}$$

$$\Delta CO_2 = \Delta C_B \times \frac{44}{12}$$

Where:

 $\Delta C_B$  = Annual change in carbon stocks in biomass (the sum of above-ground and below-ground biomass) in land remaining in the same category (e.g., Forest Land Remaining Forest Land), tonnes C yr<sup>-1</sup>

 $\mathcal{C}$   $t_2$  = Total carbon in biomass for each land sub-category at time  $t_2$ ; tonnes  $\mathcal{C}$ 

 ${\it C}\ t_1$  = Total carbon in biomass for each land sub-category at time  $t_1$ ; tonnes C

C t (Total Emission) = Activity Data (A) × Emission Factor (EF)

 $\frac{44}{12}$  = Molecular weight ratio of carbon dioxide to carbon (IPCC, 2006)



# MRR.13 Calculations of cumulative baseline emissions from biomass $E_{B\,BM}^{[m4]}$ for the current monitoring period.

Cumulative baseline emissions for the current monitoring period are calculated using the following equation from section 3.2.4.3 of the PD:

$$E_{B\,BM}^{[m4]} = RL \times \left( \left( c_{p\,BM}^{[m4]} - C_{B\,BM}^{[m4]} \right) \times A_{PAA} \right) \times \left( \frac{t^{[m4]} - t^{[m4-1]}}{365} \right)$$

Where:

RL = The national Cambodian deforestation rate per year (%/yr)

 $c_{p\,BM}^{[m4]}$  = Average Project carbon stock in biomass at the end of the current monitoring period (tCO2e/ha)

 $C_{B\,BM}^{[m4]}$  = Average baseline carbon stock in biomass at the end of the current monitoring period (tCO<sub>2</sub>e/ha)

 $A_{PAA}$  = Area of the Project Accounting Area (ha)

 $t^{[m4]}$  = Current monitoring period end date (days)

 $t^{[m4-1]}$  = Current monitoring period start date (days)

Cumulative baseline emissions for the current monitoring period are then calculated as follows:

$$E_{BBM}^{[m4]} = 2.38 \frac{\%}{yr} \times \left( \left( 405.66 \frac{tCO_2 e}{ha} - 1.61 \frac{tCO_2 e}{ha} \right) \times 442,871 \, ha \right) \times (2 \, years)$$

$$E_{BBM}^{[m4]} = 8,509,279 \, tCO_2 e$$

# MRR.14 Calculations of cumulative baseline emissions from biomass $E_{B\,BM}^{[m]}$ for all prior monitoring periods.

Cumulative baseline emissions for the previous monitoring period (M1) were calculated using the following equation from section 3.2.4.3 of the PD:

$$E_{B BM}^{[m1]} = RL \times \left( \left( c_{p BM}^{[m1]} - C_{B BM}^{[m1]} \right) \times A_{PAA} \right) \times \left( \frac{t^{[m1]} - t^{[m1-1]}}{365} \right)$$

Where:

$$E_{BBM}^{[m1]} = 2.38 \frac{\%}{yr} \times \left( \left( 421.14 \frac{tCO_2 e}{ha} - 1.61 \frac{tCO_2 e}{ha} \right) \times 442,871 \ ha \right) \times (2 \ years)$$

$$E_{BBM}^{[m1]} = 13,384,794 \ tCO_2 e$$



Cumulative baseline emissions for the previous monitoring period (M2) were calculated using the following equation from section 3.2.4.3 of the PD:

$$E_{B \, BM}^{[m2]} = RL \times \left( \left( c_{p \, BM}^{[m2]} - C_{B \, BM}^{[m2]} \right) \times A_{PAA} \right) \times \left( \frac{t^{[m2]} - t^{[m2-1]}}{365} \right)$$

Where:

$$E_{BBM}^{[m2]} = 2.38 \frac{\%}{yr} \times \left( \left( 421.14 \frac{tCO_2 e}{ha} - 1.61 \frac{tCO_2 e}{ha} \right) \times 442,871 \, ha \right) \times (3 \, years)$$

$$E_{BBM}^{[m2]} = 13,252,916 \, tCO_2 e$$

Cumulative baseline emissions for the previous monitoring period (M3) were calculated using the following equation from section 3.2.4.3 of the PD:

$$E_{B BM}^{[m3]} = RL \times \left( \left( c_{p BM}^{[m3]} - C_{B BM}^{[m3]} \right) \times A_{PAA} \right) \times \left( \frac{t^{[m3]} - t^{[m3-1]}}{365} \right)$$

Where:

$$E_{BBM}^{[m3]} = 2.38 \frac{\%}{yr} \times \left( \left( 422.65 \frac{tCO_2 e}{ha} - 1.61 \frac{tCO_2 e}{ha} \right) \times 442,871 \, ha \right) \times \left( \frac{2555 - 2190}{365} \right)$$

$$E_{BBM}^{[m3]} = 4,433,527 \, tCO_2 e$$

#### 3.2.1.2 Calculating Carbon Not Decayed in DW

The SCRP does not include planned forest harvesting in the baseline scenario. Therefore, the deadwood carbon pool has been conservatively excluded from Project carbon accounting.

#### 3.2.1.3 Calculating Carbon Not Decayed in BGB

The BGB pool was not included in the national FREL submission to the UNFCCC (MoE, 2016).

MRR.26 An estimate of carbon stored in non-decayed BGB for the current monitoring period.

This MRR is not applicable because a jurisdictional reference level has been applied to the SCRP.

MRR.27 An estimate of cumulative baseline emissions from BGB for the current monitoring period.

The BGB pool was not included in the national FREL submission to the UNFCCC (MoE, 2016).

MRR.28 Calculations of cumulative baseline emissions from BGB for all prior monitoring periods.

The cumulative baseline emissions for BGB are listed in the 2016 MoE UNFCCC document – available to the auditor upon request.

# 3.2.1.4 Calculating Carbon Not Decayed in SOC



The SOC pool was not included in the national FREL submission to the UNFCCC (MoE, 2016).

#### MRR.29 An estimate of carbon stored in non-decayed SOC for the current monitoring period.

This MRR is not applicable because the SOC pool was not included in Cambodia's national FREL submission to the UNFCCC.

#### 3.2.2 Project Emissions (VCS, 3.15)

#### 3.2.2.1 Calculating Emissions from Changes in Project Stocks (G1.4)

Carbon stocks have been estimated using the Verified Carbon Standard (VCS) methodology VM0009 'Methodology for Avoided Ecosystem Conversion' v3.0, which was originally validated with VCS in January 2011 and with version 2 validated in 2012. A third major revision was conducted to include the AFOLU (Agriculture, Forestry and Other Land Uses) category Avoided Conversion of Grasslands and Shrublands (ACoGS). Version 3.0 of VM0009 was successfully validated under the VCS double approval process in June 2014.

According to the methodology, Project plots must be remeasured at a minimum of every five years. As such, 100% of the biomass plots for the SCRP shall be measured every 5 years. The SCRP plans to follow a monitoring plan that on average measures 20% of the biomass plots each year. Biomass plot locations are depicted below in Figure 3.1. Circumstantial deviations from this schedule may be deemed necessary, while still achieving 100% measurement within 5 years. The Royal Government of Cambodia has not included Soil Organic Carbon (SOC) as a carbon pool for the national FREL submitted to the UNFCCC (MoE, 2016). As such, the SOC pool has been omitted in the calculation of Project stocks.

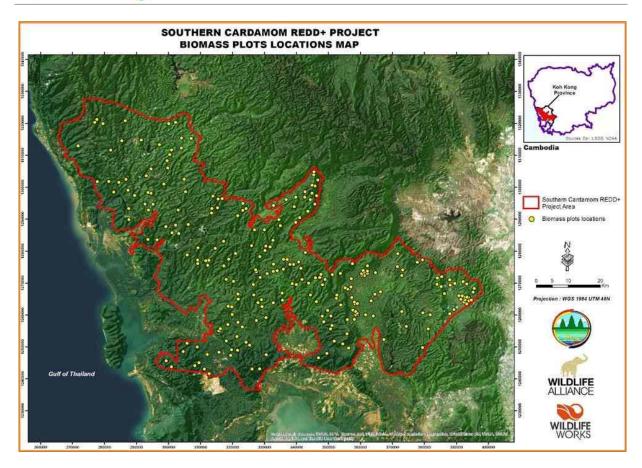


Figure 3.1 Biomass sample plot locations in the Southern Cardamon REDD+ Project.

Changes in Project carbon stocks are calculated as the difference in Project stocks in each stratum in the PAA between the current and prior monitoring periods, as determined from in-situ measurement of biomass plots:

$$A_{PAA} \left( c_p^{[m]} - c_p^{[m-1]} \right)$$

Table 3.7 depicts currently measured above and below-ground biomass carbon stocks by land cover stratum as categorized in Figure 3.2. Results below have been calculated using the methods of carbon accounting detailed in the VCS Methodology VM0009 and the corresponding VCS/CCB PD.

Table 3.7 A summary of current carbon stocks within the Project Accounting Area

Stratum	Area (ha)	Mean carbon stock (t CO <sub>2</sub> e / ha)	Standard error (t CO <sub>2</sub> e /ha)	Mean dbh (cm)	Average height (m)
Evergreen forest	424,911	411.17	15.67	19.22	9.72
Deciduous forest	17,793	274.01	27.16	18.67	7.71



Stratum	Area	Mean carbon stock (t	Standard error (t	Mean dbh	Average
	(ha)	CO <sub>2</sub> e / ha)	CO <sub>2</sub> e /ha)	(cm)	height (m)
Out area	168	0	N/A	N/A	N/A

Carbon stocks that are lost to burning, wood products, and leakage are accounted for using the procedures and equations listed below.

#### 3.2.2.2 Calculating Emissions from Burning

Currently, no planned Project Activities involve the burning of biomass in any manner. As such, emissions from burning are not currently included in carbon accounting. However, if future Project Activities should include this emission type, project emissions from burning of biomass shall be calculated using equation [F.42] of the VM0009 methodology v3.0.

MRR.34 A table of events when woody or herbaceous biomass was burned during the monitoring period, showing the weight of woody or herbaceous biomass in tonnes and the date consumed.

As noted above, there are no planned Project Activities that involve the burning of biomass. Therefore, this MRR is not applicable to the Project.

### 3.2.2.3 Calculating Emissions from Disturbances

During the M4 monitoring period, forest loss from small-scale anthropogenic disturbances exceeded the *de minimis* value of forest loss as defined by the project's disturbance monitoring plan (250 ha). Analysis performed following the requirements of the disturbance monitoring SOP found a total of 1,057.41 ha to have been cleared between 2022 and 2023. As such, the resulting emission from the deforestation was calculated and removed from project baseline emissions for M4.

To accurately capture and account for emissions from deforestation, the project utilized a combination of regionally produced shapefiles by project staff containing perimeters of cleared areas detected on the ground, <u>GLAD deforestation alerts</u> for the monitoring period (specifically the alert21 raster layer), and satellite imagery from the beginning and end of the monitoring period to capture small-scale natural and anthropogenic disturbances within the Project Accounting Area.

Multiple criteria were used to determine whether an area was cleared or not. First, only GLAD deforestation alerts that had a confidence level of 3, which is considered a "confirmed loss" by the platform, and confidence level 2 (nominal confidence) were extracted for analysis from the original alert imagery. Areas smaller than 0.5 ha were removed from this layer. The resulting layer was used to cross-validate the regionally produced shapefile. Areas of overlap were used as indicators to compare additional satellite imagery from the beginning and the end of the monitoring period. Care was taken to ensure the appropriate satellite index was used. Areas that met the above criteria were then summed up. The final map was then derived and used to calculate the change areas across the entire project area and in the Project Accounting Area (PAA) – Figure 3.2.



# MRR.32 A map of the boundaries of any significant disturbance in the Project accounting areas during the monitoring period.

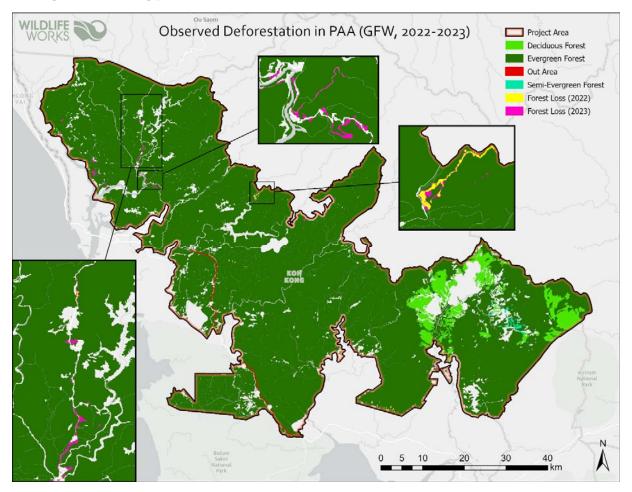


Figure 3.2 SCRP PAA 2021 Land Clearings

# MRR.33 Evidence that plots were installed into these disturbed areas and were measured per section 9.

As documented above, there was deforestation in the Project Area that met the criteria of "significant disturbance" as described in the Disturbance Monitoring Standard Operation Procedure (SOP) during this M4 monitoring period. This deforestation was identified and mapped using remote sensing methods as directed by the SOP, and as such, the areas are not contiguous and highly dispersed. To determine the resulting emission from this disturbance, the emission factor for each forest strata in the PAA was used and multiplied by the area of each forest strata deforested. This is the most conservative method for determining the project emission as it assumes the complete loss of all forest to the baseline condition.

#### **Emissions Calculation**

Emissions for the M4 monitoring period within the PAA were calculated by multiplying the activity data depicted below in Table 3.8 by the Project emission factors.



#### Table 3.8 Emissions calculations

Stratum	Area (ha)	Emission Factors (t CO <sub>2</sub> e/ ha)	Project Emission (t CO <sub>2</sub> e)
Evergreen Forest	1,033.38	409.56	423,226.82
Deciduous Forest	24.03	272.40	6,545.67
Out Area	0.5	0	0
Total	1,057.41	404.00	429,772.50

#### 3.2.2.4 Determining Carbon Stored in WP

As the SCRP is utilizing the Cambodian national FREL for the Project's baseline, the carbon pool of WP is not included so as to ensure consistency between the carbon accounting of the Project and the national FREL. Therefore, MRR.30, MRR.31, MRR.35, MRR.36, and MRR.37 are not applicable to the Project.

### 3.2.2.5 Calculating GHG Emissions from Livestock Grazing and the Use of Synthetic Fertilizers

There is no grazing of livestock in the Project Area. Therefore, MRR.38, MRR.39, and MRR.40 are not applicable to the Project.

MRR.41 A report of record of the quantity of synthetic fertilizer applications in the Project Area.

MRR.42 Emissions released due to use of synthetic fertilizer  $E_{p \; \Delta SF}^{[m]}$ 

MRR.43 Calculations to determine  $E_{p \; \Delta SF}^{[m]}$ 

In addition, no inputs such as any fertilizers, chemical pesticides, and biological control agents are intended to be used for the Project or in the Project Area. Therefore, these do not apply.

#### 3.2.3 Leakage Emissions (VCS, 2.5, 3.2, 3.6, 3.15, 4.3)

### 3.2.3.1 Leakage Mitigation Strategies (CL2.2.)

MRR.44 A description of project activities that have been implemented since the project start date and the estimated effects of these activities on leakage mitigation.

The status of the Project Activities is described in full detail in Section 4.3.1. Activities were designed to mitigate deforestation and human-wildlife conflict as well as to enhance livelihoods throughout the Project Zone. They therefore by design serve to mitigate leakage and uphold Project permanence. Please see section 4.3.1 for the status of each Project Activity during the current monitoring period and monitored values of the effect of each activity.

MRR.45 List of mitigation activities to reduce demand for forgone goods and services.

MRR.46 Quantities for the reduction or replacement of goods and services if they are used in section 8.3.3.4 of the methodology VM0009.



#### MRR.47 Methods for measuring the reduction or replacement of goods and services.

During this monitoring period, no leakage mitigation activities were included that were designed to directly reduce the demand for forgone goods or services from the Project Area. These MRRs are not applicable to the Project at this time.

#### 3.2.3.2 Activity-Shifting Leakage (CL2.1.)

There were no changes or revisions to the activity-shifting leakage area as described in the PD section 3.2.3.1.1. Therefore, MRR.50 to 55 are not applicable to the SCRP at this period.

MRR.48 Calculated cumulative emissions from activity-shifting leakage for the current monitoring period and supporting calculations.

The cumulative emissions from activity-shifting leakage for the current monitoring period are 0 t CO<sub>2</sub>e. Please see Annex 14 - SCRP Leakage Model M4 for the data and calculations. Section 3.2.3.3 below shows the parameterization of the activity-shifting leakage model.

MRR.49 Calculated cumulative emissions from activity-shifting leakage for the prior monitoring periods.

Not applicable. As this was the Project's fourth monitoring period and there were no emissions from activity-shifting leakage in the prior monitoring period (M3).

### 3.2.3.3 The Leakage Emissions Model

Activity shifting leakage is estimated by empirical, in-situ observation of sample points in the activity shifting leakage areas for evidence of conversion and forest degradation. The sample plot observations are used to estimate the cumulative emissions from activity-shifting leakage for each monitoring period with equation [F.46] from VM0009 v3.0 using the Leakage Emissions Model (LEM). The LEM is normally parameterized using equation [F.48], utilizing the  $(\alpha, \beta \text{ and } \theta)$  parameters from the BEM (VM0009 section 6.8). This is done when the BEM is applied at the Project level. Because the SCRP uses a nationally submitted FREL, the project cannot calculate the  $\alpha, \beta$  and  $\theta$  parameters. As described in Section 2.2.3, the Project has modified the leakage emissions model (LEM) from equation [F.48] in VM0009 to determine emissions from measured degradation in the activity-shifting leakage area and the carbon stock off this area. Additionally, as the Project is using the official Cambodian FREL for the project reference level, it has as well used the Cambodian FREL to determine a reference level for the activity-shifting leakage area was allocated from the national FREL using the same data and methods as the project area reference level was. The calculations for the allocation of the reference level to the activity-shifting leakage area have been provided to the auditor in Annex 14 – SCRP Leakage Model M4.

The measured emissions from the activity-shifting leakage area are then compared to the reference level for the activity-shifting leakage area, using the modified equation [F.48], with any emissions above the reference level assumed to be the result of activity-shifting leakage.

For sampling, conversion and forest degradation is sampled in the activity shifting leakage area by empirical, in-situ observation of sample plots. The sample design utilized is a simple random sample of 36 forest leakage area plots within the activity-shifting leakage area. Please see Appendix 5 for maps delineating the activity-shifting leakage area and the sample plot locations. The procedures used for locating and sampling the activity-shifting leakage areas are found in the 'Standard Operating Procedure Activity-Shifting Leakage Area' document. Plot teams visited each leakage plot a priori to confirm that each plot begins in a non-converted state and that its location is appropriate with respect to the agents and drivers in the Project baseline scenario. The plots were measured for this M4 monitoring period between December 2022 and May 2023.

The Leakage Emissions Model is dictated by the VCS methodology VM0009 v3 equation [F.48] for a forested PAA. As described in Section 2.2.3, this equation has been modified since the Project is utilizing the Cambodian FREL for the project reference level in place of the BEM. This model estimates cumulative carbon emissions from activity-shifting leakage based on field measurements in the leakage area and the reference level for the activity-shifting leakage area.

Where the modified equation [F.48] is:

$$LEM_{F}\left(C_{P},\ C_{B},\ p_{L\ DEG},p_{L\ DEG}^{[m=0]},E_{B\ ASF}^{[m4]}\right) = \left(p_{L\ DEG}^{[m=0]}-\ p_{L\ DEG}^{[m4]}\right)\times\ A_{ASL}\ \times\ (C_{P}-\ C_{B}) -\ E_{B\ ASF}^{[m4]}$$

Where:

 $p_{L\,DEG}^{[m4]}$  = the proportion of leakage due to degradation in forest at the end of the current monitoring period.

 $p_{L\,DEG}^{[m=0]}$  = the proportion of leakage due to degradation prior to the first monitoring period.

 $A_{ASL}$  = the area of the Activity Shifting leakage area (ha).

 $E_{\it B~ASF}^{[m4]}$  = the baseline emissions for the activity-shifting leakage area. (t CO<sub>2</sub>e)

C<sub>P</sub> =the Project's carbon stock at the end of the current monitoring period (t CO<sub>2</sub>e/ha)

 $C_{\rm B}$ = the baseline carbon stock at the end of the current monitoring period (t CO<sub>2</sub>e/ha)

The parameter  $p_{L\,DEG}^{[m]}$  is estimated at least once every five years from measurements taken in-situ within the PAA. The Standard Operating Procedure (SOP) used for estimating these parameters is depicted in Annex 07 – Standard Operating Procedure Densiometer Forest Leakage.

If at the end of a monitoring period, the result of the  $LEM_F^{[m4-1]}$  from the prior monitoring period is higher than the reference level,  $E_{B\ ASF}^{[m4-1]}$ , for the activity-shifting leakage for the current monitoring period, then the result of the  $LEM_F^{[m4-1]}$  will be used for the parameter  $E_{B\ ASF}^{[m4]}$  in place of the reference level.

If applicable, emissions resulting from activity-shifting leakage are then calculated with equation [F.46].



$$E_{L\,ASF}^{[m4]} = LEM\left(C_p^{[m4]}, C_B^{[m4]}, P_{L\,Deg}^{[m4]}, E_{B\,ASF}^{[m4]}\right)$$

Where:

 $E_{L\,ASF}^{[m4]}$  = Cumulative emissions from activity-shifting leakage in forested areas (t CO<sub>2</sub>e);

 $C_n^{[m4]}$  = the Project's carbon stock at the end of the current monitoring period (t CO<sub>2</sub>e/ha);

 $C_R^{[m4]}$  = the baseline carbon stock at the end of the current monitoring period (t CO<sub>2</sub>e/ha);

 $P_{L\ Deg}^{[m4]}$  = the proportion of leakage due to degradation in forest at the end of the current monitoring period:

 $E_{B\ ASF}^{[m4]}=$  the baseline emissions for the activity-shifting leakage area (t CO<sub>2</sub>e);

Equation [F.46] is not used as the result of the  $LEM_F^{[m4-1]}$  from the prior monitoring period is not higher than the reference level,  $E_{B\,ASF}^{[m4-1]}$ , for the activity-shifting leakage for the current monitoring period. Equations [F.47] and [F.49] are not used since the project does not contain an ACoGS (avoided conversion of grassland & shrubland) component.

MRR.56 The estimated value  $p_{LDEG}^{[m4]}$  for the current monitoring period and supporting calculations.

The calculated value of  $p_{L\,DEG}^{[m4]}$  for the SCRP is 0.81. This is calculated based on the guidance of Section 8.3.2.3 and B.9 in the methodology VM0009 v3.

$$z = \frac{1}{\sum_{k \in S} A_k} \sum_{k \in S} \frac{A_k}{n_k} \sum_{j \in p_k} y_{j,k}$$

Where;

z = the estimated average in the sampled area, for carbon this is c and for degradation this is  $p_{L\,DEG}^{\Box}$ 

 $A_k$  = the area of stratum k

 $n_k$  = the number of plots in stratum k

 $y_{i,k}$  = a quantity estimated for or measured on plot j in stratum k

 $P_k$  = the set of all plots in stratum k

S = the set of all strata

When simplified;

$$\mathbf{0.81} = \frac{66.58}{82.11}$$

MRR.57 The calculated value  $p_{LDEG}^{[m=0]}$  calculated for the first monitoring period.



Meanwhile, the calculated value of  $p_{L\,DEG}^{[m=0]}$  or leakage prior to the first monitoring period for the SCRP is 1.01. This is calculated based on the guidance of Section 8.3.2.3 and B.9 in the methodology VM0009 v3.

Where;

$$\mathbf{1.01} = \frac{82.64}{82.11}$$

The leakage plot data and supporting calculations can be seen in Annex 14 - SCRP Leakage Model M4.

MRR.58 The estimated value  $p_{L\,CON}^{[m=4]}$  for the current monitoring period and supporting calculations. MRR.59 The calculated value of  $p_{L\,CON}^{[m=0]}$  for the first monitoring period.

There is no ACoGS (avoided conversion of grassland & shrubland) component for the SCRP. Therefore, these MRRs do not apply.

#### 3.2.3.4 Market Leakage

Market leakage can occur if a project reduces the supply of market goods, such as timber, relative to the baseline. As described in the PD Section 2.1.11, the most likely baseline scenario is conversion of forest to agriculture. This agriculture is primarily subsistence, with little production remaining beyond household consumption. Food security is a serious issue as discussed in PD Section 4.1.1, throughout the Project Zone. Without the Project, there would be increasing demand for land and continued low productivity of agricultural production, crop failures from droughts, fluctuation of crop price, and few alternatives for income generating activities available to local communities. Given that the agents and drivers generally practice commercial farming, the project may result in a net reduction in agricultural production.

## MRR.60 The selected approach to determining emissions from market leakage.

The VCS Tool, VMD0037 Global Commodity Leakage Module: Production Approach (LM-P) was used to determine the market effects leakage resulting from the SCRP. This tool estimates the amount of commodity production potentially impacted by the project and calculates a global commodity leakage deduction expressed as a percentage. The tool uses the area of the project and common crops grown in the region and the stock of harvestable timber present to estimate a potential forgone commodity production caused by the Project Activity. The Tool achieves this by using the planted area of the primary agricultural crops in the jurisdiction in which the Project Area is located and the timber stock present in the Project Area in relation to the quantity of timber produced nationally to determine the potential of forgone production that may cause an increased supply elsewhere in the country through the deforestation of land. This tool was parameterized using a variety of data sources. This includes Project information included in this report for Project Area and carbon stocks. Public data sources were used to determine the total area of forest and agricultural land in Cambodia, primary crops in Koh Kong province, their yield, and the total area in which these crops are planted within Koh Kong province, and nationally. Data on the primary crops grown and the total area of these crops planted in Koh Kong province and nationally was obtained from The Census of Agriculture in Cambodia 2013 (NIS, 2015).



The crop yield values for the primary crops grown in Koh Kong province were obtained from the report *Cambodian Agriculture in Transition: Opportunities and Risks* (World Bank, 2015). The quantity of timber in the Project Area was determined from the project's forest inventory. Values for the volume of timber harvested in Cambodia were obtained from the FAO Forest Resource Assessment for Cambodia and FAOSTAT (FAO, 2015; FAOSTAT, 2018).

# MRR.61 Estimated cumulative emissions from market leakage for the current monitoring period $E_{LME}^{[m]}$ and supporting calculations.

The calculated market leakage value for the current monitoring period (M4) is 0.67%. This rate would result in estimated total emissions from market leakage during the current monitoring period of 54,134 tCO<sub>2</sub>e. The market leakage rate has been calculated in the document Annex 15 – SCRP\_Market Leakage Tool M4 and the estimated cumulative emissions from market leakage was calculated in the document Annex 12 - Cardamoms RL M4. Both of these documents have been provided to the auditor for review.

The calculated market leakage value for the current monitoring period (M4) of the SCRP is calculated using equation [F.51]:

$$E_{LME}^{[m4]} = p_{LME} E_{R}^{[m]}$$

Where:

 $E_{L\,ME}^{[m4]}$  = Cumulative emissions from activity-shifting leakage from market at the end of the current monitoring period; tCO<sub>2</sub>e

 $p_{LME}$  = Market Discount Factors by Proportion of Merchantable Biomass

 $E_{\scriptscriptstyle B}^{[m4]}$  = Cumulative baseline emissions at the end of the current monitoring period; tCO<sub>2</sub>e

Where;

**54**, **134** 
$$t$$
  $CO2e = 0.67\% * 8,079,504$ 

# MRR.62 Calculated cumulative emissions from market leakage for the prior monitoring periods $E_{LME}^{[m]}$

The calculated market leakage value for the previous monitoring period (M3) was 0.67%, (M2) was 0.67%, and 0.74% for M1. This rate resulted in estimated cumulative emissions from market leakage during the prior monitoring periods of 28,811 tCO<sub>2</sub>e (M3), 88,795 tCO<sub>2</sub>e (M2), and 99,181 tCO<sub>2</sub>e (M1). The estimated cumulative emissions from market leakage were calculated in the document Annex 12 - Cardamoms RL M4. This document has been provided to the auditor for review.

The calculated market leakage value for the previous monitoring periods of the SCRP is calculated using equation [F.45] and multiplying the result by three to account for the three years within the monitoring periods:

M1;



**99**, **181** 
$$t$$
  $CO2e = (0.74 * 33,060) * 3$ 

M2;

**88**, **795** 
$$t$$
  $CO2e = (0.67 * 29,598) * 3$ 

M3;

**28**, **811** 
$$t$$
  $CO2e = (0.67 * 28,811) * 1$ 

MRR.63 Provide location-by-location evidence that management plans and land-use designations of all areas under the Project proponent's control within the country have not changed as a result of the Project. For entities with a conservation mission, provide evidence of the organization's policy not to change the land use of other owned and managed lands, and evidence of compliance with such a policy.

The Project proponent, the Royal Government of Cambodia's Ministry of Environment (MOE), is the government entity that is authorized to manage all protected areas in the country (Protected Area Law 2008; Royal Decree on the Establishment and Designation of Protected Areas, 1993). According to the above-mentioned laws, the mandate for the MOE is to manage protected areas in the country and to stop deforestation and degradation in protected areas. The implementation of the SCRP has not changed the land-use of other protected areas in the country. The MOE's forest protection policy has not changed since its establishment. In fact, the number of protected areas under the MOE's jurisdiction has increased since the implementation of the Project. In 2016, all protected forests that were under the management of the Ministry of Agriculture, Fisheries, and Forests (MAFF) were transferred to the MOE (Sub-Decree No 69 RGC – transfer of lands from MAFF to MOE; Establishment of 18 Natural Protected Areas under the Management of Ministry of Environment). An example of this is the former Southern Cardamom Protected Forest that in turn became Southern Cardamom National Park (Sub-decree No 89 RGC – Creation of SC National Park).

#### 3.2.4 GHG Emission Reductions and Carbon Dioxide Removals (VCS, 3.15, 4.1)

State the non-permanence risk rating (%)	14%
Has the non-permanence risk report been attached as either an appendix or a separate document?	⊠ Yes □ No
For ARR and IFM projects with harvesting, state, in tCO2e, the Long-term Average (LTA).	Not applicable.
Has the LTA been updated based on monitored data, if applicable?	☐ Yes ☒ No Project is not a ARR or IFM project type



State, in tCO2e, the expected total GHG benefit to date.	38,746,386
If a loss occurred (including a loss event or reversal), state the amount of tCO2e lost:	429,774

### 3.2.4.1 Determining Reversals

MRR.72 A description of the reversal including which pools contributed to the reversal and reasons for its occurrence.

There have been no reversals in the SCRP.

#### 3.2.4.2 Determining Reversals as a Result of Baseline Re-evaluation

MRR.73 A description of the reversal including a summary of new data obtained in the reference area.

There have been no reversals in the SCRP. The next baseline re-evaluation will be 10 years after the Project Start date, in 2025.

#### 3.2.4.3 Quantifying Net Emission Reductions for a PAA

MRR.68 The confidence deduction and estimated standard errors used to determine the confidence deduction.

In accordance with VM0009 v3.0, section 8.4.1.1, the confidence deduction is determined by linearly combining weighted uncertainties (standard errors) from the Project accounting area, proxy area, and the baseline emission model (BEM). However, because the SCRP uses a nationally submitted FREL, the total uncertainty in the BEM does not exist and is therefore set to zero in equation [F.57]. Per VCS AFOLU Requirements, if the total combined error is above 15%, a deduction is applied as the difference between the calculated combined error and 15%. Otherwise, the confidence deduction is zero. The calculated uncertainties used for the determination of the confidence deduction were:

- Uncertainty in carbon stock estimates in the Project accounting area,  $(U_p^{[m=4]})$ : 6,677,975 tCO<sub>2</sub>e
- Uncertainty in carbon stock estimates in the proxy area,  $(U_B^{[m=4]})$ : 29,359 tCO<sub>2</sub>e
- Uncertainty in the baseline emissions model (BEM),  $(U_{\it EM}^{[m=4]})$ : 0 tCO $_{\it 2}$ e

The calculated carbon stocks for the Project accounting area and proxy area are:

- Total measured carbon stock in the project accounting area,  $(C_p^{[m=4]})$ : 405.66 tCO<sub>2</sub>e/ha
- Total measured carbon stock in the proxy area,  $(C_R^{[m=4]})$ : 1.61 tCO<sub>2</sub>e/ha

Baseline emissions for the current monitoring period are:



• Change in baseline emissions, ( $E_{B \Delta}^{[m=4]}$ ): 8,509,279 tCO<sub>2</sub>e

For the current monitoring period (M4), the confidence deduction, as per VM0009 v3.0 equation [F.57] is – Cumulative confidence deduction,  $E_U^{[m=4]}$ : 0 tCO<sub>2</sub>e

#### MRR.69 Reference to calculations used to determine the confidence deduction.

The cumulative confidence deduction,  $E_{II}^{[m=4]}$ , was calculated using VM0009 v3.0 equation [F.57]:

$$E_{U}^{[m=4]} = E_{B\Delta}^{[m=4]} \left[ \frac{1.64}{E_{B\Delta}^{[m=4]} + A_{PAA} \times c_{P}^{[m=4]} + A_{PX} \times c_{B}^{[m=4]}} \times \sqrt{\left(U_{EM}^{[m=4]}\right)^{2} + \left(U_{P}^{[m=4]}\right)^{2} + \left(U_{B}^{[m=4]}\right)^{2}} - 0.15 \right]$$

Where:

 $c_P^{[m=4]}$  is total measured carbon stock in the Project Accounting Area;

 $c_{R}^{[m=4]}$  is total Proxy Area carbon stock;

 $E_{RA}^{[m=4]}$  is change in baseline emissions;

 $U_{EM}^{[m=4]}$  is the total uncertainty for the baseline emissions model (BEM), set to zero;

 $U_p^{[m=4]}$  is the total uncertainty in the Project Accounting Area;

 $U_{R}^{[m=4]}$  is the total uncertainty in the Proxy Area;

 $A_{PAA}$  is the area of the Project Accounting Area;

 $A_{PX}$  is the area of the Proxy Area.

Where:

-781.062 tCO2e

$$= 8,509,279 \left[ \frac{1.64}{8,509,279 + 442,871 \times 179,588,048.1 + 27,717.7 \times 47,122} \times \sqrt{(0)^2 + (6,677,975)^2 + (29,359)^2} - 0.15 \right]$$

### MRR.65 Quantified GERs for the current monitoring period including references to calculations.

For complete calculations on net emission reductions, please see the file in Annex 12 – Cardamoms RL M4.

Gross emission reductions are calculated for the single PAA in the SCRP using equation [F.53].

$$E_{\Delta\,GER}^{[m4]} = \, E_{B\,\Delta}^{[m4]} - \, E_{P\,\Delta}^{[m4]} - \, E_{L\,\Delta}^{[m4]} - \, E_{U}^{[m4]}$$



Where:

 $E_{\Delta \, GER}^{[m4]}$  = GERs for the current monitoring period

 $E_{B \Delta}^{[m4]}$  = Change in baseline emissions

 $E_{P\Lambda}^{[M4]}$  = Change in project emissions

 $E_{L\Delta}^{[m4]}$  = Change in emissions due to leakage

 $E_{II}^{[m4]}$  = Confidence deduction

GERs for this monitoring period were then calculated as:

**8.025.370** 
$$tCO2$$
  $e = 8.509.279 - 429.774 - 54.134 - 0$ 

#### MRR.66 Quantified GERs for the prior monitoring period including references to calculations.

Gross emission reductions for all prior monitoring periods are calculated for the single PAA in the SCRP using equation [F.53].

$$E_{\Delta \, GER}^{[m]} = E_{B \, \Delta}^{[m]} - E_{P \, \Delta}^{[m]} - E_{L \, \Delta}^{[m]} - E_{U}^{[m]}$$

GERs for the prior monitoring period were then calculated as:

M1:

$$E_{\Delta GER}^{[m1]} = 13,384,794 - 0 - 99,181 - 0$$

For:  $E_{\Delta GER}^{[m1]}$  = 13,285,613 tCO<sub>2</sub>e

M2:

$$E_{\Delta GER}^{[m2]} = 13,252,916 - 0 - 88,795 - 0$$

For:  $E_{\Delta GER}^{[m2]}$  = 13,164,122 tCO<sub>2</sub>e

M3:

$$E_{\Delta \, GER}^{[m3]} = 4,433,527 - 133,435 - 28,811 - 0$$

For:  $E_{\Delta GER}^{[m3]}$  = 4,271,282 tCO<sub>2</sub>e

MRR.67 A graph of GERs by monitoring period for all monitoring periods to date.

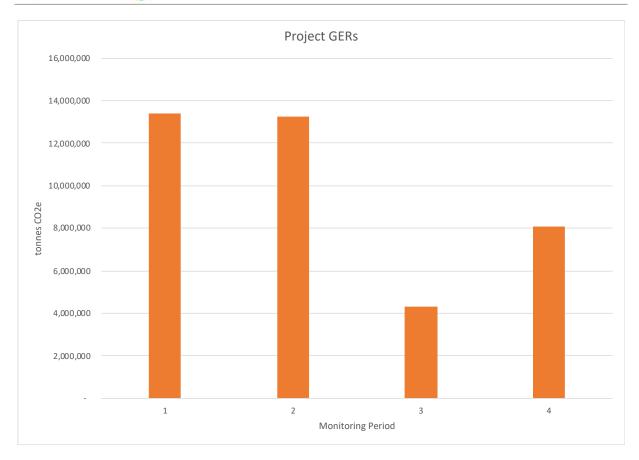


Figure 3.3 A graph showing the total GERs for this monitoring period (M4).

#### MRR.77 Reference to the VCS requirements used to determine the buffer account allocation.

The buffer account allocation for the first monitoring period of the Project was calculated according to the VCS requirements as stated in the VCS Standard Version 4.2, VCS Registration and Issuance Process Version 4.2, and the VCS Non-Permanence Risk Tool Version 4.0. Please refer to Annex 16 – Non-Permanence Risk Report M4 for the determination of the buffer allocation amount. Please refer to Annex 12 – Cardamoms RL M4 for the calculation of the total number of credits to be allocated to the VCS buffer pool. The Project's risk rating for the M4 monitoring period is 10%.

#### MRR.78 Reference to calculations used to determine the buffer account allocation.

Calculations for the buffer account allocation can be found in Annex 16 – Non-Permanence Risk Report M4. The Project's buffer account contribution for the M4 monitoring period is 1,131,131 tCO<sub>2</sub>e.

#### MRR.74 Quantified NERs for the current monitoring period including references to calculations.

Annual net emission reductions (NERs) for the Project are calculated for each PAA by subtracting the VCS buffer pool allocation from GERs using equation [F.55] from the methodology VM0009 v3.0:

$$E_{\Delta NER}^{[m]} = E_{\Delta GER}^{[m]} - E_{BA}^{[m]}$$

Where:



 $E_{\Delta \, NER}^{[m4]}$  = NERs for the monitoring period; tCO<sub>2</sub>e

 $E_{\Delta \, GER}^{[m4]}$  = GERs for the monitoring period; tCO<sub>2</sub>e

 $E_{BA}^{[m4]}$  = Cumulative emissions allocated to the buffer account at the end of the current monitoring period; tCO<sub>2</sub>e

Where:

**6**, **894**, **239** 
$$tCO2e = 8,025,370 - 1,131,131$$

NERs for the current monitoring period (M4) are **6,894,239 tCO<sub>2</sub>e**. Calculations can be found in Annex 12 – Cardamoms RL M4

#### MRR.75 Quantified NERs for the prior monitoring periods.

Annual net emission reductions (NERs) for all prior monitoring periods were calculated using equation [F.55] from the methodology VM0009 v3.0. Calculations can be found in Annex 12 – Cardamoms RL M4 and below:

M1:

$$E_{\Delta \, NER}^{[m1]} = 13,285,613 \, tCO_e - 1,338,479 \, tCO_e = 11,947,133 \, tCO_e$$

M2:

$$E_{\Delta NER}^{[m2]} = 13,164,122 \ tCO_e - 1,325,292 \ tCO_e = 11,838,830 \ tCO_e$$

M3:

$$E_{hNFR}^{[m3]} = 4,271,282 \ tCO_e - 430,009 \ tCO_e = 3,841,272 \ tCO_e$$

MRR.76 A graph of NERs by monitoring period for all monitoring periods to date.

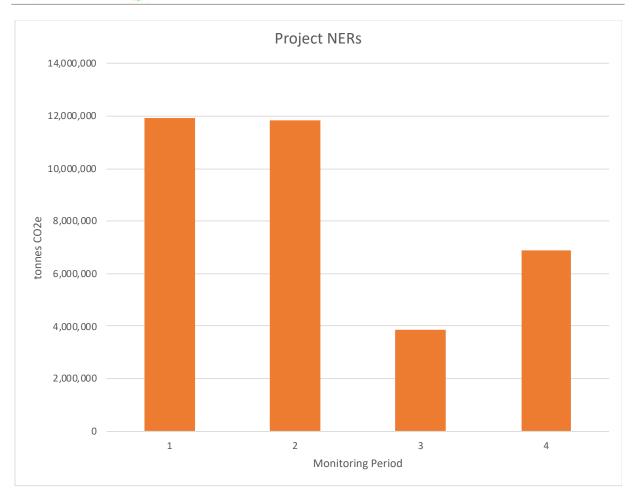


Figure 3.4 A graph showing the total NERs for this monitoring period (m=4)

Table 3.9 below shows the project crediting period starting from the first monitoring period until the current. The buffer account allocation for the first monitoring period of the Project was calculated according to the VCS requirements as stated in the VCS Standard Version 4.2, VCS Registration and Issuance Process Version 4.2, and the VCS Non-Permanence Risk Tool Version 4.0. Please refer to Annex 16 – Non- Permanence Risk Report M4 for the determination of the buffer allocation amount. Please refer to Annex 12 – Cardamoms RL M4 for the calculation of the total number of credits to be allocated to the VCS buffer pool. The Project's risk rating for the M4 monitoring period is 10%.

Table 3.9 Project crediting of the four monitoring periods and their calculated emissions.

Vintage period	Baseline emissions (tCO <sub>2</sub> e)	Project emissions (tCO <sub>2</sub> e)	Leakage emissions (tCO <sub>2</sub> e)	Buffer pool allocation (tCO <sub>2</sub> e)	Reductions VCUs (tCO <sub>2</sub> e)	Removals VCUs (tCO <sub>2</sub> e)
2015-2018	13,384,794	0	99,181	1,338,479	11,947,133	0
2018-2020	13,252,916	0	88,975	1,325,292	11,838,830	0



2020-2021	4,433,527	133,435	28,811	430,009	3,841,272	0
2022-2023	8,509,279	429,774	54,134	1,131,131	6,894,239	0
Total	39,580,516	563,209	270,920	4,224,911	34,521,475	

## 3.2.4.4 Quantifying Net Emission Reductions Across PAAs (CL1.1)

MRR.79 Quantified NERs for the current monitoring period including references to calculations.

As there is one PAA for the SCRP, this MRR does not apply.

MRR.80 Quantified NERs for the prior monitoring period.

As there is one PAA for the SCRP, this MRR does not apply.

MRR.81 A graph of NERs by monitoring period for all monitoring periods to date.

As there is one PAA for the SCRP, this MRR does not apply.

#### 3.2.4.5 *Ex-Ante* Estimation of NERs (CL1.2 & 1.4)

MRR.82 Quantified NERs by vintage year for the current monitoring period including references to calculations.

**Error! Reference source not found.** below shows the ex-ante estimates and achieved reductions along with their percentage of difference starting from the first monitoring period. The quantified NERs by vintage were calculated in an external workbook in Annex 12. This workbook was provided to the auditor during the verification. The Cambodian FREL, which the SCRP is utilizing for the Project's baseline, is presented as an annual value. Therefore, there are no further calculations needed to quantify the NERs as annual vintages from a monitoring period total.

Table 3.10 Ex-ante estimates and achieved reductions of the GHG emission of the four monitoring periods.

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
2015-2017	11,947,134	11,947,133	0%	
2018-2020	10,608,654	11,838,830	10%	Natural variation in the remeasured plots, less leakage than estimated,
2020-2021	3,536,218	3,841,272	8%	Natural variation in the remeasured plots, less leakage than estimated, but greater project emissions
2022-2023	7,072,436	6,894,239	3%	Natural variation in the remeasured plots, less



Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
				leakage than estimated, but greater project emissions
Total	33,164,442	34,521,475	4%	Natural variation in the remeasured plots, less leakage than estimated, but greater project emissions

#### 3.2.4.6 Evaluating Project Performance

#### MRR.83 Comparison of NERs presented for verification relative to NERs from ex-ante estimates.

PDR.118 in Section 3.2.4.12 of the SCRP PD lists the NER ex-ante estimate for the M3 monitoring period of 2022-2023 as 7,072,436 tCO<sub>2</sub>e per year. The NERs presented for verification of the M4 monitoring period as seen in Table 3.9 below shows the project crediting period starting from the first monitoring period until the current. The buffer account allocation for the first monitoring period of the Project was calculated according to the VCS requirements as stated in the VCS Standard Version 4.2, VCS Registration and Issuance Process Version 4.2, and the VCS Non-Permanence Risk Tool Version 4.0. Please refer to Annex 16 – Non- Permanence Risk Report M4 for the determination of the buffer allocation amount. Please refer to Annex 12 – Cardamoms RL M4 for the calculation of the total number of credits to be allocated to the VCS buffer pool. The Project's risk rating for the M4 monitoring period is 10%.

Table 3.9 Project crediting of the four monitoring periods and their calculated emissions are 6,894,239 tCO<sub>2</sub>e or a 3% reduction.

#### MRR.84 Description of the cause and effect of deviations from ex-ante estimates.

The cause of the minor reduction in NERs as presented for verification in this report and those presented as ex-ante estimates in the PD as documented in MRR.83 is a combination of differences in the measured levels of activity-shifting leakage and project emissions in the monitoring period then was estimated in the ex-ante estimates. In the monitoring period there was no measured activity-shifting leakage, whereas this was estimated at 10% in the ex-ante estimates. However, there was higher measured project emissions in the monitoring period than what was estimated in the ex-ante estimates. As well the updating of the measured forest carbon stock. During the M4 period, 21% of the forest inventory plots were remeasured as required by the project climate monitoring plan. The remeasured plots resulted in a minor reduction in the modeled forest carbon stock due to natural variation in the plots. There were no areas of conversion or degradation detected in the inventory plots to cause this reduction. The effect of this minor reduction in the quantity of NERs in comparison to the ex-ante estimates is a small reduction in issued VCUs and therefore, potential project revenue. This effect is viewed as minor and will not result in any changes in project budgets or management.



# 3.3 Optional Criterion: Climate Change Adaptation Benefits

### 3.3.1 Activities and/or processes implemented for Adaptation (CCB, GL1.3)

Please refer to Section Project *Implementation Status* for a detailed description of the Project's implementation status. This section will include a brief overview of implemented project activities and how they specifically assist communities or biodiversity adapt to climate change.

#### Communities

The implemented activities to assist communities with the adaptation to probable impacts of climate change includes the direct employment by the Project, training on new income generating activities, and training on new and improved agricultural methods. Both activities will help mitigate for the communities the most probably impacts of climate change, notably reduction in agricultural yield due to climatic changes and loss of income and damage from flooding.

#### **Biodiversity**

The most primary and most vital Project activity for to assist biodiversity is the protection of the Project area from deforestation and degradation. Through the maintenance of the native forest condition in an unfragmented state, it will provide the forest ecosystem with the greatest resilience against the most probable impacts of climate change. This will provide the biodiversity with continued food and water sources in a sustainable fashion, and a stable habitat.

Table 3.11 describes the expected climate changes in the Project zone, their effect on the communities or biodiversity and the Project's adaptive strategy. The Project is also employing adaptive management; therefore, as new climate change risks and/or effects are identified during the Project's lifetime new adaptive strategies will be developed and implemented. The Project's casual model is shown in the PD Section 2.1.11. These results chains demonstrate the how the Project activities will achieve the Project's stated adaptation benefits.

Table 3.11 Project climate change adaptation benefits

Climate change risks	Potential effects	Potential mitigative/adaptive strategies
More intense and longer droughts	Low land productivity or complete crop failure, less pasture for livestock and wildlife, more severe fires	Reduce dependence on livestock and land through alternative IGAs, promote cultivation of drought resistant crops, improve storage facilities and management of crops, water harvesting and water storage, raise awareness of danger of fires
Increased flood risk	Destruction of agricultural crops and development	Conservation of the forest in the Project Area will increase water eco-system services, reducing flood



Climate change risks	Potential effects	Potential mitigative/adaptive strategies
		risk. Improved agricultural techniques will help crops survive flooding.
Low capacity of local populations to adapt to frequent natural disasters	Increase in periods of food insecurity, potential increase in disease and deaths with continuing very low health standards, potential for increasing intercommunity conflict	Increase support of local institutional structures including the norms and rules of governance to help develop adaptive strategies, increase literacy levels, diversification of livelihood activities and income generation Projects, involve women to a greater degree in decision making processes, increase general participation in decision making at the local level
Decreased biodiversity, loss of forest cover to drought, temperature change	Reduction in species, more species at risk	Help to maintain intact and interconnected ecosystems through protection of ecosystems, ensure landscape connectivity to allow migration, regeneration activities using indigenous, drought-resistant trees

# 4 COMMUNITY

# 4.1 Net Positive Community Impacts

# 4.1.1 Community Impacts (CCB, CM2.1)

Community group	Community in general – present and future
Impact	Enhanced ecosystem goods and services and improved livelihoods through better education, health, and food security
Type of benefit/cost/risk	Actual direct benefit
Change in well-being	Overall, there are further improvements to the livelihood of communities in general from 2022 to 2023, in terms of revenue from tourism of CBET, facilities, scholarship, etc. For instance, seven students were granted scholarships for university in Phnom Penh of four years along with seven students benefiting from the project's bursary schemes from 2022 to 2023. More beneficiary families have benefited from SCRP-related health schemes, which increased by 6%

compared to 2021. More people in the communities with an average of 84 people per village have attended awareness meetings regarding the importance of conservation. The number of functional schools per commune has also increased to 8 schools functioning per commune. There was an increase by 54 families who have undergone agricultural training during this monitoring period. There was also an increase of sales by 8.3% in local and external markets per household in this period. Finally, the percentage of students not in school due to inadequate school fees has reduced to none.

Community group	Youth and women	
Impact	Availability of jobs, alternative IGAs and education including CBET development	
Type of benefit/cost/risk	Predicted direct benefit	
Change in well-being	Major impact on communities and households, including youth and women groups. For instance, there are 6 female students out of the 17 students who benefited from the bursary scheme of the Cardamom REDD+ Community Education Scholarship Program since 2021. During this monitoring period, there are 7 new students who benefited from the scheme. In addition, the number of families participating in and providing eco-tourism services in Chhay Areng Valley has increased by 20 families to a total of 169 beneficiary families during 2022 to 2023, compared to the previous monitoring period  From 2022 to 2023, the Project provided training events to 289 attendees who are service providers involved in the Chi Phat (118, 62 of which are women) and Steung Areng (171, 106 of which are women) Community-Based Ecotourism (CBET). These training courses were varied according to each community's needs, including nature guiding and cooking skills; waste management; email, accounting, and making package tours; etc. In addition, the Project provides ongoing, on-the-job development, coaching and capacity building through mentoring and support.	

**Community group** 

**General Community** 



Impact	Capacity building and social capital development
Type of benefit/cost/risk	Actual direct benefit
Change in well-being	In 2022, the Chi Phat and Areng CBET was successful in obtaining the official recognition from the National Committee for Management and Development of Community-Based Tourism and Ecotourism, a joint body comprising the Ministry of Environment, Ministry of Tourism, and Ministry of Agriculture, Forestry, and Fisheries, in which provides both communities with better legitimacy and credibility in operating and managing their tourism services. Both communities also open new opportunities for visitors to conduct volunteer work and research projects to expand their network and gather support for conservation efforts.  Furthermore, during this monitoring period, Wildlife Alliance has continuously provided and maintained capacity-building sessions to the community members of the previously established Chi Phat and Steung Areng CBET through various meetings and trainings, such as land use planning, awareness raising and sensitization, ecotourism, and many more.

Community group	Poachers and illegal loggers
Impact	Alternative sources of income
Type of benefit/cost/risk	Predicted direct or indirect benefit
Change in well-being	Potential loss of livelihood sources balanced by direct and indirect gains through REDD+ Project activities including sustainable agriculture, or ecotourism, or development of small family-scale businesses. For example, in 2019 and 2020, the Project started to train civilians to become Southern Cardamom REDD+ rangers, as environmental ranger Agents under the jurisdiction of the Ministry of Environment Provincial Department. To date, 258 rangers and staff have been employed and trained by the project, including the Southern Cardamom Forest Protection Project management staff in Phnom Penh. Their on-the-job training has included Protected Area Law and legal procedures, rescue of wildlife caught in snares or transported by poachers, emergency wildlife care,





patrol techniques, use of GPS, equipment maintenance, first aid and crime scene analysis and documentation.

### 4.1.1.1 Result Chain Diagrams (CM1.1)

The following is a summary of the result chain diagram for community impacts in the SCRP. See the SCRP PD Section 2.1.11 for detailed result chains utilizing the Theory of Change procedure.

#### **Theory of Change Statements**

Based on the extensive experience of the Project proponent in working on biodiversity conservation and community Projects in the SCRP landscape, a literature review, and from information obtained from the SIA workshops held, we applied the theory of change approach to justify our Project rationale and to produce indicators for the CCB monitoring plan. The theory of change is a hypothesis about how a Project intends to achieve its stated objectives, or a roadmap of how it plans to get from Project activities to Project impacts (Richards & Panfil, 2011). As such, we developed a theory of change for each Focal Issues.

The assumptions we make about the cause-and-effect relationships were made explicit in the Result Chain diagrams developed by community members during the SIA workshops, from which the theories of change statements are based. Indicators were developed for key results and assumptions; monitoring of assumptions was included to enable us identify points of deviation early enough. In other words, the indicators outlined in the Monitoring Plan (see Section 4.3) will enable measuring progress towards achieving the desired Project activity outcomes and impacts from Project activities and strategies.

- Focal Issue 1: Poor Community Livelihoods: IF there are adequate and functional health
  facilities, IF education is improved through better facilities and access through bursary
  schemes, and IF there is improved food security from sustainable intensified agriculture, THEN
  the communities will have higher incomes and improved livelihoods.
- Focal Issue 2: Forest Destruction and Land Encroachment: IF participatory land use planning is
  conducted and land tenure security strengthened, IF immigration and land allocations are
  strictly controlled, and IF the Community Protected Area (CPA) is developed following proper
  processes, THEN land grabbing, illegal logging and NTFP collection will be strictly controlled and
  the forest well preserved.
- Focal Issue 3: Wildlife Poaching: IF community-based eco-tourism is developed, IF the
  sensitization and awareness-raising is conducted among communities around the Project area,
  and IF security and law enforcement are strengthened, THEN the both poaching and demand in
  wildlife and bush-meat will decline as will habitat loss, thereby leading to improved wildlife
  populations in the SCRP.

# 4.1.1.2 Risks and negative impact analysis (CM2.1.)



Some of the key risks identified included Human-induced risks including logging and charcoal production, fires encroachment for agriculture and settlement. Others were natural, political and policy (including carbon markets-related) risks which were all considered minimal (See the SCRP PD Section 2.1.18 for a detailed explanation).

During the SIA Community Workshops, the Working Groups were tasked to outline any possible risks and unexpected side effect(s) that might arise because of the Project successfully realizing the desired result. Additionally, they were also required to gauge the likelihood and magnitude of these impacts, and then propose possible mitigation.

#### **Potential Risks**

- Some villagers with legal land tenure sell land to land speculators and become landless again then continue to encroach further beyond agreed land boundaries.
- Rich people push and/or pay the poor to clear forest beyond the boundaries so that they can buy land from them at cheap price for speculative purposes.
- Lack of will to provide honest and active participation from stakeholders (local communities, authorities, and NGOs) into land use planning activities.
- NGO, relevant stakeholders and villagers do not agree with each other on land boundaries.
- Insufficient budget for conducting participatory land use planning or zonation (producing and installing demarcation posts on the ground along land boundaries).
- Immigrants or community members' reluctance to give up their illegal jobs as loggers and or charcoal producers for other jobs due to cultural or financial reasons.

#### Potential negative impacts

- The land use planning process results in loss of land for local community members.
- Only a small number of local families benefit from eco-tourism thus the Project makes separation between beneficiaries from non-beneficiaries creating social disharmony.
- CBET attraction sites are not sufficiently unique thus not competitive compared to other ecotourism Projects in the area.
- Waste from CBET-related activities is not well managed and villages are not cleaned.
- Tourists and tourism are not well managed, leading to the loss of cultural beliefs and social disruption.
- The microfinancing scheme leads to community members borrowing more money than they
  need or can repay and are not able to pay back their debt.
- The scholarship students do not want to come back and teach to their villages of origin after graduation leading to 'brain drain'.



• Agricultural production is not sufficiently diversified and market-driven, leading to over production and/or production of low quality of products that do not fit the needs of the markets.

# 4.1.1.3 Expected changes in the well-being conditions and other characteristics of Communities under the without-project land use scenario

The SIA Community Workshop participants also Projected what would happen to the major direct causes identified for each of the three Focal Issues in the short-to-medium term (5-10 yrs.) in the absence of the REDD+ Project (Table 4.1). See the SCRP PD Section 4.1.4 for additional details on drivers of the changes).

Table 4.1 Future without-Project Projections of the key contributing factors to the Focal Issues identified during the SCRP SIA community workshops.

Focal issue aspect	5 - 10 years	What will drive the change		
Focal issue 1: Poor Community livelihood				
High living cost	Remain unchanged	No well-functioning health facilities in the Project area; Lack of adequate teachers in schools with the Project area communes.		
Low income	Worsen	Inadequate development of education and skills to match growing needs; Poor agricultural techniques; and Population growth including immigration.		
Focal issue 2: Forest des	truction and land end	croachment		
Forest land grabbing	Worsen	High cost of land; High rate of unemployment; Rich and powerful land speculators; Unclear forest boundaries; Low capacity of land management agencies.		
Illegal logging	Worsen	Increased demand in timber making logging more lucrative; Bribery, corruption and no action taken by authorities; No viable alternative products to replace timber.		
Focal issue 3: Wildlife poaching				
High demand in wildlife parts and bush-meat	Worsen	High demand in wildlife, parts and bush-meat by local restaurants and for export; Immigration of poachers into the Project area due to growing poacher-middlemen- trader networking.		



Focal issue aspect	5 - 10 years	What will drive the change
Illegal easy un- controlled access into protected area forest	Worsen	Forest destruction leading to increased access and more trails through which snares are ferried.
Lack of wildlife habitat	Worsen	Forest land encroachment; Forest fires for hunting; Weak law enforcement.

### 4.1.2 Negative Community Impact Mitigation (VCS, 3.19; CCB, CM2.2)

During the monitoring period, the undertaken community-wide activities including development of CBET activities, employment, and deployment of rangers have started accruing benefits to mitigate for economic displacement for poachers and illegal loggers, like access to bursary schemes, improved health access, and agricultural training to help move them away from illegal activities. The community-based project activities are all intended to enhance protection of the forest and its biodiversity by diversifying livelihoods away from natural resource exploitation often associated with illegal activities. This inherently has a positive effect on the High Conservation Values (HCVs) identified, including water catchment protection and fisheries regulation. The community-based activities were also designed and conducted to mitigate any harm that could come towards vulnerable groups, especially women and children, such as by providing better healthcare access, the project's hotline for emergency needs, grievance boxes, and ongoing consultations. Specific safety procedures are also integrated into jobs for female workers to ensure that they adhere to local and international laws. The community-wide activities are therefore consistent with the precautionary principle in that active measures are being taken to reduce the threat of reduction and loss to biodiversity and potential negative impacts to the HCVs.

#### 4.1.3 Net Positive Community Well-Being (VCS 3.19; CCB, CM2.3, GL1.4)

As demonstrated in Section 3.3.1 (Table 3.11), the Project employs adaptive management. Therefore, as new climate change risks and/or effects are identified during the Project's lifetime new adaptive strategies will be developed and implemented. The Project's casual model is shown in the PD Sections 2.1.11. These result chains demonstrate how the Project activities will achieve the Project's stated adaptation benefits. Furthermore, as shown in Section 4.1.1, most of the activities initiated during the reporting period will have multiple positive impacts on a large segment of the communities under the SCRP. The potential costs or negative impacts from implementing the proposed Project activities are minimal and are being mitigated to some extent through the community Projects (e.g., for poachers). Consequently, the net well-being impacts for the reporting period are overwhelmingly positive given the proportion of the potentially impacted population, the magnitude of the impacts, and their long-term nature.

#### 4.1.4 Protection of High Conservation Values (CCB, CM2.4)



As shown under Section 4.1.1, the Project activities undertaken during the reporting period were all geared towards reducing pressure on the forest by diversifying livelihoods away from direct natural resource exploitation and enhancing forest protection. This inherently has positive effects on the High Conservation Values identified – water catchment protection and fisheries regulation. No negative effects on HCVs are anticipated because of the Project activities.

# 4.2 Other Stakeholder Impacts

# 4.2.1 Mitigation of Negative Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.2)

The SCRP does not result in any negative well-being impacts on other stakeholders. Therefore, there is no mitigation needed.

### 4.2.2 Net Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.3)

The activities undertaken during the reporting period lay crucial ground for the long-term protection of the Southern Cardamom watershed that is important for the fisheries of the Gulf of Thailand as it provides fresh water to the largest contiguous mangrove forest left in the Gulf and Peam Krasop Wildlife Sanctuary, a critical nursery for the region's fisheries. Further, the SCRP has 22 major waterways that feed 88 villages near the SCRP, including those that are not included in the Project Zone as Project Communities. All these communities stand to benefit directly from implementation of the SCRP.

# 4.3 Community Impact Monitoring

# 4.3.1 Community Monitoring Plan (CCB, CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

### 4.3.1.1 Project Activity Implementation Status

The Southern Cardamom REDD+ Project activity has been fully implemented since the Project start date of January 1st, 2015. The primary activity is the reduction of carbon emissions from the Project Area by halting deforestation and forest degradation. This is achieved through a variety of measures undertaken by the Project Proponent. Please refer to the SCRP PD Section 2.1.11 for a complete list of proposed Project Activities as well as their detailed descriptions. Implementation status for the first monitoring period (M1) through the current monitoring period (M4) is detailed as follows:

Monitoring (M) period	Implementation status
1.	Training on agriculture methods and intensification
M1 - M3	Since 2004, Wildlife Alliance has supported a Community Agricultural Development Project (CADP) that initially worked with 187 families who undertook illegal swidden



### Implementation status

agriculture inside the forest within the Project Area. CADP worked to allocate legal land tenure for communities, provided training on modern agricultural techniques and financial literacy, and developed a community agricultural store and marketplace to link farmers with markets widely across southern Cambodia. CADP has increased the incomes and agricultural yields of members by >300%. Under the Southern Cardamom REDD+ Project, additional CADP Projects will be implemented for at least two communities located in the east of the Project Zone (Kamlot/Chay Reap and Romeng Sa) and if REDD+ generates enough revenue, one other CADP Project will be implemented in the northwest (O'some).

During the previous monitoring period, trainings on agriculture intensification have focused mainly on high-value fruit tree (durian, longan, rambutan, avocados, and jackfruit) orchard cultivation, such as creation of high soil rows and drainage channels to avoid rot during the wet season, organic soil enrichment, irrigation, fertilization, pest control, tree pruning, and grass clearing.

In 2021, 12 community members of Sovanna Baitong village received on-the-job training on planting and caretaking of fruit trees. 250 families continued to receive indirect trainings on agriculture intensification which focused mainly on high-value fruit tree (durian, longan, rambutan, avocados, and jackfruit) orchard cultivation, such as creation of high soil rows and drainage channels to avoid rot during the wet season, organic soil enrichment, irrigation, fertilization, pest control, tree pruning, and grass clearing.

Families of the surrounding 4 villages also received indirect training through demo plot on fertilizer usage, seeding, and other agriculture materials from Store Manager.

M4

During 2022-2023, 12 community members of Sovanna Baitong Village received onthe-job training on planting and caretaking of fruit trees. 283 families continued to receive indirect trainings on agriculture intensification which focused mainly on highvalue fruit tree (durian, longan, rambutan, avocados and jackfruit) orchard cultivation, such as creation of high soil rows and drainage channels to avoid rot during the wet season, organic soil enrichment, irrigation, fertilization, pest control, tree pruning and grass clearing.

Families of the surrounding 4 villages also received indirect training through demo plot on fertilizer usage, seeding, and other agriculture materials from the Store Manager.

Started in 2022, Wildlife Alliance has supported another CADP Project that will be implemented in the northwest, (O'some) called as the Community Livelihood Development Project (CLDP). This project is a sustainable development initiative



#### Implementation status

aimed at improving the livelihoods of communities residing within the Southern Cardamom REDD+ Project area. Wildlife Alliance, with official approval from local authorities, has been implementing the CLDP in Chhay Louk Village, O'Som Commune, Pursat Province. The CLDP has successfully empowered local communities in O'Som Commune through the provision of training, equipment, and resources for chicken and frog raising. The chicken raising project involves 11 families (6 females) who received training on chicken raising techniques and were provided with essential equipment and materials to establish their own chicken farms, while the frog raising project includes 10 families (2 females) who underwent training on frog raising techniques and received the necessary resources to set up their frog farms.

By supporting these sustainable livelihood activities, Wildlife Alliance has contributed to the economic development and well-being of the community.

### 2. Community-based eco-tourism development

#### M1 - M3

The Southern Cardamom REDD+ Project supports Community Based Eco-Tourism in two areas within the Project Zone – Chi Phat (1 commune and 4 villages) and in the Areng Valley (3 communes and 8 villages). Chi Phat Community-Based Ecotourism (CBET) was established with technical and financial support from Wildlife Alliance in 2007, in order to provide alternative livelihoods to local people through tourism activities, reduce the threat to local natural resources, and conserve a region of exceptional natural and cultural significance. The CBET Project in Chi Phat currently supports 332 families in the commune who act as service providers and have received training on a suite of skills required to effectively manage and implement ecotourism.

At present, there are approximately 240 women participating in the Chi Phat CBET Project: CBET is actively encouraging more women to get involved and diversify their roles, including as forest and mountain bike guides. A large range of ecotourism activities have been developed by the community and marketing linkages with local and international tour operators have been established. Chi Phat CBET has been featured in international travel shows, magazines, including airline in-flight magazines, and the most popular and widely used guidebooks. CBET Chi Phat has become one of the country's most successful community-based ecotourism projects and is financially sustainable.

Following the success of Chi Phat CBET, Wildlife Alliance began work with eight additional communities in the Areng Valley to establish Stung Areng Community Based Eco-tourism (STAR-CBET) in 2016. STAR-CBET operates within the SCRP Project Zone within the biodiverse Areng Valley. This remote valley has high plant and animal



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biodiversity and is particularly significant for Asian elephants (*Elephas maximus*), forming a key part of the Cardamom Elephant Corridor, and for freshwater biodiversity including the Critically Endangered Siamese crocodile (*Crocodylus siamensis*) and the Endangered Asian arowana (*Scleropages formosus*). The Areng Valley is inhabited by eight forest communities (total population 461 families), the majority of which are ethnic Chong. Currently, the Chong do not have sustainable livelihoods that would enable them to find sufficient revenues from the forest. Consequently, many Chong families rely on a combination of illegal hunting and logging combined with unsustainable swidden agriculture. Social assessments conducted by Wildlife Alliance have identified Community Based Ecotourism and access to micro-finance, as preferred sustainable development activities for promoting economic diversification and forest protection. More than 80% of families requested assistance for CBET development so that their children will have greater opportunities and access to education and capacity building for sustainable jobs in the future.

Wildlife Alliance has coached the villagers in the eight villages of Chhay Areng Valley to prepare for business, by providing skill building in hospitality and small business management, computer and financial literacy, cooking and nature guiding, and provided financial support to upgrade homestays, visitor centers, purchase trekking tents and equipment. 139 families have been identified and initially trained as service-providers, 9 homestays have been developed, three visitor substations have been built (bamboo structures), and 60 tents have been purchased, along with trekking equipment. STAR-CBET was officially opened for business by the Provincial Governor of Koh Kong in January 2018.

During the previous monitoring period, the Project provided 7 training events to 204 villagers who are service providers involved in the Chi Phat and Chhay Areng CBETs. These training courses were on tourism hospitality, nature guiding, cooking skills, and sanitation. In addition, the Project provides ongoing, on-the-job development, coaching, and capacity building through mentoring and support.

No training events were conducted in 2020 due to the COVID-19 Pandemic.

During 2021 (M3), the Project provided 8 training events to 196 community service providers in the Chi Phat and Chhay Areng Community-Based Ecotourism (CBET). These training courses were on tourism hospitality, nature guiding, housekeeping and cooking skills, hygiene and food security, homestay standard, and mountain bike maintenance skills. Other than that, same as the previous period, the Project provides ongoing, on-the-job development, coaching and capacity building through mentoring and support.



Monitoring (M) period	Implementation status
M4	During the M4 monitoring period, 20 more beneficiary families have participated in CBET activities in Chhay Areng, giving a total of 501 families providing ecotourism services in the CBET. There is also an increase of the tour guides number in Chhay Areng by 10 people, giving a total of 96 tour guides operating in Chi Phat and Chhay Areng CBET. Training courses were kept as usual, producing more tour guides and families who are providing ecotourism services, specifically in Chhay Areng.
	Compared to the previous monitoring period, the revenues accrued from CBET activities were also higher in M4, racking up by 532% of the total amount that was attained in M3.
	Chi Phat and Steung Areng are two remarkable examples of community-based ecotourism initiatives in Cambodia, nestled within the breathtaking Cardamom Mountains. These projects have been instrumental in preserving the region's biodiversity, promoting sustainable livelihoods, and empowering local communities. Chi Phat and Steung Areng are shining examples of how ecotourism can be a powerful tool for conservation, economic development, and community empowerment. By prioritizing sustainability and involving local communities, these initiatives are helping to protect the Cardamom Mountains' natural heritage while improving the lives of its people. Both communities also offer opportunities for volunteer work and research projects, allowing visitors to contribute to conservation efforts and gain valuable experiences.
3.	Micro-finance
M1 - M3	Women's Community Saving Credit Groups are under development in eight villages in the Areng Valley. During the M2 monitoring period, 71 women from 7 villages were organized into 6 groups and were coached in financial literacy to improve the effectiveness of their savings and loan activities, which were initiated in 2018. The positive outcome is a high number of loans provided by the savings and loan groups to the members, with 11 loans in 2019 (totaling \$1,800) and 13 loans in 2020 (totaling \$3,100). During the last monitoring period (M3), 72 women from 7 villages, were organized into 6 groups and were presented the same coaching material as the previous monitoring period. In 2021, the positive outcome is a high number of loans provided by the savings and loan groups to the members, amounting to 21 loans (totaling \$6,245).
M4	There are now 75 families who have access to microfinance schemes in Chhay Areng, which shows an increase of 4 compared to the previous monitoring period. The 75 families are also equal to 75 women who have access. Furthermore, training and follow up on activities regarding financial literacy and use of microfinance were kept



Monitoring (M) period	Implementation status						
	going as these are accompanied by other training such as for CBET and modern agricultural methods.						
4.	Participatory land use planning						
M1 - M3	Wildlife Alliance has worked with the Royal Government of Cambodia and provincial, district, and commune authorities to develop clear spatial land-use plans for the Southern Cardamom since 2003, including securing community land tenure across a total of 28 villages in 11 communes. This work has benefited 5,980 families including 3,024 in Project Zone communities. An additional eight Project zone communities have yet to receive clear land zonation and tenure, and this is planned for completion during the REDD+ Project implementation period. In addition to confirming community land tenure, the Project will work to demarcate the zones of the three Protected Areas which form the Southern Cardamom REDD+ Project (Tatai Wildlife Sanctuary, Southern Cardamom National Park, Botum Sakor National Park). This demarcation clearly highlights community land and helps mark the boundaries of the strictly protected zones (Core and Conservation) which comprise the Project Area and which are reserved for biodiversity conservation and ecosystem services.  During the previous M2 and M3 monitoring periods, the zoning and demarcation activities have continued, so that the land for local communities has been clearly delineated. Thirty land use planning meetings were conducted with participation and support from local authorities (21 meetings during M2 and 9 meetings during M3). There were 1,114 demarcation posts installed along the community land boundaries in Russey Chrum and Chi Kha Leu communes (603 demarcation posts during M2 and 411 demarcation posts during M3).						
M4	During the current M4 monitoring period, the zoning and demarcation activities have continued, so that the land for local communities is clearly delineated. 6 land use planning meetings have been conducted with participation and support from local authorities. 146 demarcation posts were installed along 26 kilometers of the community land boundaries in Russey Chrum communes.						
5.	Strengthening community organizations						
M1 - M3	Wildlife Alliance has supported the formation of three Community Organizations – the Sovanna Baitong Agriculture Association, and the Chi Phat and Stung Areng Community Based Ecotourism (STAR-CBET) Associations which have all been legally registered by the Cambodian Ministry of the Interior. All three associations were established following the elections and agreement on precise bylaws and benefit sharing mechanisms. The Sovanna Baitong Agriculture Association comprises 200						



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members and 6 Service Groups, while the management committee for STAR-CBET comprises 15 members all of whom are ethnic Chong, and the Chi-Phat CBET management committee currently has 10 members.

The role of the Sovanna Baitong Agriculture Association is to: manage agriculture inputs and outputs at favorable market prices (Marketing Group); to provide Agriculture Support to its members (Agriculture Support Group with Agriculture Store and Community Nursery); to manage the Community Fund (Community Fund Group); to manage the natural resources on which the farmers depend, i.e., forest buffer zone around the village, streams supplying water to the village reservoirs, fish populations in the streams (Natural Resources Group); to manage the community waste (Waste Management Group); and to provide health education to the members (Health Education Group).

The role of the CBET Associations is to manage the ecotourism activities; to provide guest reception and billing; and to ensure that benefits are equitably shared between service providers and that rules and regulations, particularly those pertaining to natural resource management, are followed and respected by CBET service providers and tour operators. Wildlife Alliance provides technical support to the CBET Association Committees including providing training, study tours, and support to attend national and regional ecotourism forum and events.

During the previous monitoring period, the Project assisted the 8 villages of Chhay Areng Valley to build their own organization, the Stung Areng Community-Based Ecotourism (STAR-CBET), which received legal registration with the Ministry of Interior in 2016. In April 2019, land rights were secured for the 8 villages so as to protect their ecotourism destinations from predatory outside tour operators, and subsequently created 3 community protected areas (CPAs) in the 3 communes of the valley — Chumnoab, Pralay, and Thmor Donpov.

With support from Wildlife Alliance, the Stung Areng Community-Based Eco-tourism (STAR-CBET) obtained its official registration and recognition by the Ministry of Interior as CBO in 2016. The SCRP has supported STAR-CBET since 2018. Since then, STAR-CBET has greatly improved the effectiveness of management. Ten members from the management committees were restructured to specific roles and responsibilities by way of election.

In 2021, Mr. Tith Ly, Chief of STAR-CBET resigned. The Project supported the restructuring of the CBET Committee, including choosing a new CBET Chief to replace Mr. Tith Ly. There were 4 candidates from existing CBET Committee Member stood for election (Mr. Long Koy, Mrs. Heng Sopheak, Ms. Choch Sdeung, and Mr. Deun



Monitoring (M) period	Implementation status						
	Chantha). The election was done by three commune chief (Chumnaob, Pralay, and Thmor Donpov) and all CBET Management Committee. Among the 4 candidates, Mr. Long Koy received the most votes.						
M4	In 2022, with Wildlife Alliance's support, both Chi Phat and Areng CBET successfully obtained official recognition from the National Committee for Management and Development of Community-Based Tourism and Ecotourism, a joint body comprising the Ministry of Environment, Ministry of Tourism, and Ministry of Agriculture, Forestry, and Fisheries. This recognition is a significant achievement for both communities, as it provides them with greater legitimacy and credibility in operating and managing tourism services within their respective areas.						
6.	Enhanced security and law enforcement						
M1 - M3	The Southern Cardamom REDD+ Project operates 10 MOE fully manned enforcement stations and 3 sub-stations inside the Project Area, mandated with legal protection of the forest and wildlife. Rangers are based full-time within the stations and conduct daily systematic patrolling of the Project Area and Leakage Zones. In 2021, 134 rangers supported by the Project were operational. They received on-the-job training from Station Advisors and Law Enforcement Managers. In addition, the Project provided training to 22 civilians to become Southern Cardamom REDD+ rangers, as environmental ranger Agents under the jurisdiction of the Ministry of Environment Provincial Department. Their on-the-job training has included Protected Area Law and legal procedures, rescue of wildlife caught in snares or transported by poachers, emergency wildlife care, patrol techniques, use of GPS, equipment maintenance, first aid, and crime scene analysis and documentation.  Also, 12 members of Community Anti-Poaching Unit (CAPU) of Chi Phat Community Based-Ecotourism were supported by the Project in daily patrols to dismantle hunting camps and remove people from the forest carrying illegal logging equipment.						
M4	Some additional initiatives the project have implemented are included: (1) Increased Patrol Presence, rangers have expanded the patrol and increased the frequency of patrols in critical areas, ensuring a stronger deterrent against illegal activities; (2) Advanced Surveillance Technology, beyond wildlife camera traps and typical drone, the rangers are utilizing surveillance systems, including thermal imaging cameras and motion-activated sensors, to detect and track potential threats at night; (3) Community Engagement and Partnerships, rangers fostering stronger relationships with local communities, encouraging active participation in wildlife conservation efforts and providing education on the importance of protecting biodiversity and community hygiene; (4) Collaboration with Law Enforcement Agencies, rangers						



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working closely with local and national authorities to coordinate efforts, share intelligence, and ensure a coordinated response to illegal activities at the ground; (5) Strengthened Enforcement Measures, Southern Cardamom REDD+ Project keeps track of the stricter enforcement measures (100% law implementation), including fines penalties and imprisonment for natural resource offense, to deter illegal activities and send a clear message that such actions will not be tolerated; and (6) Rapid Response Teams, Southern Cardamom REDD+ Project established a rapid response system equipped with specialized skills and equipment to address emergencies and incidents promptly, minimizing damage to wildlife and ecosystems.

There is an increase of one fully manned enforcement station to 14 stations during this monitoring period, with increased training sessions and the implementation of additional training regimes and initiatives to improve the forest protection personnel's capacity, knowledge, and relationships with the local community and authorities. However, the number of stations is decreased back to 13 due to the shutdown of Prek Taok Station. Despite this, the project still hired more rangers/staff for effective project operation. They were also introduced and facilitated to use the latest technology to track and monitor forest area in order to enhance surveillance on illegal activities, resulting in more patrol coverage and conviction of poaching cases compared to the previous monitoring period.

# 7. Sensitization and awareness raising

#### M1 - M3

The Mobile Environmental Education team activities to be conducted during the lifetime of the REDD+ project and will follow Wildlife Alliance's Kouprey Express (KE) model that focuses on communities surrounding Protected Areas, bringing environmental education to school children through interactive curricula and teacher training, and conducting educational entertainment shows in the evenings for community adults.

Awareness raising on the Southern Cardamom REDD+ activities was conducted in 85 meetings in 29 villages (3 meetings/village) of 10 communes and 4 districts of Koh Kong Province during the previous monitoring period (M3). In 2021, 397 community members (189 females) and 5,650 students (3,057 females) were reached through sensitization and awareness raising events, school visits and community night shows. Education materials were also distributed with 6,720 posters, 6,047 books, and 6,514 pens.

During this third monitoring period, 63 community meetings were conducted with all the 29 beneficiary communities. The meetings were held in two rounds, with the first taking place between January 30, 2021, to February 10, 2021, and the second



Monitoring (M) period	Implementation status
	between November 20, 2021, to February 28, 2022. A portion of the meetings in this second round were held after the close of the M3 monitoring period, due to delays caused by the COVID pandemic. During these meetings, an additional 2,196 were reached through the awareness raising during the Project's FPIC (Free and Prior Informed Consent) Process.
M4	During this fourth monitoring period, 29 community meetings were held across all 29 beneficiary communities from February 20 to May 15, 2023, with a total of 1,010 participants, of which 575 were female (57%). To enhance knowledge transfer, 2,900 PVC-A3 size posters were posted, illustrating the project boundaries and community zones. Additionally, 2,900 PVC-A3 Climate Change Posters also were posted, designed to withstand weather elements like rain and sun exposure as they were placed on trees and house walls.
	In each village, 100 units of each of the following three items were distributed to participants during the FPIC meetings:
	1. Professionally designed T-shirts featuring the Project logo
	2. The Southern Cardamom REDD+ Project Description Summary Book in both Khmer and English
	3. The Southern Cardamom REDD+ Project Grievance Card, which includes the Project hotline number and postal address of the Project Implementer's office.
	Additionally, 22 new grievance boxes were installed in public and culturally appropriate locations, ensuring wider access for the community to provide feedback.
	Across the four monitoring periods, a total of 189 consultation meetings were conducted, involving 7,270 participants, of which 4,050 were female (56%) – an approximate number. It is important to note that participants may have attended multiple meetings and thus may have been counted more than once. While the Project has detailed records of all participants, no analysis has been conducted to determine the cumulative number of distinct individuals attending the FPIC meetings.
8.	Community Scholarship Fund
M1 - M3	The Southern Cardamom REDD+ Project created and manages a Community Scholarship Fund. The Scholarship Fund pilot was first announced in July 2020 for a 4-year bachelor's degree at the Royal University of Phnom Penh and Royal University of Agriculture for the period of March 2021 to March 2025. The start of the university year was delayed because of the COVID Pandemic in 2020. The Fund was advertised through 2 district education departments (Botum Sakor and Thmor Bang) and then at



Monitoring (M) period	Implementation status
	the commune level, and then directly with students and parents in 13 target villages of the SCRP.
	2020 was the first Scholarship Fund implementation. Scholarship Application Forms were distributed to 22 interested applicants in different communes inside the Project Area. 7 students (5 female) submitted their application forms to the Recruitment Team. After going through the selection process, 5 applicants (2 female) were selected for 2020 Scholarship. These 5 students are from communes of Pralay, Chi Phat.
	2021 was the second Scholarship Fund implementation. Scholarship Application Forms were distributed to 22 interested applicants in different communes inside the Project Area. 7 students submitted their application forms to the Recruitment Team. After going through the selection process, 5 applicants were selected for the 2021 Scholarship. These 5 students are from the communes of O'Som, Chi Phat, and Dang Peng.
	The Project provides students total cost coverage for 4 years of university in Phnom Penh, including annual tuition, school materials and uniforms, accommodation, stipend for fuel and food, and health insurance. Wildlife Alliance has rented a house in Phnom Penh especially for these students to live and has hired a trustworthy woman to live with them as their supervisor. Each student's annual costs are fully covered with a total of \$6,952 coverage per year for 4 years.
M4	2022 was the third Scholarship Fund implementation. Scholarship Application Forms were distributed to 34 interested applicants (11 female) in different communes inside the Project Area. 19 students (7 female) submitted their application forms to the Recruitment Team. After going through the selection process, 7 applicants (3 female) were selected for 2022 Scholarship. These 7 students are from communes of Andoung Teuk, Chambok, Kandaol, and Trapeng Roung.
9.	Direct employment and training on Income Generating Activities (IGAs)
M1 - M3	During the previous M2 monitoring period, the Project directly employed 32 villagers and conducted on-the-job training, in addition to the training events. In 2021 (M3), the Project directly employed 27 villagers and conducted on-the-job training, in addition to the aforementioned training events:
	<ul> <li>11 CBET Managers from Chi Phat commune continue to conduct the jobs of Executive Director, Deputy Director, Guest Receptionist, Chief Accountant, Trekking Equipment Rental, Restaurant Manager, Boat Transport Manager,</li> </ul>



Monitoring (M) period	Implementation status				
	Motorbike Transport Manager, Forest Cook Manager, Accommodation Manager, Community Patrol Manager, and Sanitation Manager.				
	<ul> <li>11 CBET Managers from the 3 Chhay Areng communes continue to conduct the jobs of Executive Director, Deputy Director, Guest Receptionist, Chief Accountant, Trekking Equipment Rental, Restaurant Manager, Customer Transport Manager, Forest Cook Manager, Accommodation Manager, Community Patrol Manager, and Sanitation Manager.</li> </ul>				
	<ul> <li>5 Agriculture Managers from Sovanna Baitong village to conduct: (a) jobs at the Community Orchard that sells high-value fruit (Orchard Manager who manages 12 Orchard Workers, 5 Orchard Technical Heads, Night Guard); and (b) jobs at the village for the benefit of 250 families selling their produce (Agriculture Store Manager, Agriculture Association Chief, Nursery Manager, Irrigation Pump Operator, and Truck Driver).</li> </ul>				
M4	In addition to the conducted training events from the previous monitoring periods, the project has updated the number of personnel and conducted the following on-the-job training during this monitoring period. In total, the number of employments still stay, which are:				
	<ul> <li>11 CBET Managers from Chi Phat commune continue to conduct the jobs of Executive Director, Deputy Director, Guest Receptionist, Chief Accountant, Trekking Equipment Rental, Restaurant Manager, Boat Transport Manager, Motorbike Transport Manager, Forest Cook Manager, Accommodation Manager, Community Patrol Manager and Sanitation Manager.</li> </ul>				
	<ul> <li>10 CBET Managers from the 3 Chhay Areng communes continue to conduct the jobs of Executive Director, Deputy Director, Guest Receptionist, Chief Accountant, Trekking Equipment Rental, Restaurant Manager, Customer Transport Manager, Forest Cook Manager, Accommodation Manager, Community Patrol Manager and Sanitation Manager.</li> </ul>				
	<ul> <li>2 Agriculture Managers from Sovanna Baitong village to conduct (a) jobs at the Community Orchard that sells high-value fruit (Orchard Manager who manages 14 Orchard Workers, 5 Orchard Technical Heads, Night Guard) and (b) jobs at the village for the benefit of 283 families selling their produce (Agriculture Store Manager, Agriculture Association Chief, Nursery Manager, Irrigation Pump Operator), Truck Driver.</li> </ul>				
	4 Community Project Assistants (4 female) from Chhay Louk Community Livelihood Development are responsible for monitoring and evaluation tasks				



Monitoring (M) period	Implementation status
	related to the chicken and frog raising projects. Their duties include
	conducting daily checks on the progress of the 11 chicken raising members
	and 10 frog raising members.
	The SCRP expects to continue increasing the number of people directly employed by
	the Project, with them working across all the Project components, including
	community-based ecotourism, community agricultural development, law enforcement,
	education, and biomass plot sampling. Priority will be given to members from the
	Project Zone communities.

### 4.3.1.2 Community Impact Indicators

The selection of appropriate indicators is invaluable to the impact assessment process, as they respond to the basic question: "what should be measured to show that the claimed net social benefits are real and additional?" (Richards & Panfil, 2011). An ideal indicator from the perspective of showing attribution is one that measures an 'intermediate state' or assumption between an output and outcome or an outcome and an impact, clearly showing progress along a causal chain. Again, our theory of change logic in the Result Chain diagrams for the three Focal Issues – Forest destruction and land encroachment, Wildlife poaching, and Poor community livelihoods – identified during the SIA Community Workshops which provided us with a good basis for selecting the indicators that factored in attribution. We selected a total of 49 indicators for monitoring the social impacts of the SCRP, including 19 Output, 26 Outcome, and 4 Impact indicators (Table 4.2). The results from the activities undertaken during this monitoring period are indicated against the indicators below.

In this data, the trend of the reported indicators shows an increase in illegal activities, such as logging. However, our ground operations have not actually observed an increase in illegal activities in the project area. We have improved our detection methods through an increase in our informant network, and the rangers have become more practiced at catching offenders in possession of their chainsaws and other incriminating evidence. Whereas in the past, it was more common for offenders to be able to escape with evidence, making prosecution impossible. Additionally, the project staff have increased efforts to document all instances of illegal activities observed. Therefore, we have a recorded increase in reported amounts of illegal activities, but really, we are simply documenting and preventing it more effectively.



Table 4.2 The results of the Southern Cardamom REDD+ Project community impact assessment monitoring of previous periods and M4.

Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
Decrease in illegal logging	SIAOO1	# of land use planning meetings held with participation and support from local authorities	Monitoring Period	Total: 6 meetings Y2022: 4 meetings Y2023: 2 meetings	73 meetings
	SIA002	# participants in land use planning meetings	Monitoring Period	Total: 168 pax Y2022: 64 pax Y2023: 104 pax	1,220 participants (384 female)
	SIAOO4	Volume of timber and logs confiscated by SCRP patrol rangers	Annually	Timber - Total: 1,298 m³ Logs Total: 6,409 logs == Timber - 2022: 680 m³ - 2023: 618 m³ Logs - 2022: 4,045 logs - 2023: 2,364 logs	Timber: 3,772 m <sup>3</sup> Logs: 23,404 m <sup>3</sup>
	SIAO05	# of chainsaws confiscated by SCRP patrol rangers	Annually	Total: 1,807 == - 2022: 934 - 2023: 873	5,255 chainsaws



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
	SIA006	# of illegal kilns and bags of charcoal confiscated by SCRP patrol rangers	Annually	Kilns - Total: 152 kilns Charcoal bags - Total: 1,387 bags == Kilns - 2022: 61 kilns - 2023: 91 kilns Bags - 2022: 386 bags - 2023: 1,001 bags	Kilns: 1,019 kilns Charcoal Bags: 2,882 bags
	SIAO07	# of legal cases submitted against forest criminals by SCRP patrol rangers	Annually	Total cases submitted to court: 219 Total fines cases: 168 == 2022: - 148 court cases - 88 fines 2023: - 71 court cases - 80 fines	705 court cases
Decrease in encroachment and land-grabbing	SIAOO8	# of demarcation posts installed zoning forest and community areas	Monitoring Period	Year 2022 <u>:</u> 146 posts Demarcation in Russey Chrum commune	1,349 demarcation posts
	SIA009	# of land use maps	Monitoring Period	Year 2022: 1 demarcation	35 maps



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
		(including CPAs) created and made available to community		maps/Russey Chrum Year 2023: 3 CPA maps Thmor Doun Pov, Chomnaob, Pralay	
	SIA011	# of forest fires in the SCRP extinguishe d by SCRP rangers	Monitoring Period	Total: 121 == - 2022: 25 - 2023: 96	387 forest fires
	SIA012	# of illegal fences and signs removed by SCRP rangers	Annually	Total: 3,150 == - 2022: 1,996 - 2023: 1,154	15,976 fences and signs
	SIA013	# of illegal settlements (houses) and forest camps built inside the SCRP Project area and removed by SCRP rangers	Annually	Total: 934 == - 2022: 523 - 2023: 411	3,464 illegal settlements
	SIA014	# of land encroachme nt cases stopped by	Annually	Total: 324 == - 2022: 180 - 2023: 144	926 cases



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
		SCRP rangers			
	SIAO15	# ha of forest within the SCRP cleared for cultivation or settlement	Monitoring Period	Total: 565.05 ha == - 2022: 327.04 ha - 2023: 238.01 ha	2,885.05 ha
Greater community participation in eco-tourism activities	SIA016	# of families participating in eco- tourism activities (CBET)	Monitoring Period	Chi Phat - 11 community management team members - 332 beneficiary families  Chhay Areng - 10 community management team members - 169 beneficiary families	501 families and 22 community management team members
	SIAO17	# of trained tour guides	Monitoring Period	96 [30 in Chi Phat and 66 in Chhay Areng]	306 trained guides (cumulative)
	SIA018	# of families providing ecotourism service	Monitoring Period	501 [332 Families in Chi Phat, 169 in Chhay Areng]	501 families
	SIA019	# tourism promotion initiatives undertaken	Monitoring Period	Chi Phat: - There are 5 exhibitions attended in Phnom Penh	Chi Phat: - There are 5 exhibitions attended in Phnom Penh - There are 13,254

Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
				- There are 13,254 likes and 14,031 followed on Facebook Page for Chi Phat CBET - There are 23 followers on Instagram for Chi Phat - There are 117 followers and 587 likes on Tik Tok official page  Chhay Areng: - There are 5 exhibitions attended in (3 Koh Kong, 1 Phnom Penh and 1 Sihanoukville) - There are 4,400 likes and 5,650 followed on Facebook Page for CA-CBET	likes and 14,031 followed on Facebook Page for Chi Phat CBET - There are 93 followers on Instagram for Chi Phat - There are 117 followers and 587 likes on Tik Tok official page Chhay Areng: - There are 5 exhibitions attended in (3 Koh Kong, 1 Phnom Penh and 1 Sihanoukville) - There are 4,400 likes and 5,650 followed on Facebook Page for CA- CBET
	SIAO2O	# of tourists visiting the community eco-tourism facilities (CBET)	Monitoring Period	Total 8,590 tourists Chi Phat: 5,030 in Chi Phat (3,447 local and 1,583 international)	31,768 tourists

Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023 Chhay Areng:	M1 - M4 (2015 - 2023)
				3,560 in Chhay Areng (3,188 local and 186 international)	
	SIA021	Amount of revenue accruing from ecotourism activities in the area	Monitoring Period	Chi Phat: \$181,081.55 CBET revenue in Chi Phat [\$131,610.75 to service providers and \$49,470.43 community operation fund] Chhay Areng: \$36,243.33 CBET revenue in Chhay Areng [\$31,489.66 to service providers and \$4,753.64 community operation fund]	\$1,315,636.08 total of revenue
Greater appreciation and awareness of wildlife	SIA022	# of awareness and sensitizatio n meetings	Monitoring Period	316 meetings (11 meetings/village )	±706 meetings
benefits	SIA023	# of community members attending awareness and	Monitoring Period	3,241 people (112 participants/co mmunity on average)	±16,660 people



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
		sensitizatio n meetings			
	SIA024	# households with greater awareness about importance or conservatio n	Monitoring Period	84 people/village	±6,380 people
Increase in wildlife populations including HCVs	SIAO25	# of rangers employed and trained	Annually	M4 cumulative total: 375 == 2022: - 201 rangers/staff CFPP  2023: - 258 rangers/staff CFPP  Note: this numbers include CFPP Management Staff in Phnom Penh	959 rangers or staff (cumulative).  Highest number of employment of rangers or staff is 258 by far.
	SIA026	# and type of equipment provided including	Annually	2022: 14 stations fully equipped, and 166 rangers fully equipped	14 stations and 175 rangers/staff fully equipped.



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
		ranger outposts		2023: 13 stations fully equipped, and 175 rangers/staff fully equipped  Note: number of station is decreased due to the shutdown of Prek Taok Station; however, the project is hiring more rangers/staff for effective project operation.	
S	SIAO27	# patrols undertaken, including coverage and distances	Annually	Total: - 11,906 patrols: - 461,106 km == 2022: - 6,055 patrols - 215,609 km  2023: - 5,851 patrols - 245,497 km	±30,160 patrols ±1,220,923 km
	SIA028	# of vehicles and home-made guns removed confiscated	Annually	Total - 200 Guns - 562 vehicles == 2022: - 86 guns	±428 guns ±1,578 vehicles



Key results	Indicator Code	Indicator by Southern	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023 - 301 vehicles	M1 - M4 (2015 - 2023)
		Cardamom Forest Protection Project Area		2023: - 114 guns - 261 vehicles	
	SIA029	# of snares removed from the Southern Cardamom Forest Protection Project Area	Annually	Total 88,775 snares 24,332 nets (meter) == 2022: -47,552 snares -8,521 nets (meter)  2023: -41,223 snares -15,811 nets (meter)	±193,123 snares ±82,887 nets
	SIAO31	# of live animals rescued from illegal wildlife trade by Southern Cardamom Forest Protection rangers	Annually	Total: 861 == - 2022: 383 - 2023: 478	2,844 animals
Reduced cost of living	SIA032	# schools constructed, repaired or equipped	Monitoring Period	- In 2022-2023, the project has focused on scholarship for 7 students for	16 students granted scholarship for 4 years



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023 University in	M1 - M4 (2015 - 2023)
				Phnom Penh for 4 years	
	SIA033	# teachers employed	Monitoring Period	N/A	N/A
	SIA034	Amount of money allocated to bursary schemes	Monitoring Period	- \$142,400 were spent for stipend and university tuition for 5 students for 4 years - \$10,494 Selection process and technical management \$13,954.27 operation cost	\$540,982
	SIA035	# students benefiting from bursary schemes	Monitoring Period	7	17 students
	SIA036	% of students not in school due to school fees	Monitoring Period	0%	0% (4% cumulative)
	SIA037	# health facilities build or equipped	Monitoring Period	1	1 (3 cumulative)
	SIA038	# health workers employed	Monitoring Period	0	2 (4 cumulative)

Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
	SIA039	% community members benefiting from Southern Cardamom Forest Protection Project Area-related health schemes	Monitoring Period	142 beneficiary families in Chum Noab Commune out of 561 families in Areng. (25% of total community members)	142 beneficiary families in Chum Noab Commune out of 561 families in Areng. (25% of total community members)
	SIAO40	# of functional schools in each Commune	Monitoring Period	8 schools per commune	8 schools per commune
	SIAO41	Teacher/ student ratio in Southern Cardamom Forest Protection Project Area supported schools	Monitoring Period	1:21	1:21
	SIAO42	# of functional health facilities in each Commune	Monitoring Period	1.21 per commune	1.41 per commune
	SIA043	Nurse/Doct or:	Monitoring Period	1:440	1:296-440



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
		population ration in Project Zone			
Higher income levels	SIAO44	# of people directly employed by the Southern Cardamom Forest Protection Project	Annually	2022: - 201 rangers/staff CFPP - 11 community management team (Chi Phat) - 10 community management team (Chhay Areng) - 6 Community Agriculture Managers (Sovanna Baitong) - 4 Community Project Assistants (Chhay Louk)  2023: - 258 rangers/staff CFPP - 11 community management team (Chi Phat) - 10 community management team (Chi Phat) - 10 community management team (Chhay Areng) - 6 Community	- 258 rangers and staff - 23 community management team - 9 Community Agriculture Managers - 4 Community Project Assistants



Key results	Indicator	Indicator	Monitorin	Fourth	M1 – M4
	Code		g Frequency	Monitoring Period (M4) Jan	(2015 - 2023)
				1, 2022 to Dec	
				31, 2023	
				Agriculture Managers	
				(Sovanna	
				Baitong)	
				- 4 Community	
				Project Assistants	
				(Chhay Louk)	
	SIA045	#	Monitoring	75 families in	75 families in
		community	Period	Chhay Areng	Chhay Areng
		members who have			
		accessed			
		the			
		microfinanc			
	011010	e scheme			
	SIA046	# of people who have	Monitoring Period	Chi Phat: - 11 community	Sovanna Baitong - 9 Community
		established	1 01100	management	Agriculture
		Income		team	managers
		Generating		- 332 beneficiary	- 252 beneficiary
		Assistance through		families	families
		Southern		Chhay Areng:	Chi Phat
		Cardamom		- 10 community	- 12 community
		Forest		management	management team
		Protection		team	- 332 beneficiary families
		Project		<ul> <li>169 beneficiary</li> <li>families</li> </ul>	iaiiiiies
					Chhay Areng
				Chhay Louk:	- 11 community
				21 families	management team
					<ul> <li>169 beneficiary</li> <li>families</li> </ul>
					idillilo3
					Chhay Louk:



Key results	Indicator Code	Indicator	Monitorin g Frequency	Fourth Monitoring Period (M4) Jan 1, 2022 to Dec 31, 2023	M1 - M4 (2015 - 2023)
					21 families
	SIAO47	# community members who have undergone agricultural training	Monitoring Period	Sovanna Baitong (CADP): 283 families (633 female)  Chhay Louk (CLDP): 21 families (8 female)	304 families (2,380 females out of 4,807 total)
	SIA048	# agricultural demonstrati on plots established in the community areas	Monitoring Period	No changes	1 plot (50mx35m) 40x40 m demo plot in Sovanna Baitong (2018-2020)
	SIA049	% increase in yields and sales in local and external markets	Monitoring Period	\$1,950 per household in 2022 (8.3%)	200% increase since 2018 from \$960 to \$1,950 per household



### 4.3.2 Monitoring Plan Dissemination (CCB, CM4.3)

The monitoring plan was made available for public review at the SCRP Project Office and has been made available to each Commune in the Project Zone communities. The full results of the community monitoring are included in this project Monitoring Report, which is made publicly available in the Project Area by having a hard copy available for review at the Project Office and on the Verra Registry, and the Southern Cardamom REDD+ Project website. The monitoring results have been further communicated to the communities and other stakeholders (including the Government and Local Authorities) using diverse methods including presentations, reports, and orally during community awareness and sensitization meetings, and when SBIA workshops are held. Additionally, a monitoring report summary has been written and provided to communities throughout the Project Area in English and Khmer.

# 4.4 Optional Criterion: Exceptional Community Benefits

The SCRP has not sought CCB Gold Level for Exceptional Community Benefits, therefore this section and all sub-sections are not applicable and will be left blank.

4.4.1 Short-term and Long-term Community Benefits (CCB, GL2.2)

Not applicable

4.4.2 Marginalized and/or Vulnerable Community Groups (CCB, GL2.4)

Not applicable

4.4.3 Net Impacts on Women (CCB, GL2.5)

Not applicable

4.4.4 Benefit Sharing Mechanisms (CCB, GL2.6)

Not applicable

4.4.5 Governance and Implementation Structures (CCB, GL2.8)

Not applicable

4.4.6 Smallholders/Community Members Capacity Development (CCB, GL2.9)

Not applicable



# 5 BIODIVERSITY

# 5.1 Net Positive Biodiversity Impacts

# 5.1.1 Biodiversity Changes (VCS, 3.19; CCB, B2.1)

# Asian Elephants

Change in Biodiversity	Asian elephant ( <i>Elephas maximus</i> )		
Monitored Change	<ul> <li>44 forest sightings</li> <li>11 tracks (2 footprints, and 9 prints)</li> </ul>		
	<ul> <li>Prints refer to the signs of fallen trees or damaged bushes that were caused by elephant crossings.</li> <li>28 dungs</li> </ul>		
	Rangers have still recorded an increase in elephant signs in the forest which is considered an actual, positive, direct and qualitative change (2022-2023) – see Figure 5.1.		
Justification of Change	The most likely without-Project scenario would include increasing poaching and fewer sightings across the SCRP (see Gray et al., 2016).		

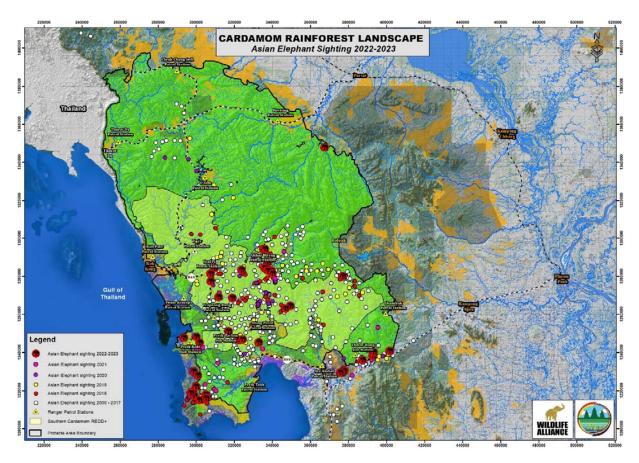


Figure 5.1 Elephant sightings across the SCRP as recorded from ranger patrols from 2022 to 2023.

# Anthropogenic Pressure

Change in Biodiversity	Reduction in anthropogenic pressure (threats)
Monitored Change	Actual, Positive, Direct and Qualitative change
Justification of Change	Security and enforcement: We have set up ranger stations and helped recruit and equip rangers. Rangers were also trained in conducting professional law enforcement, and further supported through strengthening of legal procedures through the judiciary system.
	The Project has steadily increased the number of ranger stations from an initial seven ranger stations in 2017, with nine ranger stations in 2018 (112 rangers fully equipped), ten ranger stations in 2019 (116 rangers fully equipped), 11 ranger stations in 2020 (124 rangers fully equipped), 13 stations in 2021, and 14 stations (166 rangers fully equipped)

in 2022. However, in 2023, the number of fully equipped stations was reduced to 13 due to the shutdown of Prek Taok Station. Despite that, the number of hired rangers and staff are still increasing in that same year for more increased manpower and effective operation, which increased to 175 people. As a result, the ranger's patrol coverage (by foot, boat, and car patrols) has gradually increased from 166,274 km in M3, to 215,609 km in 2022 and 245,497 km in 2023.

During this reporting period, the zoning and demarcation activities have continued so that the land for local communities is clearly delineated. Six land use planning meetings have been conducted with participation and support from local authorities, which consist of 4 meetings in 2022 and 2 meetings in 2023.

In 2022, 146 demarcation posts have been installed along the community land boundaries in Russey Chrum commune.

Wildlife Rapid Rescue Team (WRRT) is a close-knit team of government-led officers who are putting their life on the line to save wild animals from cruel suffering and death. WRRT has the authority to investigate and crack down on wildlife crime in Cambodia. Wildlife Alliance provides animal husbandry (and rehabilitation), technical assistance for investigations, and financial support, with two staff dedicated full time to the unit. In 2014, the team was recognized by a UK-based NGO, TRAFFIC, who stated in its Bear Report that the WRRT is "the leading example in anti-wildlife trafficking law enforcement" with "high level of sustained enforcement and efficacious seizure".

These processes lead to positive impacts on biodiversity including reduced (forest) land grabbing.

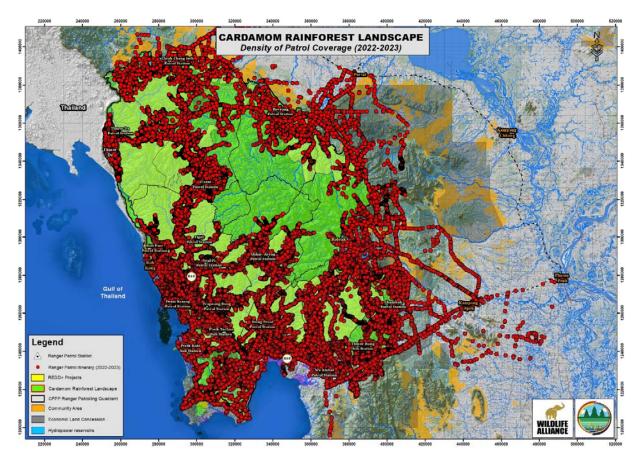


Figure 5.2 Density of patrol coverage (2022-2023) by SCRP rangers.

# 5.1.1.1 Estimated Changes in Biodiversity in the Project Zone as a Result of the Project (B1.1)

The following section describes the summary theory of change process and statements produced by the BIA Expert Workshop. Additionally, please refer to the SCRP PD Section 5.2.1 for the detailed result chains utilizing the Theory of Change procedure.

#### **Theory of Change Statements**

Based on the extensive experience of the Project proponent in working on biodiversity conservation and community Projects in the SCRP landscape, a literature review, and from information obtained from the BIA workshop, we applied the theory of change approach to substantiate our Project rationale and to produce indicators for the CCB monitoring plan. A theory of change is a hypothesis about how a Project intends to achieve its stated objectives, or a roadmap of how it plans to get from Project activities to Project impacts (Richards & Panfil, 2011). As such, we developed a theory of change for each of the three major Project activity areas identified: (1) Security and law enforcement, (2) Alternative livelihoods, and (3) Awareness and sensitization.

The assumptions we make about the cause-and-effect relationships were made explicit in the Result Chain diagrams developed by workshop members during the BIA workshop, from which the theories of



change statements are based. Indicators were developed for key results and assumptions; monitoring of assumptions was included to enable us identify points of deviation early enough. In other words, the indicators outlined in the Monitoring Plan (see Section 5.4) will enable measuring progress towards achieving the desired Project activity outcomes and impacts from Project activities and strategies.

- 1) Activity Area 1: Security and Law Enforcement: IF budget is increased, IF number of rangers increase and capacity of rangers and managers is improved, IF there more patrols by well-motivated and equipped rangers, and IF relationships with prosecutors and the courts is improved, THEN there will be increased numbers of arrests and prosecutions leading to reduced levels of logging, land encroachment, and poaching.
- 2) Activity Area 2: Alternative Livelihoods: IF community-based ecotourism and community NTFP groups are established, IF the local community is trained on modern agricultural techniques, THEN there will be increased income to local communities and fewer people relying on direct access to the forest for their livelihoods, leading to reduced levels of logging, land encroachment, and poaching.
- 3) Activity Area 3: Awareness and Sensitization: IF there is a change in cultural behavior of wildlife consumers, and IF there is increased knowledge and appreciation of biodiversity amongst local communities, THEN there will be reduced poaching, and more people will be participating in conservation.

### 5.1.2 Mitigation Actions (VCS, 3.19; CCB, B2.3)

None of the Project activities is expected to have any negative impacts on biodiversity, including any of the area's HCVs. On the contrary, they are specifically designed to improve the status of the forest and habitat, as well as reduce any direct threats to wildlife from poaching. The level of uncertainty and risk associated with these activities is very low based on the Project proponent's decade-long experience with biological research and conservation work in this landscape, thus the precautionary principle was not explicitly applied here.

#### 5.1.3 Net Positive Biodiversity Impacts (VCS, 3.19; CCB, B2.2, GL1.4)

Based on the situation and without-Project analyses (please refer to details in the SCRP PD Section 5.1), most of the key drivers to the three Focal Issues were projected as being likely to worsen in the absence of the SCRP, including:

- 1) Limited law enforcement,
- 2) Demand for land and increasing land prices,
- 3) High economic reward for poaching wildlife,
- 4) Minimal risk of being prosecuted for poaching wildlife,
- 5) Lack of understanding or capacity to show appreciation for biodiversity value,



6) High demand for timber (both local and international).

Thus, the Project activities undertaken as described under Section 5.1.1.1 above will directly or indirectly result in clear biodiversity benefits compared to a without-Project scenario where all these key factors get worse.

Moreover, Cambodia's forests will also be affected by climate change impacts. The Projected increase in temperature has the potential to change the extent and composition of forests, such as a decrease in wet forests and an increase in moist forests (MRC, 2010). Changes to forest composition may lead to changing availability of forest resources for rural livelihoods. Shifting seasons and rainfall patterns may lead to reduced forest productivity and increased risk of forest fires, while mangrove forests in coastal zones may be submerged by rising sea levels. Collectively, these effects could lead to the degradation and/or loss of forests, leading to diminishing wildlife habitats and decreased income security for forest-dependent communities.

Consequently, wildlife dependent on these forest and aquatic habitats would be adversely affected by these changes, both through habitat loss and increased poaching due to decreased income security. Thus, the Project directly helps biodiversity both by reducing emissions hence mitigating climate change, and also as an adaptation strategy to these anticipated changes by maintaining critical habitats in good condition for these species. Additionally, corridors will make it possible for the wideranging species to move in case of drastic changes.

Species and habitat	The project has maintained forest habitat as forest, and therefore species listed in section 5.1.4 as HCV species are not adversely impacted.
Areas needed for habitat connectivity	The project has maintained forest habitat as forest, and therefore areas needed for habitat connectivity are not adversely impacted.

#### 5.1.4 High Conservation Values Protected (CCB, B2.4)

In the SCRP PD, three forms of biodiversity-related HCVs were identified (please refer to the SCRP PD Section 5.2.4 of the PD).

- Wildlife under threat, i.e., in the categories CR, EN, and VU on the IUCN Red List
- Threatened ecosystems both forests and wetlands
- Critical ecological functions mainly corridor and watershed services

By protecting the Southern Cardamom Forest Landscape, the SCRP has been directly protecting vital wildlife habitats, safeguarding critical water resources and maintaining landscape connectivity by keeping the corridor intact and unfragmented. As such, all the high conservation values (at the species,



ecosystem or functional levels) are much better in the 'With Project' versus 'Without Project' scenario for the reasons noted above (SCRP PD Section 5.2.3).

In detail, the groups of biodiversity-related HCVs identified in the project area are listed as follows.

Table 5.1 HCVs in the SCRP.

Type of HCV	Description of HCV	Specific HCV			
HCV 1 There are about 52	HCV Species	Status	Scale		
	vulnerable, endangered, and threatened species in the SCRP (35 identified comprising of birds, mammals, and reptiles as listed in the SCRP PD Section 5.5.1), with 16 species confirmed benefiting from the project activities.	Sarus Crane Grus antigone	VU	Global	
		Masked finfoot Heliopais personatus	CR	Global	
		Great Slaty Woodpecker  Mulleripicus pulverulentus	VU	Global	
		Milky Stork Mycteria cinerea	EN	Global	
		Green peafowl Pavo muticus	EN	Global	
		Giant ibis Thaumatibis gigantea	CR	Global	
		White-eared night heron Gorsachius magnificus	EN	Global	
		Binturong Arctictis binturong	VU	Global	
		Greater hog badger <i>Arctonyx</i> collaris	VU	Global	
		Hog deer Axis porcinus	EN	Global	
		Gaur Bos gaurus	VU	Global	
		Dhole Cuon alpinus	EN	Global	
	Asian elephant <i>Elephas</i> maximus	EN	Global		
		Sun bear Helarctos malayanus	VU	Global	
	Pileated gibbon Hylobates pileatus	EN	Global		
	Hairy-nosed Otter <i>Lutra</i> sumatrana	EN	Global		



Type of HCV	Description of HCV	Specific HCV			
	Smooth-coated Otter Lutrogale perspicillata	VU	Global		
		Northern Pig-tailed Macaque  Macaca leonina	VU	Global	
		Mainland clouded leopard Neofelis nebulosa	VU	Global	
		Sambar Rusa unicolor	VU	Global	
		Sunda Pangolin Manis javanica	CR	Global	
		Bengal slow loris Nycticebus bengalensis	EN	Global	
		Indochinese silvered langur (lutung) <i>Trachypithecus</i> germaini	EN	Global	
		Asiatic Black Bear Ursus thibetanus	VU	Global	
		Large-spotted civet Viverra megaspila	EN	Global	
		Asiatic Softshell Turtle Amyda cartilaginea	VU	Global	
		Southern river terrapin Batagar affinus	CR	Global	
		Siamese crocodile Crocodylus siamensis	CR	Global	
		Southeast Asian Box Turtle Cuora amboinensis	EN	Global	
		Yellow-headed Temple Turtle Heosemys annandalii	CR	Global	
		King cobra Ophiophagus hannah	VU	Global	

Type of HCV	Description of HCV	Specific HCV	,		
		Burmese python Python bivittatus	VU	Global	
		Elongated tortoise <i>Indotestudo</i> elongata	CR	Global	
		Large areas of tropical evergreen forest (405,865 ha) with small sections of semi-evergreen forest on the volcanic deposits, deciduous forest in the drier sites with sandy soil, and Melaleuca forest along the brackish waterways (Corlett, 2005).			
		<ul> <li>Evergreen Forest (most dominant type), dominated by Dipterocarp tree species.</li> </ul>			
		Deciduous Dipterocarp Forest, dominated by Dipterocarp tree species.			
HCV 2	Significant ecosystem at global and national levels, relatively intact and unfragmented.	The SCRP is a critical watershed for Thailand and it has 22 major water 3,800 villages in over 6 provinces surrounding the project area in Keep supported by the project. The end also feeds inland fisheries and with the script of the script	erways the s, with 29 oh Kong F ormous wa	at feed villages Province	
		Furthermore, the SCRP not just hosts a mosaic of habitat that supports various endemic species including freshwater biodiversity, but also serves as a corridor for wildlife movements and migration, such as elephants – an integral role of this corridor function is based on the fact that the SCRP connects several protected areas including Phnom Samkos, Peam Krasop, Phnom Aural, and Tatai Wildlife			



Type of HCV	Description of HCV	Specific HCV
		Sanctuaries, Central Cardamom, Botum Sakor Kirirom, and Bokor National Parks (Gray et al., 2016).
		The impact of the project activities in relation to this HCV is stated in section 1.2.
HCV 3	Categorized as HCV habitats and ecosystems during the BIA Workshop (stated in the SCRP PD Section 5.1.2). These ecosystems are categorized as threatened due to the species harbored that are under threat and the critical ecological services that are provided.	
HCV 4	Critical ecological functions – providing wildlife corridors and habitat for endemic species; regulating a critical watershed system and its services that flows to thousands of villages in the region; and providing fisheries and wetland habitat.	

### 5.1.5 Species Used (VCS, 3.19; CCB, B2.5, 2.6)

Species introduced	Classification	Justification for use	Adverse effects and mitigation
N/A	N/A	N/A	N/A

All project activities that include any planting or reforestation within the Project Zone should utilize native or naturalized tree/plant species that are nurtured in nurseries on-site. No non-native species are used in the Project Accounting Area. All agricultural areas in the SCRP landscape were excised from the Project Accounting Area a priori.

### 5.1.6 Invasive Species (VCS, 3.19; CCB, B2.5)



Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
N/A	N/A

No invasive species are known to exist in the project area.

### 5.1.7 GMO Exclusion (CCB, B2.7)

No GMOs are used to generate GHG reductions or removals.

### 5.1.8 Inputs Justification (VCS, 3.19; CCB, B2.8)

Name	N/A
Justification of Use	N/A
Adverse Effect	N/A

No inputs such as any fertilizers, chemical pesticides, biological control agents are intended to be used for the project.

Proposed improvement of agricultural techniques for higher yields and better sustainability under the SCRP are based on climate-smart methods. The communities in this landscape are likely to face seasonal challenges of potential droughts in the dry season and floods due to heavy rains in the wet season. Furthermore, rainfall patterns have been shifting, with longer droughts, short rainy seasons and occasional flash floods. The adverse impacts of these climatic changes include increased risk of poor yields or even crop failure, and potentially greater incidence of pests and diseases.

Wildlife Alliance has developed sustainable income generating models for poor farmers living in the SCRP landscape. Our farming approach considers the extreme swings of tropical weather and has developed adaptation methods so that farmers can bring produce to markets every two weeks, instead of just one harvest a year, as before. In Sovanna Baitong Village for example, our approach has resulted in farmers earning 300% more income than before, as compared to when they were living in the forest from slash and burn cultivation.

### 5.2 Offsite Biodiversity Impacts

## 5.2.1 Negative Offsite Biodiversity Impacts (CCB, B3.1) and Mitigation Actions (CCB, B3.2)

Negative Offsite Impact	Mitigation Measure(s)
N/A	N/A



There is little chance of the Project having significant negative biodiversity impacts outside the Project Zone which would not have occurred in the absence of the project. All protected areas in Cambodia, even those receiving international donor support, currently face extensive threats, particularly due to illegal wildlife trade and deforestation driven by many of the same factors as in the SCRP. As such, the without-Project scenario for most of the country's protected areas is dire and does not differ from the with-Project scenario. In addition, the robust law enforcement and community livelihood focus of this Project means that many of the local drivers of deforestation and biodiversity loss (which could be displaced to nearby protected areas) are being directly targeted by our project through livelihood interventions or, in extreme cases, judicial action, prosecution, and custodial sentencing.

### 5.2.2 Net Offsite Biodiversity Benefits (VCS, 3.19; CCB, B3.3)

As there are no anticipated negative offsite impacts to biodiversity, evaluation of unmitigated offsite impacts is not applicable.

### 5.3 Biodiversity Impact Monitoring

### 5.3.1 Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

The monitoring results along with the stipulated indicators are detailed in Table 5.2 and discussed in section Error! Reference source not found. No declines in trigger species were recorded and the majority of species had a notably higher number of detections from camera trap monitoring. Although, as stated above, we cannot make definitive inferences on population sizes or trends from the camera trap data. We can only hypothesize the general population trends based on these observations. Our monitoring, whilst not conclusive, suggests that populations of key species may be either stable or increasing, which in turn provides evidence that the SCRP activities are effective in reducing threats to biodiversity. Asian elephants in particular have been detected at a greater rate, both by ranger patrols and by camera trapping, suggesting that their population is continuing to recover. This disparity suggests that the project activities have been effective in preserving biodiversity through efforts to improve livelihoods, education, and law enforcement.

Table 5.2 Results of the Southern Cardamom REDD+ Project biodiversity impact assessment monitoring plan (M4).

Focal	Key	SMART	Indicator	Indicator	Monitoring	Fourth Monitoring Period
Issue	results	Objective	Code		Frequency	(M4) 2022-2023
Forest	Decreas	By 2027,		Seven	Monitoring	
destructio	e in	reduce		indicator	period.	
n and land	illegal	the		S		
encroach	logging	number of		included		
ment		illegal		in the SIA		
		logging		Monitorin		
		incidents		g Plan		

Focal Issue	Key results	SMART Objective	Indicator Code	Indicator	Monitoring Frequency	Fourth Monitoring Period (M4) 2022-2023
Issue	Decreas e in encroac hment and land- grabbin g	by half in the SCRP By 2022, two CPA are created, registered at MoE and their NTFPs can	Code	Eight related indicator s included in the SIA Monitorin g Plan	Monitoring period.	(M4) 2022-2023
		access markets	BIAOO3	# and types of NTFPs sold in markets	Monitoring period.	4 main NTFPs collected: Samrong fruit (nut), medicinal plant, rattan and hard resin (Livelihood survey 2024)
			BIAOO4	Amount of revenue accruing from NTFP sales from the area	Monitoring period.	The average income from NTFPs per household/year is US\$ 62 (Livelihood Survey 2024).  SCRP has a total 4,719 families (Ministry of Planning, 2020). Therefore, the estimated total average revenue for 2022-2023 is
Wildlife poaching	Greater commu nity particip ation in ecotourism activitie s	By 2022, >2000 tourists visit CBET sites establishe d and registered by the		Six indicator s included in the SIA Monitorin g Plan	Monitoring period.	US\$ 292,578

Focal Issue	Key results	SMART Objective	Indicator Code	Indicator	Monitoring Frequency	Fourth Monitoring Period (M4) 2022-2023
	Greater appreci	MOE and the MOT By 2022, 25% more		Three related	Monitoring period.	
	ation and awaren ess of wildlife benefits	communit y members demonstr ate greater appreciati on for wildlife and conservat ion		indicator s included in the SIA Monitorin g Plan	period.	
			BIA005	# conserva tion- friendly groups or curricula created or develope d	Monitoring period.	# conservation- friendly groups: 7 Chhay Areng CBET 1) CA-CBET Teach English and computer to committees. (2) CA-CBET Training for new committees on CA-CBET's bylaw and regulation. (3) CA-CBET Train local guide, forest cook, and motor taxi on first aid, hospitality and cooking. (4) CA-CBET Trained Committee on environmentally friendly, garbage management and climate change. (5) CA-CBET Coaching saving group members about loan, interest, saving booklet

Focal	Key	SMART	Indicator	Indicator	Monitoring	Fourth Monitoring Period
Issue	results	Objective	Code		Frequency	(M4) 2022-2023
	Increas	By 2027,		wildlife trade through selling wildlife meat products Seven	Monitoring	
	e in wildlife populati ons includin g HCVs	reduce the number of wildlife poaching incidents by half in the SCRP		related indicator s included in the SIA Monitorin g Plan	period	
			BIAO07	# ranger training sessions undertak en	Monitoring period	96 training sessions (1) First Aid and patrol safety (2) Patrol strategy and technique (3) Systematic wildlife camera traps surveys (4) Rescue and care for snared wildlife (5) Drone survey and night vision drone survey (6) GPS usage/ Timestamp camera (photo with UTM on it) (7) Offline map navigation used for patrol (custom map) (8) Firefighting against forest fire (9) Human right (offender's right to Pro Bono Lawyers)
			BIA008	# ranger exchange programs	Monitoring period	<ul><li>3 Exchange programs</li><li>Countering Snaring in Deciduous Forest Habitat</li></ul>



Focal Issue	Key results	SMART Objective	Indicator Code	Indicator	Monitoring Frequency	Fourth Monitoring Period (M4) 2022-2023
				undertak en		<ul> <li>Ambushing Poachers and Loggers</li> <li>(between Southern</li> <li>Cardamom National Park and Phnom Thnot Wildlife</li> <li>Sanctuary in Preah Vihear province; and Prambeymum</li> <li>Community Forestry in</li> <li>Kampong Speu Province)</li> <li>Law enforcement tactic training with Cambodian Army</li> </ul>
			BIAOO9	# rangers trained or involved in exchange programs	Monitoring period	175 Rangers (from Southern Cardamom NP)
			BIAO10	# poacher cases resulting in convictio ns	Monitoring period	<ul> <li>25 cases resulting in convictions</li> <li>11 offenders jailed</li> <li>14 offenders fined</li> </ul>
			BIA011	Presence , Abundan ce and Distributi on of key HCVs	Monitoring period	Naïve camera-trap occupancy (12,976 trap nights; 64 locations) from Tiger Prey Base Grid (Feb-Oct 2023)  Northern Pig Tailed Macaque: 60%  Sunda pangolin: 15%  Dhole: 8%  Sun bear: 34%  Greater hog badger: 37%  Mainland clouded leopard: 10%

Focal Issue	Key results	SMART Objective	Indicator Code	Indicator	Monitoring Frequency	Fourth Monitoring Period (M4) 2022-2023
						<ul><li>Asian elephant: 0%</li><li>Sambar: 3%</li><li>Asiatic black bear: 8%</li></ul>
Poor communit y livelihoods	Reduce d cost of living	By 2027, 10% of communit y members with direct livelihood benefits from the SCRP		indicator s included in the SIA Monitorin g Plan	Monitoring period	
	Higher income levels	By 2027, 10% of communit y members earning income directly from the SCRP and associate d activities		Six related indicator s included in the SIA Monitorin g Plan	Monitoring period	
			BIAO12	Amount of investme nt leverage d from external sources, including Governm ent and	Monitoring period	Total Amount: U\$\$598,591.68 Y2022: U\$\$292,010.99 Y2023: U\$\$306,580.69

Focal Issue	Key results	SMART Objective	Indicator Code	Indicator	Monitoring Frequency	Fourth Monitoring Period (M4) 2022-2023
				private		
				sector for		
				financing		
				communi		
				ty		
				ventures		

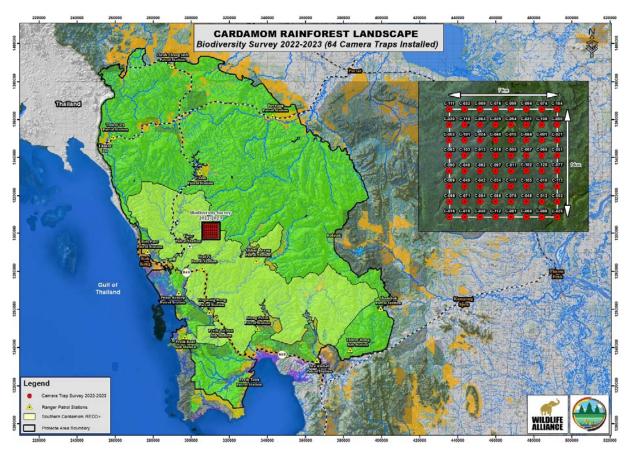


Figure 5.3 The locations of camera trap surveys conducted by the Southern Cardamom REDD+ during the M4 monitoring period 2022-2023.

### 5.3.2 Biodiversity Monitoring Plan Dissemination (CCB, B4.3)

The monitoring plan has been made available for public review at the SCRP Project Office and has been made available to each Commune in the Project Zone communities. The full results of the biodiversity monitoring are included in this project Monitoring Report, which is made publicly available in the Project Area by having a hard copy available for review at the Project Office and on the Verra Registry, and the Southern Cardamom REDD+ Project website. The monitoring results have been further communicated to the communities and other stakeholders (including the Government and Local



Authorities) using diverse methods including presentations, reports, and orally during community awareness and sensitization meetings, and when SBIA workshops are held. Additionally, a monitoring report summary has been written and provided to communities throughout the Project Area in English and Khmer. There have been several peer-reviewed publications and donor reports written that are available online that contain key biodiversity data from the SCRP focusing on some of these indicators.

### 5.4 Optional Criterion: Exceptional Biodiversity Benefits

### 5.4.1 Trigger Species Population Trends (CCB, GL3.2, GL3.3)

Thirty-five species (nine birds, 18 mammals, and eight reptiles) that are listed as globally Critically Endangered, Endangered, or Vulnerable by the IUCN, occur in the proposed Southern Cardamom REDD+ Project Area (i.e., confirmed presence records since 2014 – see details in the SCRP PD Section 5.5.1).

We have not conducted any large-scale studies on population trends of all 40 species during the monitoring period but have conducted five camera trap surveys to detect the occupancy of wildlife species in the landscape.

These studies have primarily focused on Threatened mammal species that are in high risk of poaching, which are:

- Sunda pangolin
- Asian Elephant
- Dhole
- Clouded Leopard
- Sun Bear
- Sambar
- Greater Hog Badger
- Northern Pig-tailed Macaque

The species and general activities related to threat reduction and habitat improvement listed under the positive impact description (Section 5.1.1) are relevant to all these trigger species. In addition, the tiger re-introduction program in the pipeline demonstrates that the actions taken to improve the habitat or reduce the threats are working and promise to restore safe habitats and prey base for this iconic species (see details in the table below).

Trigger Species	Tiger (Panthera tigris)			
With-project Scenario	Tiger Reintroduction: The last record of tiger from Cambodia			
	was in November 2007 from Srepok Wildlife Sanctuary,			



Mondulkiri. The extirpation of tiger from Cambodia was largely due to poaching, of tigers and tiger prey, for the illegal wildlife trade.

Acknowledging the species' functional extinction from Cambodia, tiger reintroduction was identified as a critical action in the Cambodia Tiger Action Plan (CTAP): the Cardamom Rainforest Landscape, Koh Kong, was one of two potential tiger reintroduction locations identified mainly due to Wildlife Alliance's commitment to direct protection of forests and wildlife.

In 2018, Wildlife Alliance worked with all stakeholders, including government, communities, and global conservation experts to move tiger reintroduction plans forward. This includes creating an inviolate Core Zone of greater than 2,000 km² within the SCRP for tiger recovery – increasing the number of professionally equipped, trained, and supervised law enforcement rangers; recovering populations of ungulate tiger prey base; developing safeguards for preventing Human-wildlife conflict; and strengthening legislation protecting tiger, tiger prey, and protected areas.

These efforts are continuing, and construction of the Tiger Reintroduction Station in the SCRP began in late 2020, as well as a camera trap prey base survey to evaluate recovery of tiger prey species in the landscape. Trigger species monitoring data from this reporting period was obtained from this extensive camera-trap effort (64 camera-trap stations; 12,976 camera-trap nights).

Trigger Species	Asian Elephant ( <i>Elephas maximus</i> )
With-project Scenario	Asian elephant occupancy in camera trap surveys has increased from 0-29% in M1 to 0-61% in M2, a noticeable improvement. However, no elephants were detected from the M3 and M4 camera-trap grid as these were placed in the tiger reintroduction zone where no elephants are present.  Aside from camera trap surveys, rangers have recorded the
	continued presence of elephant in the forest (tracks, dung,



direct sightings), from 70 in M1 to 101 in M2 to 18 in M3 and 83 in M4.

In the absence of a large-scale population survey, both of these increases, combined with no records of poaching or deaths, suggest a recovering population of Asian elephants in the SCRP Project Area thanks to the preservation of much-needed contiguous forest. Asian elephants are at risk from habitat loss, poaching for ivory, and human-elephant conflict.

Trigger Species	Sunda pangolin ( <i>Manis javanica</i> )
With-project Scenario	Sunda pangolin abundance within the Southern Cardamom REDD+ Project area has not noticeably increased based on camera trap surveys. In the M1 period, camera trap occupancy was 0-17% across camera trap surveys, and in the M2 occupancy was recorded as 0-14%. However, during the M3 grid, the naïve occupancy of Sunda pangolin was 27.5% - a significant increase and one of the highest encounter rates recorded for the species from mainland Southeast Asia. During the M4 period, the recorded occupancy decreased again to 15%. The extent to which this represents a population increase or reflects the remoteness of the survey area is unclear. The M2 survey area was relatively close, and the naïve occupancy was 16.4%, suggesting a possibly genuine increase.
	SCRP Rangers successfully rescued 12 live pangolins during the M2 period, 4 in the M3 period, and 19 in the M4 period, confirming their presence in the landscape and that their population would certainly have declined further without the Project. Sunda pangolins are under extreme threat due to poaching for traditional medicine and the wild meat trade.

Trigger Species	Dhole (Cuon alpinus)
With-project Scenario	Detection of dhole in camera trap surveys greatly increased in the first monitoring periods, from 0-23% to 0-70% for M1 to M2 respectively. However, naïve occupancy dropped to just 7.8% in M3, and only increased to 8% in M4. The extent to which this is due to geographical variation, or a genuine decline is unclear.

One poached dhole was found during M4. Dholes are predominantly at risk from loss of prey base and snare by-catch, disease from domestic dogs, as well as loss of habitat, as they are a far-ranging pack species.

Trigger Species	Clouded Leopard (Neofelis nebulosa)
With-project Scenario	Detections of clouded leopard remained approximately the same between M1 and M2 (7-9%, 0-10%) and had a significant increase to 24.2% in M3. The number decreased back to 10% in M4. We did not detect any poaching or snare by-catch of clouded leopards in the M3 but found six individuals caught by poacher during M4. With the high occurrences of prey species (wild pig, muntjac, pig-tailed macaques), it is unlikely that the clouded leopard population is decreasing. However, clouded leopards are still at risk from loss of prey base as well as accidental capture in snares.

Trigger Species	Sun Bear (Helarctos malayanus)
With-project Scenario	Detections of sun bear increased slightly between the monitoring periods (11-29% M1, 0-33% M2), and 36.3% in M3, until it slightly decreased to 34% in M4. No poaching of sun bears was detected during M2 and M3, but during M4, three sun bears were caught by poachers.  Sun bears are at a high risk of poaching, alive or dead, as their body parts and bile are widely used in traditional medicine, as well as accidental capture in snares set for other species.

Trigger Species	Sambar (Rusa unicolor)
With-project Scenario	Sambar presence has increased slightly, with camera traps detection going from 0-14% in M1, to 0-17% in M2, and 16.5% in the M3. However, it has significantly decreased to 3% in M4.
	Sambar are the largest deer species in the Project Area and are under high pressure from poaching as their meat is sought after. Populations within the SCRP Project area are likely low



due to intensive poaching, so no detected further decline is promising.

Trigger Species	Greater hog badger (Arctonyx collaris)			
With-project Scenario	Hog badger camera trap detection had the most notable increase, from 0-44% in M1 to 0-90% in M2. Meanwhile, naïve occupancy was only 29.7% in the M3 period. This number increased to 37% in M4.  This is promising, as hog badgers are very vulnerable to snaring and 17 individuals were found in snares by rangers, both alive and dead during M4. Hog badgers are at high risk from poaching for meat and snare by-catch, so detection of large numbers implies successful anti-poaching law enforcement strategies.			

Trigger Species	Northern pig-tailed macaque (Macaca leonine)
With-project Scenario	Northern Pig-tailed Macaque camera trap detection increased from 36-51% in M1 to 4-67% in M2, with similar occupancy of 52.7% during M3. This number increased to 60% in M4.
	Pig-tailed macaques are primarily at risk from human-wildlife conflict and poaching for pet trade, so the population growth is promising, especially as they are a key prey species for clouded leopards and other predators.

# 6 ADDITIONAL PROJECT IMPLEMENTATION INFORMATION

### Development of Allometry: Southern Cardamom REDD+ Project

VM0009, version 3, section 9.3.3.1 specifies how to validate allometric equations used to estimate biomass for the Project. The methodology has several requirements with respect to validation of allometric equations.

MRR.99 A list of all selected allometric equations used to estimate biomass for trees and non-trees.



The SCRP uses a single allometric equation to estimate the biomass of all trees in the Project area. The selected biomass equation is model II.2, from Chave et al. (2005):

$$AGB = EXP[-1.602 + (2.266 \times \ln(DBH)) + (0.136 \times \ln(DBH)^2) + (-0.0206 \times \ln(DBH)^3) + (0.809 \times \ln(sg))]$$

Where:

AGB is aboveground biomass in kg,

DBH is diameter at breast height in cm, and

sg is wood density in g/cm3

Non-tree, standing dead and lying dead biomass are not included as a carbon pool in the SCRP.

MRR.100 For each selected allometric equation, a list of species to which it is being applied and the proportion of the total carbon stocks predicted by the equation.

As documented in MRR.99, the SCRP uses a single allometric model for all trees in the Project area. Therefore, the Chave et al. (2005) model II.2 listed above is applied to all tree species included in the inventory. The Chave et al. (2005) equation is applied to 100% of the carbon stock. Annex 10 - Cardamom REDD Carbon Inventory M4, tab 'Parameters' in the table 'Tree Species Information' contains a list of all species for which the allometry was applied.

MRR.101 For each selected allometric equation, indication of when it was first employed to estimate carbon stocks in the Project Area (monitoring period number and year of monitoring event).

All allometric equations were first used in the Project's first monitoring event (M1) with the monitoring period of 2015 to 2017, which was verified in 2018. As discussed in the MRR.100 and MRR.101, the Project uses a single allometric equation for all species in the biomass inventory.

MRR.102 For each selected allometric equation, indication of whether it was validated per section 9.3.3.1 or 9.3.3.2.

The methodology states that if the allometric equation, or equations used were not developed in an area similar to the Project area or are from a biome-wide database, then it/they must be verified utilizing field measurements from the Project area, or an area similar to it. The selected model was previously developed in existing peer-reviewed literature and is therefore validated under section 9.3.3.1 of the methodology VM0009 v3.

MRR.103 Documentation of the source of each selected allometric equation and justification for their applicability to the project area considering climatic, edaphic, geographical and taxonomic similarities between the project location and the location in which the equation was derived.

Model II.2 from Chave et al. (2005) was selected for application to 100% of the trees for the SCRP forest inventory. This model was specifically developed to be used in tropical forests. The appropriateness of this model to be used in Cambodia is demonstrated by the fact that the Chave et al. (2005) models have become common and generally accepted for use in Cambodia throughout the



scientific and forestry community. The Government of Cambodia is proposing to use these models to estimate above-ground biomass for the national forest inventory, ultimately contributing to the calculation of the Cambodian national FREL (RGC, 2017). Additionally, the VCS Keo Seima REDD+ Project, located in eastern Cambodia in a similar evergreen forest type, applied allometric equations from the Chave et al. (2005). Lastly, the FAO performed a study on best methods with which to estimate biomass in Cambodia (Sola et al., 2014). They identified Chave et al. (2005) as the best fit and most conservative approach for the estimation of above-ground biomass in Cambodia, utilizing data from several Cambodian field sites, including the SCRP Project area.

Through validation and a corresponding derivative test required in VM0009 section 9.3.3.1, the selected model was deemed accurate to the SCRP Project area. The selected equation, Chave Model II.2, was found to predict biomass at - 6.4% of the measured biomass using the ratio of sums method from section 9.3.3.1, which falls within +/-15% specified requirement. Cumulative measured biomass is greater than the total biomass predicted by the allometric equation. However, because the largest tree in the destructive harvest sample is 4 cm smaller at DBH than the largest tree in the inventory (133.2 cm vs 137.5 cm), the methodology requires demonstration of additional criteria. In Table 6.1, we note that the measured biomass for the largest tree in the sample (DBH 133.2 cm) is higher than the predicted biomass by the selected equation Chave model II.2. As required by VM0009 Section 9.3.3.1, a calculation of the derivative of the model was performed. Derivative values for the largest tree in the sample and the largest tree in the inventory were then determined and compared. The derivative for the largest tree in the inventory was 3% higher than the derivative for the largest tree in the sample (312.8 kg/cm vs. 303.5 kg/cm). We therefore elected to conservatively cap DBH for the carbon inventory at the value of the largest tree in the validation sample set (133.2 cm). It should be noted that only a single tree from the inventory had a DBH larger than the largest tree in the validation sample set, so that tree's DBH (137.5 cm) was conservatively changed to 133.2 cm. The allometry validation worksheet containing the abovementioned calculations has been provided to the auditor.

### MRR.104 A list of allometric equations validated by destructive sampling.

Model II.2 from Chave et al. (2005) was validated by use of destructive sample data from existing literature.

MRR.105 For each, the number of trees (or non-trees) destructively sampled and the location where the measurements were made relative to the Project area.

For the single allometric model applied to the Project, two separate published studies employing destructive harvesting of trees in Cambodia were used for the validation, with a total sample size of 46 trees. The majority of the destructive harvest data (34 trees) was from a site approximately 30 km from the SCRP, and of the same forest type and climatic conditions as the Project Area (Chave et al., 2014). The UTM coordinates of the site are 325147.51 m E, 1208702.52 m N. The second set of destructive harvest data (12 trees) came from a site approximately 385 km from the Project Area. The coordinates of the site are 699326 m E, 1366949 m N. The forest type and species composition at this site are very similar to that of the Project Area. This study site has a slightly drier climate than the Project area, with a reported average rainfall of 2,200 – 3,000 mm/yr compared to 2,500 – 4,000 mm/yr for the



SCRP. However, the range of elevations in this study site (60 - 750 m) are very similar to the Project Area, (10 - 980 m), and the general topography of the study site and the Project Area, being comprised of a combination of mountainous slopes, valleys and plateaus, show good similarity.

#### MRR.106 A field protocol used to measure destructively sampled trees (or non-trees).

Two destructive harvest studies from literature were utilized, including a destructive harvest dataset from Hozumi et al. (1969) (per Chave et al., 2014) and from the Keo Seima REDD+ Project. The Keo Seima REDD+ Project included the report that the destructive harvest field protocol from Walker et al. (2009) was followed. Hozumi et al. (1969) describes the field protocol starting on page 11 in the section "Methods of Field Survey" used to measure biomass in the Cheko, Cambodia dataset, and the manuscript has been provided to the auditors for reference. Therefore, the quality of the data is demonstrated.

## MRR.107 Justification that the field protocol for the destructive measurement method conservatively estimates biomass.

The two literature sources used to complete the destructive harvest are well known and have undergone independent assessments. The Keo Seima REDD+ Project utilized a generally accepted destructive harvest method (Walker et al., 2009) and underwent independent validation and verification as part of that Project's VCS certification. The Cheko study, performed by Hozumi et al. in 1969 and referenced by Chave et al. (2014) shows good correlation between total biomass in the Cheko region and similar forests in Kao Chong and moist tropical forest in Ghana, indicating that the protocol accurately estimates biomass.

## MRR.108 For each allometric equation in the list, a figure showing all the destructive measurements of biomass compared to predicted values from its selected allometric equation.

Table 6.1 The destructive biomass measurements from the Cheko study and the Keo Seima REDD+ Project are shown compared to the predicted biomass values from the 3 different forms of the Chave et al. (2005) allometric models. The Chave model II was shown to be the best fit and was selected for use in the SCRP.

Study	Species	Specific Gravity (g/cm3)	DBH (cm)	Height (m)	Measured Biomass (kg)	Chave II (kg)	Chave No Height (kg)	Chave With Height (kg)
Cheko	Unknown	0.74	5	8.2	8.58	7.907	7.973	7.722
Cheko	Unknown	0.56	5.2	7.7	5.84	6.974	6.681	5.935
Cheko	Unknown	0.77	5.2	6.3	5.28	9.023	9.186	6.677
Cheko	Unknown	0.47	5.3	8.3	7.8	6.353	5.892	5.578
Cheko	Unknown	0.74	5.5	8.9	8.98	10.080	10.217	10.141



Study	Species	Specific Gravity (g/cm3)	DBH (cm)	Height (m)	Measured Biomass (kg)	Chave II (kg)	Chave No Height (kg)	Chave With Height (kg)
Cheko	Unknown	0.54	5.5	8.3	5.22	7.812	7.456	6.901
Cheko	Unknown	0.56	5.7	9.3	9.31	8.813	8.488	8.613
Cheko	Unknown	0.54	5.7	6.9	6.58	8.557	8.184	6.162
Cheko	Unknown	0.54	5.8	7.3	7.5	8.946	8.565	6.750
Cheko	Unknown	0.54	5.9	10.3	7.83	9.345	8.957	9.855
Cheko	Unknown	0.54	5.9	10.2	9.23	9.345	8.957	9.759
Cheko	Unknown	0.54	6	11.5	10.69	9.755	9.360	11.379
Cheko	Unknown	0.54	6.3	8	10.61	11.050	10.637	8.727
Cheko	Unknown	0.56	6.4	10.9	12.13	11.848	11.497	12.726
Cheko	Unknown	0.54	6.5	6.1	8.72	11.970	11.547	7.084
Cheko	Unknown	0.74	6.6	9.3	17.17	16.061	16.471	15.259
Cheko	Unknown	0.74	6.7	8.8	14.54	16.691	17.136	14.879
Cheko	Unknown	0.68	6.8	10.3	15.31	16.190	16.372	16.485
Cheko	Unknown	0.56	7.2	12.7	16.53	16.018	15.674	18.766
Cheko	Unknown	0.68	7.5	10.3	20.77	20.809	21.197	20.053
Cheko	Unknown	0.56	7.6	12.7	19.07	18.399	18.078	20.909
Cheko	Unknown	0.77	7.6	8.3	19.25	23.805	24.857	18.789
Cheko	Unknown	0.56	8.2	8.4	15.97	22.356	22.100	16.100
Cheko	Unknown	0.68	8.7	7.2	19.32	30.448	31.388	18.862
Cheko	Unknown	0.56	9.2	11.3	28.88	30.033	29.975	27.262
Cheko	Unknown	0.54	9.4	11.3	26.63	30.816	30.601	27.444
Cheko	Unknown	0.56	9.9	11.9	40.62	36.248	36.412	33.245
Cheko	Unknown	0.56	11.8	15.4	68.09	56.848	58.040	61.121



Study	Species	Specific Gravity (g/cm3)	DBH (cm)	Height (m)	Measured Biomass (kg)	Chave II (kg)	Chave No Height (kg)	Chave With Height (kg)
Cheko	Unknown	0.74	11.8	11.5	57.43	71.226	76.696	60.313
Seima	Chhlik / Terminalia alata Roth	0.75	13	10.7	63	92.255	100.534	69.032
Seima	Trach / Dipterocarpus intricatus Dyer	0.64	14	10.65	81	98.064	104.439	67.999
Cheko	Unknown	0.48	16.6	17.2	115.57	119.936	123.019	115.799
Seima	Onsoy / [unidentified species]	0.72	19	9.13	98	233.742	262.522	120.292
Seima	Rang Phnom / Shorea siamensis Miq.	0.86	22	14.75	220	392.021	462.958	312.503
Seima	Troseak / Peltophorum sp.	0.72	22	12.8	257	338.401	385.996	226.106
Seima	Pchek / Shorea obtusa Wall.	0.72	24	16.6	390	421.048	484.718	348.970
Cheko	Unknown	0.55	25.5	25.5	373.7	395.405	435.503	464.196
Seima	Koki/Hopea sp.	0.72	34	25	986	1006.73 1	1204.09 5	1063.89 3
Cheko	Unknown	0.46	37	24	660.66	858.778	950.266	769.290
Cheko	Unknown	0.55	41.3	24.7	1214.57	1296.62 2	1501.00 6	1179.44 5
Seima	Sokrom / Xylia dolabriformis Benth.	0.72	44	19.12	1865	1872.62 1	2294.63 5	1350.98 6



Study	Species	Specific Gravity (g/cm3)	DBH (cm)	Height (m)	Measured Biomass (kg)	Chave II (kg)	Chave No Height (kg)	Chave With Height (kg)
Seima	Chambok / Irvingia malayana Oliver ex A. Benn.	0.99	49	18.85	1396	3147.38 5	4144.17 4	2280.63 9
Seima	Khlong / Dipterocarpus tuberculatus Roxb.	0.72	52	23.8	3489	2793.13 7	3477.10 6	2348.77 4
Seima	Sralao / Lagerstroemia calyculata Kurz	0.72	89	34.25	9765	9674.70 0	12572.9 45	9901.43 7
Seima	Chheuteal / Dipterocarpus alatus Roxb.	0.72	93	44	14016	10673.8 25	13910.9 06	13889.1 68
Cheko	Unknown	0.56	133. 2	44.2	20578.48	19089.1 04	24172.2 70	22353.0 37
	Total Biomass				56072.86	53047.4 97	67135.6 84	57355.0 60

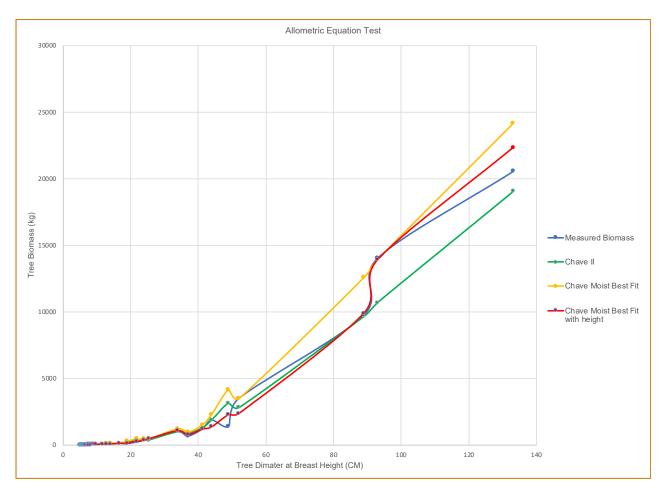


Figure 6.1 Destructive biomass measurements from the Cheko Study and the Keo Seima REDD+ Project compared to the predicted biomass values from 3 models from Chave et al. (2005) that were evaluated for bet fit. The Chave model II.2 was shown to be the best fit and was selected for validation and use in the SCRP.



### REFERENCES

Chave, J., Andalo, C., Brown, S., Cairns, M.A., Chambers, J.Q., Eamus, D., Folster, H., Fromard, H., Higuchi, N., Kira, T., Lescure, J.P., Nelson, B.W., Ogawa, H., Puig, H., Riera, B. and Yamakura, T. 2005. Tree allometry and improved estimation of carbon stocks and balance in tropical forests. Oecologia 145: 87 – 99.

Corlett, R. 2005. Vegetation. In the Physical Geography of Southeast Asia, ed. A. Gupta. pp. 105-120. Oxford: Oxford University Press.

FAO. 2015. Global Forest Resources Assessment. Report of the Food and Agriculture Organization of the United Nations.

FAOSTAT. 2018. Food and Agriculture Organization of the United Nations. Available at http://www.fao.org/faostat/en/#data/FO. Accessed 18/06/2018

Gray, T. N., Hort, S., Lefter, E., Grosu, R., Kong, K., Keo, O., & Gauntlett, S. 2016. A decade of zero elephant poaching in the Cardamom Rainforest Landscape, Cambodia. *Gajah*, 45, 35-38.

IPCC. 2006. IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme. Hayama, Kanagawa, Japan: Institute for Global Environmental Strategies; 2006. Available: http://www.ipcc-nggip.iges.or.jp/public/2006gl/.

Mekong River Commission (MRC). 2010. "Impacts of Climate Change and Development on Mekong Flow Regimes: First Assessment-2009". MRC Technical Paper No. 29, June 2010. Mekong River Commission: Vientiane.

Ministry of Environment, Royal Government of Cambodia. 2016. Initial Forest Reference Level for Cambodia under the UNFCCC Framework.

NIS. 2015. Census of Agriculture in Cambodia 2013, National Report on Final Census Results. National Institutes of Statistics, Ministry of Planning.

Peng, Hor, Phallack, Kong & Menzel, Jörg. 2012. Introduction to Cambodian Law. Konrad-Adenauer-Stiftung, Cambodia.

RGC, 2008. Protected Areas Law. Royal Government of Cambodia Royal Decree: No NS/RKM//0208/007. Dated on 15 February 2008

Richards, M. and Panfil, S.N. 2011. Social and Biodiversity Impact Assessment (SBIA) Manual for REDD+ Projects: Part 1 – Core Guidance for Project Proponents. Climate, Community & Biodiversity Alliance, Forest Trends, Fauna & Flora International, and Rainforest Alliance. Washington, DC.

Russell R. Ross, ed. 1987. Cambodia: A Country Study. Washington: GPO for the Library of Congress.



World Bank. 2015. Cambodian Agriculture in Transition: Opportunities and Risks. World Bank Economic and Sector Work, Report no. 96308-KH



## APPENDIX 1: NEW PROJECT AREAS AND STAKEHOLDERS

This appendix is not used.

## APPENDIX 2: PROJECT RISKS TABLE

This appendix is not used.



## APPENDIX 3: COMMERCIALLY SENSITIVE INFORMATION

Section	Information	Justification
3.1.2 & 3.1.3	Carbon Inventory Standard Operating Procedures (SOPs)	The PD outlines the parameters monitored in the project's forest inventory and provides a general outline of what activities are included in the project's carbon monitoring plan. However, the actual Forest Inventory SOPs are commercially sensitive, as they represent proprietary scientific and technical sampling methods developed by WWC. Protection of the specific sampling methods ensures no one can use the methods developed by WWC to benefit themselves in detriment to the project.
3.2	Carbon Model	The PD outlines the methods for quantifying GHG emission reductions generated by the project in accordance with the requirements of the methodology being applied by the project. However, the actual Carbon Model workbook is considered commercially sensitive as it includes proprietary scientific and technical calculation means developed internally by WWC. Protection of the specific calculation methods ensures no one can use the methods applied by WWC to benefit themselves in detriment to the project.
3.2	Forest Reference Emissions Level (FREL) Calculation Workbook	The PD outlines the methods for quantifying GHG emission reductions generated by the project in accordance with the requirements of the methodology being applied by the project. However, the actual Forest Reference Emissions Level (FREL) Calculation Workbook is considered commercially sensitive as it includes proprietary scientific and technical calculation means developed internally by WWC. Protection of the specific calculation methods ensures no one can use the methods applied by WWC to benefit themselves in detriment to the project.
3.1.3	Climate Monitoring Plan	The PD identifies the parameters monitored in the project's forest inventory and provides a general outline of what activities are included in the project's carbon monitoring plan. However, WWC considers it necessary to protect specifics on the sampling plan, including the locations of the inventory plots, so that no one can try and game them or hurt the project.



Section	Information	Justification
2.4.4	Financial Information including the Project's Financial Model	All financial information related to the project is considered commercially sensitive. WWC has provided the auditors with a financial model for the project to demonstrate the overall financial health of the project, as well as to support the risk ratings applied for the financial viability risk category in the NPRT. The project financial information is considered to be highly sensitive whose disclosure would impact confidentiality agreements with the communities and could also be used to the detriment of the project communities and WWC.
2.4.4 & 4.4.4	Project Agreements with the Proponent and the Project Partners	The agreements signed between the Project Partners WA & WWC, WA and the Proponent (RGC MOE), and the Koh Kong Provincial Administration are considered to be commercially sensitive, and the confidentiality of these agreements are contained within its clauses. Several clauses within the agreement are considered to contain commercially sensitive content, such as those concerning obligations of the Project Partners, conditions for executing the agreement, as well as the benefit sharing plan within the agreement.

## APPENDIX 4: SDG CONTRIBUTIONS

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
1)	1.4	Number of people who have received training on income generating activities informing them on available economic resources, technologies for managing businesses and methods for starting businesses, through the Southern Cardamom Forest Protection Project.	Implemented activities to increase	Chi Phat:  - 11 community management teams  - 332 beneficiary families  Chhay Areng:  - 10 community management teams  - 169 beneficiary families  Chhay Louk:  - 21 families	Project records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
2)	2.3	Number of community members who have undergone agricultural training	Implemented activities to increase	304 families received agricultural training	Project records
3)	2.4	Agricultural demonstration plots established in community areas	Implemented activities to increase	No further changes during this monitoring period	NA
4)	3.8	Number of health facilities built or equipped to provide essential health services to project communities.	Implemented activities to increase	No further changes during this monitoring period	NA
5)	4.3	Number of students benefiting from bursary schemes for tertiary education, including university	Implemented activities to increase	7 students benefited from the Project's bursary schemes for tertiary education, including university	Project records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
6)	4.5	Percent of female/male participation in education bursary scheme and project run education events.	Implemented activities to increase	37.5% female participation in education bursary scheme and education events (6 girls and 11 boys)	Project records
7)	4.a	Number of schools constructed, repaired or equipped.	Implemented activities to increase	O schools constructed, repaired or equipped; activity not yet implemented	NA
8)	4.c	Number of teachers employed.	Implemented activities to increase	O teachers employed; activity not yet implemented	NA
9)	5.a	Percent attendees in community meetings that are women and percent of participants in micro-finance and income generating activities that are women.	Implemented activities to increase	57% of attendees at community meetings were female (575 village women out of 1,010 participants).  About 67% of participants in micro-finance and income generating activities were village women (118 women out of 175 participants).	Project records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
10)	5.5	Percent of Project employees that are women	Implemented activities to increase	5.4% of Project employees are women (7 female employees out of 128 new hires)	Employee list
11)	6.4	Number of community members who have undergone agricultural training learning methods and improved crop varieties to increase crop water use efficiency.	Implemented activities to increase	304 families received agricultural training on improved methods, equipment and crop varieties to increase crop yields and sustainability, which will increase water-use efficiency.	Project records
12)	8.3	Number of community members and percent of which are women who have accessed a microfinance scheme	Implemented activities to increase	4 new families have accessed the microfinance program in Chhay Areng. 100% of participants in micro-finance were women.	Project records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
13)	8.3	Number of people and percent of which are women who have established Income Generating Assistance from the Project	Implemented activities to increase	Chi Phat:  - 11 community management teams  - 332 beneficiary families  Chhay Areng:  - 10 community management teams  - 169 beneficiary families  Chhay Louk:  - 21 families	Project records
14)	8.9	Number of families participating and deriving income from eco-tourism activities (CBET)	Implemented activities to increase	20 new families in Chhay Areng participated in this activity.	Project records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
15)	8.9	Number of tourists visiting the community eco-tourism facilities (CBET)	Implemented activities to increase	Total: 8,590 Chi Phat: 5,030 in Chi Phat (3,447 local and 1,583 international) Chhay Areng: 3,560 in Chhay Areng (3,188 local and 186 international)	Project records
16)	9.3	Number of community members who have accessed the microfinance scheme	Implemented activities to increase	4 new families have accessed the microfinance program. About 100% of participants in microfinance were village women.	Project records

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
17)	10.2	Percent attendees in community meetings that are women and percent of participants in micro-finance and income generating activities that are women.	Implemented activities to increase	57% of attendees at community meetings were village women (575 women out of 1,010 participants).  About 67% of participants in micro-finance and income generating activities were village women (118 women out of 175 participants).	Project records
25)	11.3	Number of land use planning meetings held with participation and support from local authorities	Implemented activities to increase	6 land use planning meetings held with participation and support from local authorities	Project records
27)	12.b.	Number of families participating in ecotourism activities (CBET)	Implemented activities to increase	20 new families in Chhay Areng participated in this activity.	Project records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
28)	12.b	Number of tourists visiting the community eco-tourism facilities (CBET)	Implemented activities to increase	Total: 8,590 Chi Phat: 5,030 in Chi Phat (3,447 local and 1,583 international) Chhay Areng: 3,560 in Chhay Areng (3,188 local and 186 international)	Project records
31)	13.3	Number of people reached through awareness and sensitization events.	Implemented activities to increase	5,961 villagers (206 participants on average) were reached through awareness and sensitization events	Project records
32)	15.1	Area (ha) of avoided forest loss in the Project Area	Implemented activities to increase	21,060 ha of avoided forest loss in the Project Area	NER worksheet
33)	15.2	Number of land use planning meetings held with participation and support from local authorities	Implemented activities to increase	6 land use planning meetings were held with participation and support from local authorities	Project records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
35)	15.4	Number of rangers employed and trained	Implemented activities to increase	<ul> <li>2022:</li> <li>201 government rangers and conservation personnel employed and trained</li> <li>2023:</li> <li>258 government rangers and conservation personnel employed and trained</li> <li>Note: Numbers include CFPP Management Staff in Phnom Penh</li> </ul>	Project training records
36)	15.5	Number of globally Critically Endangered or Endangered species as listed by the IUCN Red List are present in the Project Area	Implemented activities to increase	16 globally Critically Endangered or Endangered species as listed by the IUCN Red List are present in the Project Area	Biodiversity sampling records



Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Evidence
37)	15.7	% families engaging in illegal wildlife trade through selling wildlife meat products	Implemented activities to decrease	Most families in the Project Area are no longer engaged in consuming and trading illegal wildlife for meat products - based on the number of instances in which wildlife meat/products have been confiscated from offenders – government ranger dataset	Project records
38)	<b>15.</b> a	15.a.1 Amount of investment leveraged from external sources including Government and private sector for financing community ventures	Implemented activities to increase	\$598,591.68 USD in investment leveraged from external sources including government and private sector for financing community ventures	Project records
39)	15.c	Number of poacher cases resulting in convictions.	Implemented activities to decrease	25 poacher cases ended in convictions.	Court records

## APPENDIX 5: PROJECT AREA MAPS

