Tannibar Community Forest Restoration Project

Document Prepared by

ASIA ASSETS DEVELOPMENTS CO.,LTD

Project title	Tanimbar Community Forest Restoration Project
Project ID	*Verra Project ID*
Crediting period	01 October 2025 to 30 September 2065
Project lifetime	01 October 2025 to 30 September 2065; 40 years lifetime
(CCB) GHG accounting period	01 October 2025 to 30 September 2065; 40 years lifetime
Original date of issue	31-October-2025
Most recent date of issue	31-October-2025
Version	1.0
VCS Standard	v4.4

version	
CCB Standards version	v3.0
Project location	Tanimbar, Maluku Province, Indonesia
Project proponent(s)	Asia Assets Developments Co., Ltd. Contact: Alex Chi. Email: chi@asiaassetsdev.com Tel: 886-2-82269177
Validation/verification body	Earthood Services Limited New Delhi, India Contact: Archit Srivastava Email: architsrivastava@earthood.in Tel: +91 8758145642
History of CCB status	First application
Gold Level criteria	The Tanimbar Community Forest Restoration Project is designed to meet the Gold Level criteria for exceptional community and biodiversity benefits under the CCB Standards, v3.0. The project's integrated approach to ecological restoration and community empowerment is summarized below. GL1: Exceptional Climate Change Adaptability. The project will result in an estimated net removal of ~ 77 million tCO_2e over the 40-year crediting period (net removal is currently calculated for 30 year crediting period, with the last 10 years of the crediting period dependent on 10 year renewal of PS licenses; total 40 year net removal will be calculated and provided at a later time). By reforesting 25,963 hectares of degraded land with a diverse mix of native species, the project restores critical ecosystem functions. The re-established forest cover will increase soil moisture retention, regulate local microclimates, and reduce the landscape's vulnerability to drought and extreme weather events. Finally, the project directly builds the adaptive capacity of the local communities. By introducing climate-resilient agroforestry systems and diversifying livelihoods beyond climate-vulnerable subsistence

farming, the project reduces the communities' economic exposure to climate variability and change. Improved watershed function from reforestation also enhances the reliability of water resources for both domestic use and agriculture.

GL2: Exceptional Community Benefits with Direct Benefits, Community Engagement and Sustainability.

Poverty Alleviation and Livelihood Enhancement (SDG 1, 2, 8): The project will create direct employment and establish sustainable income-generating activities through community-led agroforestry and the development of Non-Timber Forest Product (NTFP) value chains. A dedicated micro-finance mechanism will provide capital for community members, particularly women and youth, to launch small-scale green enterprises, diversifying the local economy beyond climate-vulnerable subsistence agriculture.

Empowerment and Institutional Strengthening (SDG 5, 16): The project is built on the foundation of Indonesia's Social Forestry program. By channeling all activities through the 23 legally recognized community institutions, the project strengthens their land tenure, enhances their governance capacity, and ensures that decision-making power remains at the local level. Gender equality is promoted through requirements for inclusive participation and leadership roles for women.

Access to Essential Services (SDG 3, 6): A core component of the project's benefit-sharing mechanism is the establishment of a Community Development Fund. This fund will be used to address critical infrastructure gaps identified in the baseline analysis, such as supporting the establishment of auxiliary health posts (Pustu), providing educational scholarships, and investing in clean water systems, directly improving the well-being of the 38,425[1] people in the project zone.

GL3: Exceptional Biodiversity Benefits with efforts to protect endangered species, restore habitats, and maintain ecosystem functions.

The project is located in the Wallacea biodiversity hotspot, a global conservation priority, and will generate exceptional biodiversity outcomes:

[1] Population total (38,425 people) derived from official government demographic data for 23 villages holding active Social Forestry (Perhutanan Sosial) licenses under PT PATI

	First, the project will restore degraded land, creating and connecting critical habitat for globally significant species. This includes direct habitat restoration for at least two IUCN Near Threatened species endemic to the region: the Tanimbar Corella (Cacatua goffiniana) and the Fawn-breasted Thrush (Zoothera machiki). Next, by strategically reforesting degraded areas between remnant forest patches, the project will enhance landscape-scale connectivity, creating vital corridors for wildlife movement and increasing the long-term resilience of species populations across the Tanimbar Islands archipelago. Finally, the project aims to conserve High Conservation Value (HCV) Flora. The project's species list includes threatened native trees such as Aquilaria spp. and Shorea spp., contributing to the in-situ conservation of these high-value species. Ultimately, the project generates exceptional biodiversity outcomes by restoring 25,962.9 ha of degraded habitat within the Wallacea hotspot, directly contributing to the conservation of threatened and endemic species and strengthening ecosystem health (SDG 15).
Expected verification schedule	TBD
Prepared by	

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1 SUMMARY OF PROJECT DETAILS

Tanimbar Community Forest Restoration Project will bring the following benefits for climate, community, and biodiversity as summarized below.

1.1 Unique Project Benefits

Table 1. Unique Project Benefits

Outcome or impact estimated by the end of project lifetime	Section reference
1) Building Sustainable Livelihoods through Agroforestry and NTFP Value Chains: The project will establish a framework for sustainable, community-led economic development to improve livelihoods and reduce pressure on forest resources. This will be achieved by: - Developing Agroforestry Systems: Introducing diverse agroforestry models on degraded agricultural lands to enhance food security and create new, resilient income streams. - Creating NTFP Value Chains: Providing training and support for the sustainable harvesting, processing, and marketing of high-value Non-Timber Forest Products (NTFPs) identified in the local area, such as rattan, bamboo, and candlenut (kenari). - Direct Employment and Training: Generating direct employment for local community members in project activities, including community-managed nurseries, planting teams, and forest monitoring, coupled with comprehensive training to build transferable "green economy" skills.	*4.2 (Net Positive Community Impacts)* *4.5 (Exceptional Community Benefits)*
2) Strengthening Community Organizations and Improve Health Facilities and Care: A core project strategy is to empower local institutions and address the critical infrastructure gaps documented in the baseline analysis. This will be achieved by: - Establishing a Community Development Fund: Allocating a portion of carbon revenues to a transparently managed fund, governed with community participation. Communities will direct these funds to address their most pressing needs, such as supporting the establishment of auxiliary health posts (Pustu), providing educational scholarships, and investing in clean water systems. - Building Governance Capacity: Strengthening the management and operational capacity of the 23 Social Forestry (PS) community institutions, reinforcing their legal tenure rights and empowering them to become	*2.1 (Stakeholder Engagement)*
	4.5 (Exceptional Community Benefits)

effective, long-term stewards of their forest resources.	
3) Enhanced Forest Conservation through Community-Led Stewardship: The project moves beyond simple tree planting to build a durable, community-led conservation framework that ensures the long-term permanence of the restored forest. This involves: - Training and Equipping Community Monitoring Teams: Establishing and training teams from within the local communities to conduct regular forest patrols, monitor for threats such as fire and encroachment, and collect basic biodiversity data. - Developing a Community-Based Fire Management Program: Creating a proactive system for fire prevention and response, including the establishment of firebreaks and community-led awareness campaigns to reduce the risk of anthropogenic fires, a key historical driver of degradation in the project area.	*5.2 (Net Positive Biodiversity Impacts)* *5.4 (Biodiversity Impact Monitoring)*
4) Enhanced Forest Conservation and Law Enforcement combined with Sensitization and Awareness Raising: A current ranger/community watch-post combination will be enhanced in function to address the threats to the Project zone landscape by additional recruitments and education. The continuous forest conservation and SIGS education program will build up the sensitization and awareness of ecosystem protection. The forest ecosystem conservation will be fortified by ranger/community watch-post members integrated with the community by a participatory framework.	*4.2.1* *5.1.1* *5.2.1* *5.4.1*

1.2 Standardized Benefit Metrics

Table 2. Standardized Benefit Metrics.

Category	Metric	Estimated by the end of project lifetime	Section reference
GHG emission reductions or carbon dioxide removals	Net estimated removals in the project zone, measured against the without-project scenario	52,898,904 tCO_2e[2]	3.2.4.2
	Net estimated reductions in the project zone, measured against the without-project scenario	Not Applicable	N/A
Forest[3] cover	For REDD[4] projects: Estimated number of hectares of reduced forest loss in the project zone measured against the without-project scenario	Not Applicable	N/A
	For ARR[5] projects: Estimated number of hectares of forest cover increased in the project zone measured against the without-project scenario.	25,962 Hectares	2.1.18 3.1.2
Improved land management	Number of hectares of existing production forest land in which IFM[6] practices are expected to occur as a result of project activities, measured against the without-project scenario	Not Applicable	N/A
	Number of hectares of non-forest land in which improved land management practices are expected to occur as a result of project activities, measured against the without-	Not Applicable	N/A

[2] Note on GHG Removals: This value represents the ex-ante estimated removals for the initial 30 years (2025-2055) of the project's 40-year crediting period

[3] 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)

[4] 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)

[5] 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)

[6] 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)

	project scenario		
Training	Total number of community members who are expected to have improved skills and/or knowledge resulting from training provided as part of project activities	About 10% of Total Population = 3,842 persons	2.1.15 4.2.1 4.4.1
	Number of female community members who are expected to have improved skills and/or knowledge resulting from training as part of project activities	About 1/2 of the above population= 1,921 person	2.1.15 4.2.1 4.4.1
Employment	Total number of people expected to be employed in project activities[7], expressed as number of full-time employees[8]	1000	2.1.15 4.2.1 4.4.1
	Number of women expected to be employed as a result of project activities, expressed as number of full-time employees	500	2.1.15 4.2.1 4.4.1
Livelihoods	Total number of people expected to have improved livelihoods[9] or income generated as a result of project activities	3,842 persons	2.1.15 4.2.1 4.4.1
	Number of women expected to have improved livelihoods or income generated as a result of project activities	1,921 person based on local women/men distribution 50:50 estimation[10]	2.1.15 4.2.1 4.4.1
Health	Total number of people for whom health services are expected to improve as a result of project activities, measured against the without-project scenario	Dental service through school system. About 35,000 people	2.1.15 4.2.1 4.4.1

[7] 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.

[8] 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 the UN System of National Accounts (1993) paragraphs 17.14[15.102];[17.28])

[9] 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.

[10] https://maluku.bps.go.id/id/statistics-table/2/MTA3IzI=/rasio-jenis-kelamin-menurut-kabupaten-kota-di-maluku.html

	Number of women for whom health services are expected to improve as a result of project activities, measured against the without-project scenario	About 50% of 35,000= 17,500 female	2.1.15 4.2.1 4.4.1
Education	Total number of people for whom access to, or quality of, education is expected to improve as result of project activities, measured against the without-project scenario	Entire Project zone: About 35,000 people	2.1.15 4.2.1 4.4.1
	Number of women and girls for whom access to, or quality of, education is expected to improve as result of project activities, measured against the without-project scenario	About 50% of the above population, 17,500 female	2.1.15 4.2.1 4.4.1
Water	Total number of people who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	1/2 of Total_Population About 19,200 people	2.1.15 4.2.1 4.4.1
	Number of women who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	About 50% of Above Population = 9,600 female	4.2.1 4.4.1
Well-being	Total number of community members whose well-being[11] is expected to improve as a result of project activities	1/2 of Total_Population About 19,200 people	4.2.1 4.4.1
	Number of women whose well-being is expected to improve as a result of project activities	About 50% of Above Population = 9,600 female	4.2.1 4.4.1
Biodiversity conservat	Expected change in the number of hectares managed significantly better by the project	25,962 ha	2.1.18 4.1.3

[11] 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, Livelihoods, Health, Education and Water), and may also include other benefits such as strengthened legal rights to resources, increased food security, conservation of access to areas of cultural significance, etc.

ion	for biodiversity conservation[12], measured against the without-project scenario		
	Expected number of globally Critically Endangered or Endangered species[13] benefiting from reduced threats as a result of project activities[14], measured against the without-project scenario	Endangered Species Vulnerable, Critically Endangered and Endangered species occurring in the project zone. Including Agarwood Aquilaria malaccensis(CR), Aquilaria hirta (VU), Aquilaria cumingiana(VU), Aquilaria filaria (VU), and Gyrinops decipiens (EN), Gyrinops salicifolia (EN), Gyrinops moluccana (EN) and Gyrinops versteegii (VU[15]). Shorea selanica (CR), Shorea montigena (CR), Lorius domicella (VU), Monarcha boanensis (CR)	5.4.1 5.5.2 2.1.18

[12] Managed for 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, e.g. enhancing the status of endangered species

[13] Per IUCN's Red List of Threatened Species

[14] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

[15] https://cites.org/sites/default/files/documents/E-CoP19-Inf-05-R1.pdf

2 PROJECT DETAILS

2.1 Project Goals, Design and Long-Term Viability

2.1.1 Summary Description of the Project (VCS, 3.2, 3.6, 3.10, 3.11, 3.13, 3.14; CCB, G1.2)

The Tanimbar Community Forest Restoration Project is a large-scale Afforestation, Reforestation, and Revegetation (ARR) initiative located in the Tanimbar Islands archipelago, Maluku Tenggara Barat Regency, Maluku Province, Indonesia. The project zone covers a total legal area of **54,976.47 ha**, with geographical coordinates ranging from 131° 4' 5" to 130° 4' 25" E longitude and 7° 39' 3" to 7° 39' 23" S latitude. The project is an integrated effort across **23 Community/Social Forestry (Perhutanan Sosial - PS) license areas** distributed across the sub-districts of Tanimbar Selatan, Wertamrian, Wermaktian, and Selaru.

The project is strategically stratified into three distinct Project Accounting Areas (PAAs) based on a rigorous geospatial analysis of the baseline land cover, totaling an eligible project area of **25,962.9 hectares**:

PAA1: Afforestation of "Other Land" (7,550.6 ha): This PAA consists of non-forest land, including shrublands and degraded agricultural areas. Project activities will focus on active reforestation through the direct planting of a mix of pioneer and climax native species to establish new forest cover.

PAA2: Reforestation of "Degraded Forest" (5,948.9 ha): This PAA covers areas identified as degraded forest with low canopy cover. Activities will involve a combination of enrichment planting to increase stocking density and assisted natural regeneration (ANR) to accelerate the recovery of the forest structure.

PAA3: Enrichment of Unmanaged Forest (12,463.0 ha): This PAA consists of forest that, while not recently cleared, is unmanaged and ecologically suboptimal. In full compliance with VM0047 v1.1, project activities will focus on enhancing forest carbon stocks through enrichment planting and ANR to restore the forest's ecological integrity, biodiversity, and carbon density.

Led by project proponent Asia Assets Developments Co., Ltd. (AAD) and its local partners, the project's core activity is the restoration of lands that have been in a long-term state of degradation. This is confirmed by analysis of the **JRC Tropical Moist Forest (TMF) Transition Map**, which classifies the eligible project areas as 'Degraded' and 'Other land' (e.g., shrubland

and grasslands), verifying their non-forested or degraded status for well over a decade. This restoration will be achieved through a combination of native species planting, assisted natural regeneration, and the development of sustainable agroforestry systems, all of which are implemented by and for the local community license holders.

The Tanimbar Community Forest Restoration Project implements community-led measures designed to restore these degraded ecosystems. These activities provide new opportunities to change the behavior of local land-use agents and include:

- **Increased employment opportunities** through community-managed nurseries, planting teams, and monitoring activities.
- Implementation of **sustainable livelihood activities**, including agroforestry and the sustainable management of Non-Timber Forest Products (NTFPs).
- **Training and equipping of community monitoring teams** to build local capacity for long-term forest stewardship and protection.
- **Empowerment of local communities** through the reinforcement of their land tenure rights under the Social Forestry licenses and the establishment of a Community Development Fund to address local needs.

Project objectives and activities are designed to generate significant, verifiable benefits for the climate, local communities, and regional biodiversity.

Climate Objectives

- To generate net GHG removals of approximately 52,898,904 tCO_2e over the 40-year crediting period (1 October 2025 to 30 September 2065) through large-scale restoration activities. Note: Ex-ante calculations are conservatively presented for the first 30 years, with the final decade subject to permit renewal.

Community Objectives

- To improve community welfare by creating direct employment and establishing sustainable livelihoods through agroforestry and NTFP value chains, reducing poverty (SDG 1 & 8).
- To enhance food security and health by providing access to more diverse forest products and investing a portion of carbon revenues in community-identified needs, such as clean water systems and support for local health services (SDG 2, 3, & 6).
- To strengthen local governance and promote gender equality by building the capacity of the Social Forestry institutions and ensuring equitable participation in project activities (SDG 5 & 16).

Biodiversity Objectives

- To maintain and restore critical habitat for viable populations of endemic and threatened species within the Wallacea biodiversity hotspot.
- To reduce threats to globally significant species, including the Near Threatened **Tanimbar Corella (** and **Fawn-breasted Thrush (*Zoothera machiki*)**, by re-establishing forest connectivity and integrity.

Beyond climate mitigation, the project is strategically designed to deliver high-integrity co-benefits, aligning with the Climate, Community & Biodiversity (CCB) Standards. It aims to restore critical habitat within the Wallacea biodiversity hotspot, create sustainable livelihoods that reduce poverty, and strengthen local governance by reinforcing the land tenure rights granted under Indonesia's Social Forestry program.

Planting Strategy and Species Selection

The project's planting strategy is tailored to the baseline conditions of each Project Accounting Area (PAA), using a mix of native and resilient species selected for their ecological suitability, rapid growth, and value to local communities. Key species include **Black Locust (*Robinia pseudoacacia*)**, and **Cajeput Tree (*Melaleuca leucadendra*)**. These species were selected based on their native status (Melaleuca), proven resilience in tropical restoration, fire-resistant properties (Melaleuca), nitrogen-fixing capabilities (Robinia), and high biomass accumulation rates that support the project's climate objectives.

The planting density is stratified to match the restoration goals of each PAA:

- **PAA1 (Afforestation):** A higher density of **1,000 trees/ha (Black Locust)** and **1,200 trees/ha (Melaleuca)** will be planted to rapidly establish canopy cover on the most degraded, non-forest lands.

  The above species will be cross planted in 2.13m increments and although thinning is not currently planned, it can be applied if needed in the future and adjustment base on its leakage will be made.

- **PAA2 (Reforestation):** A moderate density of **150 trees/ha (Black Locust)** and **200 trees/ha (Melaleuca)** will be used for enrichment planting to increase the stocking density of degraded forest areas.
- **PAA3 (Enrichment):** A lower density of **50 trees/ha (Black Locust)** and **50 trees/ha (Melaleuca)** will be used for enrichment planting to enhance the carbon stock and

biodiversity of the unmanaged forest without disrupting the existing ecosystem structure.

2.1.2 Audit History (VCS, 4.1)

Table 3. Audit History.

Audit type	Period	Program	Validation/verification body name	Number of years
N/A	N/A	N/A	N/A	N/A

2.1.3 Sectoral Scope and Project Type (VCS, 3.2)

Table 4. Sectoral Scope and Project Type.

Sectoral scope	14: Agriculture, forestry, and other land use
AFOLU project category [16]	Afforestation, Reforestation and Revegetation (ARR)
Project activity type	• Increasing vegetation cover through direct planting: Afforestation (PAA1) • Increasing vegetation cover through direct planting: Reforestation (PAA2) • Increasing vegetation cover through direct planting: Reforestation and Enrichment of the Biodiversity (PAA3)

2.1.4 Project Eligibility (VCS, 2.1.1, 3.1, 3.6, 3.8, 3.18, 4.1; APPENDIX 1 ELIGIBLE AFOLU PROJECT CATEGORIES for REDD; CCB Program Rules, 4.2.4, 4.6.4)

The scope of VCS 2.1.1 Program requirements has been discussed following:

1) The seven Kyoto Protocol greenhouse gases.

CO_2, Included

CH_4, Not Included

N_2O, Not Included

HFC_s, Not Included

PFC_s, Not Included

[16] See Appendix 1 of the VCS Standard

SF_6, Not Included

NF_3, Not Included

2) Ozone-depleting substances (ODS).

CFCs, Not Included

HCFCs, Not Included

Halons, Not Included

Methyl Bromide, Not Included

CCl4, Not Included

1,1,1-trichloroethane, Not Included

HBFCs, Not Included

3) Project activities supported by a methodology approved under the VCS Program through the methodology development and review process.

VCS VM0047 V 1.1

4) Project activities supported by a methodology approved under an approved GHG program, unless explicitly excluded (see the Verra website for exclusions).

N/A

5) Jurisdictional REDD+ programs and nested REDD+ projects as set out in the Jurisdictional and Nested REDD+ (JNR) Requirements.

N/A

The scope of VCS 3.0 Program requirements has been discussed following:

VCS 3.1.1. Projects shall meet all applicable rules and requirements set out under the VCS Program, including this document. Projects shall be guided by the principles set out in Section 2.2.1.

Described above.

VCS 3.1.2 Projects shall apply methodologies eligible under the VCS Program. Methodologies shall be applied in full, including the full application of any tools or modules referred to by a methodology, noting the exception set out in Section 3.14.1.

The current applied methodology is VCS methodology VM0047 Version 1.1 in full and project activities has not be mandated by any law, statute, or other regulatory framework, or for UNFCCC non-Annex I countries, any systematically enforced law, statute, or other regulatory framework.

VCS 3.1.3 Projects shall apply the latest version of the applicable methodology in all cases unless a grace period applies to the project as set out in 3.22 below. Projects shall update to the latest version of the methodology when reassessing the baseline or renewing a crediting period.

The current applied methodology is VCS methodology VM0047 Version 1.1, May 14, 2025, which is the newest version. Also VCS Standard v4.7 16 April 2024. Project Template CCB 3.0 VCS 4.3.

VCS 3.1.4 Projects and the implementation of project activities shall not lead to the violation of any applicable law, regardless of whether or not the law is enforced.

Project activities have not violated any applicable laws. (see section 3.1.2 and 3.1.5)

VCS 3.1.5 Where projects apply methodologies that permit the project proponent its own choice of model (see the VCS Program Definitions for the definition of model), the model shall meet the requirements set out in the VCS Methodology Requirements, and it shall be demonstrated at validation that the model is appropriate to the project circumstances (i.e., use of the model will lead to an appropriate quantification of GHG emission reductions or carbon dioxide removals).

Project uses VM0047 methodology standards and demonstrates all calculation according to the Methodology. (section 3.2)

VCS 3.1.6 Where projects apply methodologies that permit the project proponent to choose a third-party default factor or standard to ascertain GHG emission data and any supporting data for establishing baseline scenarios and demonstrating additionality, such default factor or standard shall meet the requirements set out in the VCS Methodology Requirements.

All third-party default factor or standard to ascertain GHG emission data are quoted from FAO, IPCC, Indonesia Government publication and published scientific papers.

VCS 3.1.7 Where the rules and requirements under an approved GHG program conflict with the rules and requirements of the VCS Program, the rules and requirements of the VCS Program shall take precedence.

There is no conflict of GHG program with VCS program in this project.

VCS 3.1.8 Where projects apply methodologies from approved GHG programs, they shall conform with any specified capacity limits (see the VCS Program Definitions for the definition of capacity limit) and any other relevant requirements set out with respect to the application of the methodology and/or tools referenced by the methodology under those programs.

The project follows the delineation of capacity limit.

VCS 3.1.9 Where Verra issues new VCS Program rules, the effective dates of these requirements are set out in Appendix 3 Document History and Effective Dates or equivalent for other program documents, and are listed in a companion Summary of Effective Dates document which corresponds with each update.

The most recent and effective version of VCS standards (v4.4) Project description document template (CCB 3.0 VCS 4.4) is used following the effective date.

CCB Program Rules, 4.2.4,4.6.4

CCB 4.2.4 VCS shall receive the validation and/or verification report and validation and/or

verification statement within one year of the initiation of the relevant public comment period.

Project Complied

CCB 4.6.4 The public comment period should be completed before the start of the validation/verification body site visit, so that the validation/verification body may make appropriate enquiries onsite about any comments received. In the event that the public comment period ends after the site visit is complete, the validation/verification body shall give full consideration to any comments received and may need to return to the project site to do so.

The first Public comment will be listed after the project listing. The responses will be listed at section 2.3.10 Table 10 afterward.

VCS 3.2 AFOLU-Sepcific matter of VCS standard: 3.2.1-3.2.8

VCS 3.2.1 There are currently six AFOLU project categories eligible under the VCS Program.

The project is eligible under the scope of the VCS program as an afforestation, reforestation and revegetation (ARR) project. It does not include Reduced Emissions from Deforestation and Degradation (REDD), Improved Forest Management (IFM), agricultural land management (ALM), avoided conversion of grasslands and shrublands (ACoGS), and wetland restoration and conservation (WRC).

VCS 3.2.2 Where projects are located within a jurisdiction covered by a jurisdictional REDD+ program, project proponents shall follow the requirements in this document and the requirements related to nested projects set out in the Jurisdictional and Nested REDD+ Requirements.

The project is not a Jurisdictional and Nested REDD+ project.

VCS 3.2.3 Where an implementation partner is acting in partnership with the project proponent, the implementation partner shall be identified in the project description. The implementation partner shall identify its roles and responsibilities with respect to the project, including but not limited to implementation, management, and monitoring of the project, over the project crediting period.

No implementation partner is acting in partnership with the project proponent.

VCS 3.2.4 The project proponent shall demonstrate that project activities that lead to the intended GHG benefit have been implemented during each verification period in accordance with the project design. Where no new project activities have been implemented during a verification period, project proponents shall demonstrate that previously implemented project activities continued to be implemented during the verification period (e.g., forest patrols or improved agricultural practices of community members).

As this is before the first monitoring validation verification period, the intended GHG benefit has been implemented according to the project design and there are no new project activities.

VCS 3.2.5 For all IFM, Avoiding Planned Deforestation (APD) (except where the agent is unknown), Restoring Wetland Ecosystems (RWE), Avoiding Planned Wetland Degradation (APWD), Avoiding Planned Conversion (APC), and ALM project types, the project proponent shall, for the duration of the project, reassess the baseline every ten years.

The project areas include ARR which the reassessment of the baseline is not stipulated in VCS 4.4 and the project will reassess the baseline every year to two years according to the VCS methodology 0047.

VCS 3.2.6 The following shall apply with respect to the baseline reassessment:

1) The latest version of the VCS Program rules (including the latest version of the VCS Standard) and applied methodology, or its replacement shall be applied at the time of baseline reassessment. The grace periods for using the previous version of a methodology are set out in Section 3.22 and in the document history section of each VCS Program document.

   Project Complied.

2) The baseline shall be reassessed in accordance with the timelines in Section 3.2.5 above and shall be validated at the same time as the subsequent verification.

   Project Complied.

3) The reassessment will capture changes in the drivers and/or behavior of agents that cause the change in land use, hydrology, sediment supply and/or land or water management practices and changes in carbon stocks, all of which shall then be incorporated into revised estimates of the rates and patterns of land-use change and estimates of baseline emissions.

   The project reassessment will comply.

4) The validity of the original baseline scenario shall be reassessed. Such assessment shall include an evaluation of the impact of new relevant national and/or sectoral policies and circumstances on the validity of the baseline scenario. If still valid, the GHG emissions associated with the original baseline scenario shall be reassessed for the new baseline validity period following the provisions of the applied methodology. If no longer valid, the current baseline scenario shall be established in accordance with the VCS Program rules.

   The project reassessment will comply.

5) Ex-ante baseline projections beyond the baseline reassessment period specified in Section 3.2.5 above are not required.

The project reassessment will comply.

6) Sections 1.14, 3.1-3.4, Section 4 and Section 5 of the project description shall be updated to reflect any changes as described in Section 3.2.6 (3) and any updates to the baseline emissions quantifications.

The Project will comply.

VCS 3.2.7 The following shall apply with respect to Agricultural Land Management ALM baseline reassessment:

This project is not a ALM project.

VCS 3.2.8 Where ARR, ALM, IFM or REDD project activities occur on wetlands, the project shall adhere to both the respective project category requirements and the WRC requirements,

This project is not a project on wetland

Appendix 1 Eligible AFOLU Project Categories regarding ARR (A1.1)

VCS A1.1 Eligible ARR activities are those that increase carbon sequestration and/or reduce GHG emissions by establishing, increasing, or restoring vegetative cover (forest or non-forest) through the planting, sowing, or human-assisted natural regeneration of woody vegetation. Eligible ARR projects may include timber harvesting in their management plan.

Note – Tree planting activities on forest lands managed for wood products (i.e., with a forest management plan) are categorized as IFM project activities.

The Project Area definition of forest as set by the Indonesia Ministry of Environment and Forestry, who is the designated national authority (DNA) as "a land area of more than 0.25 hectares with trees higher than 5 metres at maturity and a canopy cover of more than 30 percent (reference 38) for more than 10 years.

The Tanimbar Community Restoration Project Project is an afforestation, reforestation and revegetation (ARR) project and complied the VCS A1.1.

For Justifying and demonstrating that the project activity is included under VCS Scope 14, that the correct AFOLU project category was selected, and that all related category requirements are met as following.

There are 3 project activities PAA1, PAA2 and PAA3, all three are eligible under ARR.

For projects seeking registration/validation approval, provide the relevant information to demonstrate that the project underwent public comment prior to the opening meeting with the validation/verification body and the validation report and validation statement was submitted within one year of the initiation of the public comment period.

Tanimbar Community Restoration Project submitted: 2025 October 1

Public comment period: TBD

Public comment expiration date: TBD

The current applied methodology is VCS methodology VM0047

VVB on site validation: TBD.

The project was submitted on 2025 October 1, within 3 years of its project start date.

The Project meets all Verra specified deadline.

2.1.5 Transfer Project Eligibility (VCS, 3.23, Appendix 2)

No CPA included in this project: Not applicable

2.1.6 Project Design (VCS, 3.6)

Indicate if the project has been designed as:

☐ Single location or installation

☒ Multiple locations or project activity instances (but not a grouped project)

☐ Grouped project

2.1.6.1 Eligibility Criteria for Grouped Projects (VCS, 3.6; CCB, G1.14)

Not Grouped Project: Not applicable

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

Table 5. Project Proponent

Organization name	Asia Assets Developments Co., Ltd.
Contact person	Alex Chi
Title	Managing Director
Address	7F-8, No. 738 Zhongzheng Rd., Zhonghe Dist., New Taipei City 23511, Taiwan (R.O.C.)
Telephone	+886-2-82269177
Email	chi@asiaassetsdev.com

Organization name	Forward Intelligence Energy Co., Ltd.
Contact person	Chi-Chong Hong. MD.,MPH.,MHSc
Title	Chairman
Address	No. 393 Sec. 1, Zhongzheng Rd., Sanxia Dist., New Taipei City, Taiwan (R.O.C.)
Telephone	+886-2-33932662
Email	c.c.hong@fwd.com.tw

Organization name	PT Asia Pasifik Asset Percayaan
Contact person	Riyan Kumiawan
Title	Director
Address	Gallery Niaga Mediterania II Blok N8 N-O-P Pantai Indah Kapuk, Jakarta Utara 14460 Indonesia 62-21-392-4568
Telephone	62-21-392-4568
Email	pati52030@gmail.com

2.1.8 Other Entities Involved in the Project

2.1.9 Project Ownership (VCS, 3.2, 3.7, 3.10; CCB, G5.8)

The Tanimbar Community Forest Restoration Project operates within Indonesia's Social Forestry (Perhutanan Sosial - PS) legal framework, which grants communities legally recognized rights to manage and benefit from forest resources.

Land Tenure: Project activities are implemented on lands covered by 23 Social Forestry licenses granted by the Indonesian Ministry of Environment and Forestry. These licenses provide long-term operational control for 35 years.

Crucially, under Indonesian regulation (e.g., Permen LHK No. 9/2021), these Social Forestry permits are extendable, providing a clear legal pathway to secure tenure and ensure operational control for the project's full 40-year longevity, which is required to meet the permanence requirements of the VCS Standard.

Carbon Rights: The legal basis for the project's carbon rights is explicitly established in each of the 23 Social Forestry decrees. Under these permits, the community groups are granted the right to the "pemanfaatan jasa lingkungan" (utilization of environmental services). According to the prevailing Indonesian regulatory framework, including Ministry of Environment and Forestry Regulation No. 21/2022, carbon sequestration is defined as an environmental service. Therefore, the license holders possess the clear legal right to develop and benefit from carbon projects within their designated areas. The project structure, wherein Asia Assets Developments Co., Ltd. (AAD) and PT Asia Pasifik Asset Percayaan (PT. APAP) act as technical and financial partners to the license-holding communities, and is designed to be fully compliant with these regulations.

Ownership Structure:

- **Land Rights**: Held collectively by 23 Social Forestry license holders, granting them secure, long-term tenure. The 23 project areas are held by the local community institutions under 35-year Social Forestry licenses issued by the Indonesian Ministry of Environment and Forestry.
- **Implementation Rights**: Shared between community license holders and project partners through formal agreements.
- **Carbon Credit Ownership**: Project Proponent owns full ownership of carbon credits issued, with benefits shared among community license holders and project stakeholders according to benefit-sharing agreements that are compliant with both Indonesian law and Verra standards.
- **Project Coordination**: Led by Asia Assets Developments Co., Ltd.

Legal Documentation: All ownership arrangements are supported by:

- The 23 original Social Forestry license decrees (Surat Keputusan) issued by the Ministry of Environment and Forestry.
- Community consent and participation agreements (FPIC documentation).
- Legally-binding benefit-sharing agreements defining carbon revenue distribution.
- Partnership agreements between AAD, PT. APAP, and the community partners.

The Tanimbar Islands Community Forest Restoration Project is legally founded on the following 23 Social Forestry (Perhutanan Sosial - PS) licenses issued by the Indonesian Ministry of Environment and Forestry (or the Governor of Maluku for older permits), granting the community institutions the right to manage the forest land.

No.	License Holder	Village(s)	Permit Number
1	LPHD Petuanan Alusi Batjas	Alusi Batjas	SK.5433/MENLHK-PSKL/PKPS/PSL.0/8/2018
2	LPHD Kandar	Kandar	SK.3762/MENLHK-PSKL/PKPS/PSL.0/4/2019
3	LD Adaut	Adaut	SK.10404/MENLHK/PSKL/PKPS/PSL.0/9/2023
4	LPHD Fursuy	Fursuy	SK.3763/MENLHK-PSKL/PKPS/PSL.0/4/2019

5	LD Namtabung	Namtabung	SK.10405/MENLHK-PSKL/PKPS/PSL.0/9/2023
6	LPHD Arma	Arma	SK.5810/MENLHK-PSKL/PKPS/PSL.0/9/2018
7	LD Bomaki	Bomaki	SK.5954/MENLHK-PSKL/PKPS/PSL.0/9/2018
8	LD Nifmasbulur	Inglei	SK.8982/MENLHK-PSKL/PKPS/PSL.0/12/2018
9	LD Latdalam	Latdalam	SK.8981/MENLHK-PSKL/PKPS/PSL.0/12/2018
10	LD Bangruti	Wowonda	SK.8977/MENLHK-PSKL/PKPS/PSL.0/12/2018
11	LPHD Lelingluan	Lelingluan	SK.5954/MENLHK-PSKL/PKPS/PSL.0/9/2018
12	LD Resi Saleba	Weratan, Welutu, Themin	SK.10978/MENLHK-PSKL/PKPS/PSL.0/9/2023
13	LPHD Letkoly	Arui Das (Letkoly)	SK.4166/MENLHK-PSKL/PKPS/PSL.0/6/2018
14	LPHD Lorulun	Lorulun	SK.5679/MENLHK-PSKL/PKPS/PSL.0/9/2018

15	KTH Taware	Tumbur	SK.4166/MENLHK-PSKL/PKPS/PSL.0/6/2018
16	KTH Bulur Tubun	Tumbur	SK.4167/MENLHK-PSKL/PKPS/PSL.0/6/2018
17	LPHD Wermatang	Wermatang	SK.5342/MENLHK-PSKL/PKPS/PSL.0/8/2018
18	LPHD Adodo Fordata	Adodo Fordata	SK.8979/MENLHK-PSKL/PKPS/PSL.0/12/2018
19	LPHD Awear	Awear	SK.10978/MENLHK-PSKL/PKPS/PSL.0/9/2023
20	LPHD Romean	Romean	SK.8982/MENLHK-PSKL/PKPS/PSL.0/12/2018
21	LPHD Rumngeur	Rumngeur	SK.8981/MENLHK-PSKL/PKPS/PSL.0/12/2018
22	LPHD Sofyanin	Sofyanin	SK.4167/MENLHK-PSKL/PKPS/PSL.0/6/2018
23	LPHD Walerang	Walerang	SK.8977/MENLHK-PSKL/PKPS/PSL.0/12/2018

This structure ensures that the project operates with clear legal title to the carbon rights and that project benefits directly support the community development and forest stewardship objectives of the Social Forestry program, while maintaining full compliance with Verra ownership requirements.

2.1.10 Project Start Date (VCS, 3.8)

Table 6. Project Start Date

Project start date	**01-October-2025**
Justification	Project Accounting Area start at the initiation of the project after AAD signed an agreement with 23 entity of Community//Social Forest permits. VCS Standard v4.4 (Section 3.8) and CCB Standards v3.0 (G1.9): The project start date of an AFOLU project is the date on which activities that lead to the generation of reductions or removals are implemented (e.g., preparing land for seeding, planting, changing agricultural or forestry practices, rewetting, restoring hydrological functions, or implementing management or protection plans). VCS Standard v4.4 (Section 3.8.2): Pipeline listing process shall be initiated within three years of the project start date. VCS Standard v4.4 (Section 3.8.3): Validation will be completed within eight years of the project start date. VM0047 v1.1 (Section 4.1(4)): The project start date is documented as the earliest of the following: a) The date on which site preparation activities began; b) **The land use change date**

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

Table 7. Crediting Period

Crediting period	The project lifetime will be 40 years from the Project start date of 01-October-2025 and an end date of 30 September, 2065 The GHG accounting period will be the same 40 years as the lifetime of the project

Start date of first or fixed crediting period	01-October-2025 to 30-September-2065 (40 years)
CCB benefits assessment period	01-October-2025 to 30-September-2065 (40 years)

2.1.12 Differences in Assessment/Project Crediting Periods (CCB, G1.9)

The GHG emissions accounting, climate adaptive capacity and resilience, community, and/or biodiversity assessment periods are identical for this project. The project lifetime will be 40 years commencing from 1st October 2025 to 30 September 2065. The ex-ante quantification of GHG removals in this document is presented for the initial 30 years, as the final 10 years are contingent upon the successful extension of the underlying Social Forestry permits.

2.1.13 Project Scale and Estimated Reductions or Removals (VCS, 3.10)

Indicate the estimated annual GHG emission reductions/carbon dioxide removals (ERRs) of the project:

☐ < 300,000 tCO_2e/year (project)

☒ ≥ 300,000 tCO_2e/year (large project)

Table 8. Project Scale

Calendar year of crediting period	Estimated reductions (tCO_2e)	Estimated removals (tCO_2e)
2025 (Oct-Dec)	0	956
2026	0	14,228
2027	0	76,824
2028	0	212,324
2029	0	434,971

2030	0	739,242
2031	0	1,090,613
2032	0	1,477,551
2033	0	1,892,452
2034	0	2,215,922
2035	0	2,533,071
2036	0	2,700,883
2037	0	2,844,970
2038	0	2,869,337
2039	0	2,898,575
2040	0	2,799,447
2041	0	2,693,839
2042	0	2,672,319
2043	0	2,451,544
2044	0	2,337,790
2045	0	2,201,700
2046	0	2,076,039
2047	0	1,987,027
2048	0	1,923,209
2049	0	1,853,811
2050	0	1,682,911
2051	0	1,597,582
2052	0	1,508,533
2053	0	1,431,498

2054	0	1,438,822
2055	0	240,913
Total (30 Years)		52,898,904
Average Annual		1,763,297

Note: *This ex-ante quantification table covers the initial 30 years of the project's 40-year crediting period. The quantification for the final 10 years (01 October 2055 - 30 September 2065) is contingent upon the successful extension of the underlying Social Forestry permits and will be calculated and included in a future project description update or monitoring report prior to the respective verification.*

2.1.14 Physical Parameters (CCB, G1.3)

Topography

The Tanimbar Islands are an island arc system forming part of the Outer Banda Arc, a geologically complex region resulting from the collision of the Australian and Eurasian tectonic plates. The islands are primarily composed of Tertiary sedimentary rocks, including uplifted marine deposits, sandstones, clays, and extensive coral limestones, which define much of the surface geology.

The project zone is characterized by a low-lying and gently undulating landscape. Based on the official KPHP Area Description[17], the topography is overwhelmingly flat, with 99.99% of the broader KPHP area having a slope of 0-8%. The elevation generally ranges from sea level along the coasts to low hills in the interior, with most project activities occurring at altitudes below 200 meters above sea level. This gentle topography simplifies logistical access for restoration activities but also makes the land susceptible to clearing for agriculture.

[17] According to KPHP Unit XVIII Maluku Tenggara. Area Description (Chapter II). Long-Term Forest Management Plan for Forest Management Unit XVIII, Maluku Tenggara Regency. Provincial Forestry Service, Maluku Province, Indonesia

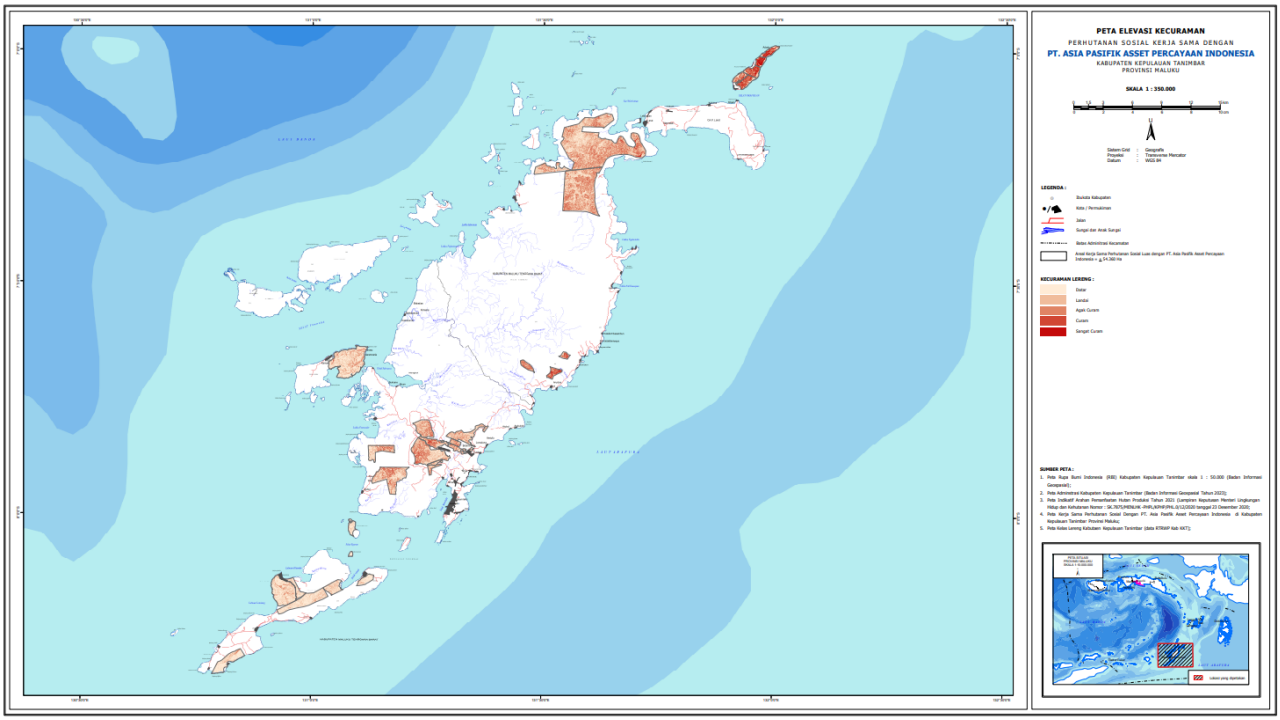


Figure 1. Map of the elevation within the project[18]

[18] PT. Asia Pasifik Asset Percayaan Indonesia. (n.d.). *Peta Elevasi Kecuraman Perhutanan Sosial Kerjasama dengan PT. Asia Pasifik Asset Percayaan Indonesia, Kabupaten Kepulauan Tanimbar, Provinsi Maluku* [Map]. Scale 1:350,000.

Slope

The project area, located within the Tanimbar Islands Regency, is characterized by a mixed topography that varies across the archipelago. A land-use analysis of the region identifies three primary slope classifications:

- **Relatively Flat:** (0–3% slope)
- **Sloping / Choppy:** (8–15% slope)
- **Very Steep:** (>50% slope)

The topography is not uniform across all islands within the project boundary. The largest island, Yamdena, features a range of conditions: its western coast is predominantly low-lying and flat, in some cases swampy, while its eastern coast consists of more pronounced, thickly wooded hills. Other islands within the project zone, such as Selaru, are characterized as "rather flat," with slope profiles generally remaining between 0° and 8°.

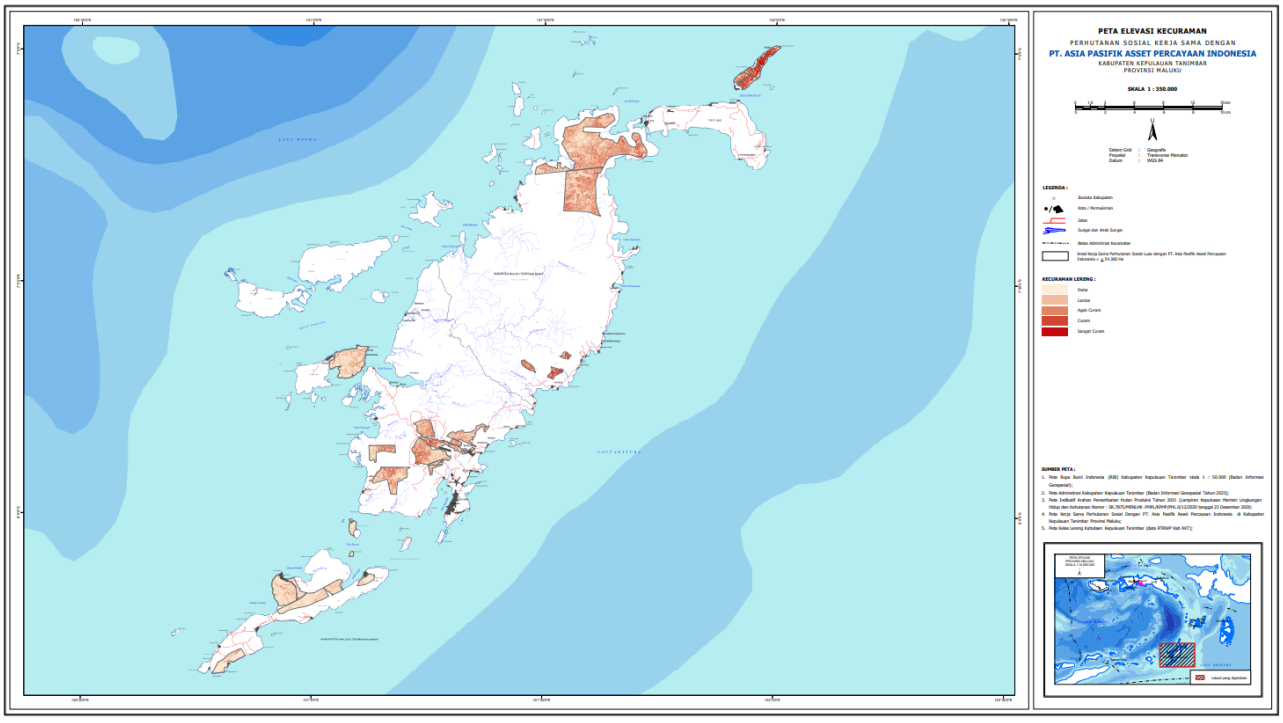


Figure 2. Map of the slope within the project[19]

[19] PT. Asia Pasifik Asset Percayaan Indonesia. (n.d.). *Peta Elevasi Kecuraman Perhutanan Sosial Kerjasama dengan PT. Asia Pasifik Asset Percayaan Indonesia, Kabupaten Kepulauan Tanimbar, Provinsi Maluku* [Map]. Scale 1:350,000.

Soils

The soil conditions within the project zone are a defining physical parameter and a primary justification for the project's intervention. The landscape presents a mosaic of soil types, but the areas targeted for restoration are characterized by significant chemical and physical degradation that inhibits natural forest regeneration.

Based on the official land survey data presented in the KPHP Unit XVIII "Area Description" document, the broader landscape contains several soil associations.

Table 9: Soil Type Distribution in KPHP Unit XVIII Landscape

Soil Association (USDA Soil Taxonomy)	Area (ha)	Percentage
Haplusteps-Haplustalfs	63,339.92	47.90%
Haplustepts-Haplustalfs	38,215.81	28.90%
Haplustolls-Haplustepts	24,130.80	18.25%
Hydraquents-Sulfaquents	6,546.81	4.95%
Total Area Mapped	**132,233.34**	**100.00%**

Source: RPHJP 2019-2028 KPHP Unit[20] XVIII Bungal, Table 2.6

While the soil map indicates a mix of soil orders (including Inceptisols, Alfisols, and Mollisols), the KPHP's own narrative analysis confirms that the dominant characteristic across the landscape, particularly in the degraded areas, is that of highly weathered, acidic soils. The report explicitly identifies the prevailing soil order as **Ultisols (specifically Hapludults)**.

The key characteristics of these dominant soils are described as:

[20] Kementerian Lingkungan Hidup dan Kehutanan, Republik Indonesia. (2019). RPHJP 2019–2028 KPHP Unit XVIII Bungal (Long-Term Forest Management Plan 2019–2028 KPHP Unit XVIII Bungal).

- **Low Natural Fertility (** The soils have been leached of essential nutrients over time, making them a poor medium for robust plant growth.
- **High Acidity:** They exhibit an acidic to very acidic reaction, with a measured **pH range of 4.0-5.4**. This level of acidity can create toxicity issues for many native plant species and limits nutrient availability.
- **Low Base Content:** The base saturation is noted as being less than 35%, a technical indicator of poor soil fertility.

Relevance to the Project:
The widespread presence of these acidic, nutrient-poor Ultisols is a critical element of the pre-project condition. This soil degradation constitutes a significant **biophysical barrier** that severely limits the potential for natural forest regeneration. It explains why the landscape has remained in a state of arrested succession (i.e., degraded shrubland and grassland) for over a decade. The project's intervention, including the use of hardy pioneer species and nitrogen-fixing companion trees, is specifically designed to overcome this barrier, which forms a cornerstone of the project's **additionality argument**.

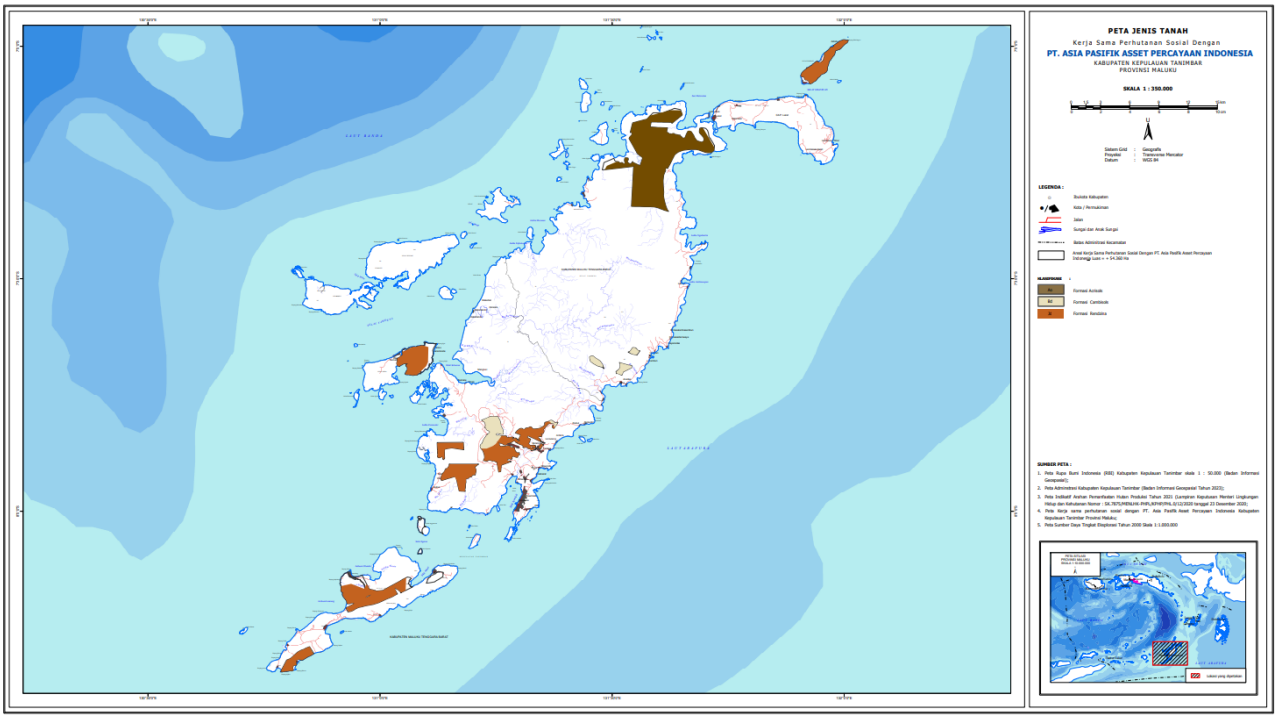


Figure 3. Map of the Soil Type within the project[21]

[21] PT. Asia Pasifik Asset Percayaan Indonesia. (n.d.). *Peta Jenis Tanah Kerjasama Perhutanan Sosial dengan PT. Asia Pasifik Asset Percayaan Indonesia, Kabupaten Kepulauan Tanimbar, Provinsi Maluku* [Map]. Scale 1:350,000.

Climate

The climate of the Tanimbar Islands is a defining environmental parameter that directly influences the project's design, species selection, potential for biomass growth, and risk management strategies (particularly for fire).

Climate Classification

The project area experiences a **Tropical Monsoon Climate (Am)** under the widely used Köppen-Geiger classification system. This is further specified in the official government planning document for the region. The KPHP Unit XVIII "Area Description" classifies the project area's climate as **Schmidt-Ferguson Type "B" (wet tropical)**. This classification is based on the ratio of dry months to wet months and indicates a climate with a short, pronounced dry season and a long, very wet season, which is highly conducive to the growth of tropical moist forests.

Temperature

The temperature in the Tanimbar Islands is consistently high and stable throughout the year, with minimal seasonal variation. The average annual temperature is approximately **26-27°C (79-81°F)**. This stable, warm thermal regime provides year-round growing conditions for native tropical tree species, supporting high potential rates of biomass accumulation for the project's restoration activities.

Precipitation and Humidity

Annual precipitation in the project area is high, though subject to strong seasonal patterns driven by the monsoon.

- **Annual Rainfall:** The average annual rainfall typically ranges between **1,500 mm and 2,000 mm**.
- **Seasonal Pattern:** The climate is defined by a distinct wet season, generally occurring from **December to March**, when the majority of the annual rain falls. This is followed by a pronounced dry season from approximately **May to October**.
- **Humidity:** Relative humidity is consistently high, typically averaging around 80-85%, which helps to reduce water stress on vegetation, even during the dry season.

The long wet season provides ample water to support the establishment and rapid growth of planted seedlings, while the distinct dry season is a critical consideration for the project's fire prevention and management strategy.

The following table summarizes the key climatic parameters for the project area:

Table 10: Summary of Climatic Conditions in the Project Zone

Parameter	Value	Source
Climate Classification (Köppen)	Am (Tropical Monsoon)	Beck, H. E., et al. (2018)[22]
Climate Classification (Schmidt-Ferguson)	Type "B" (Wet Tropical)	KPHP Unit XVIII Area Description
Average Annual Temperature	26 - 27 °C	World Bank Climate Change Knowledge Portal (Maluku Province)[23]
Average Annual Rainfall	1,500 - 2,000 mm	Global Precipitation Climatology Centre (GPCC) / World Bank
Seasonal Pattern	Wet Season: December - March Dry Season: May - October	General climatology for the Banda Sea region.

Relevance to the Project

The climatic conditions are fundamental to the project's design and viability. The combination of consistently high temperatures and significant annual rainfall creates highly favorable conditions for rapid biomass growth and carbon sequestration, supporting the project's climate mitigation objectives. However, the pronounced dry season represents a key risk factor for anthropogenic fires, a primary historical driver of degradation. Therefore, the project's implementation plan, including the timing of planting activities and the focus on community-based fire management, is designed in direct response to these specific climatic patterns.

[22] Beck, H. E., Zimmermann, N. E., McVicar, T. R., Vergopolan, N., Berg, A., & Wood, E. F. (2018). Present and future Köppen-Geiger climate classification maps at 1-km resolution. *Scientific data*, 5(1), 1-12.
[23] World Bank Group. (n.d.). *Climate Change Knowledge Portal: Indonesia*. Retrieved from https://climateknowledgeportal.worldbank.org/country/indonesia/climate-data-historical

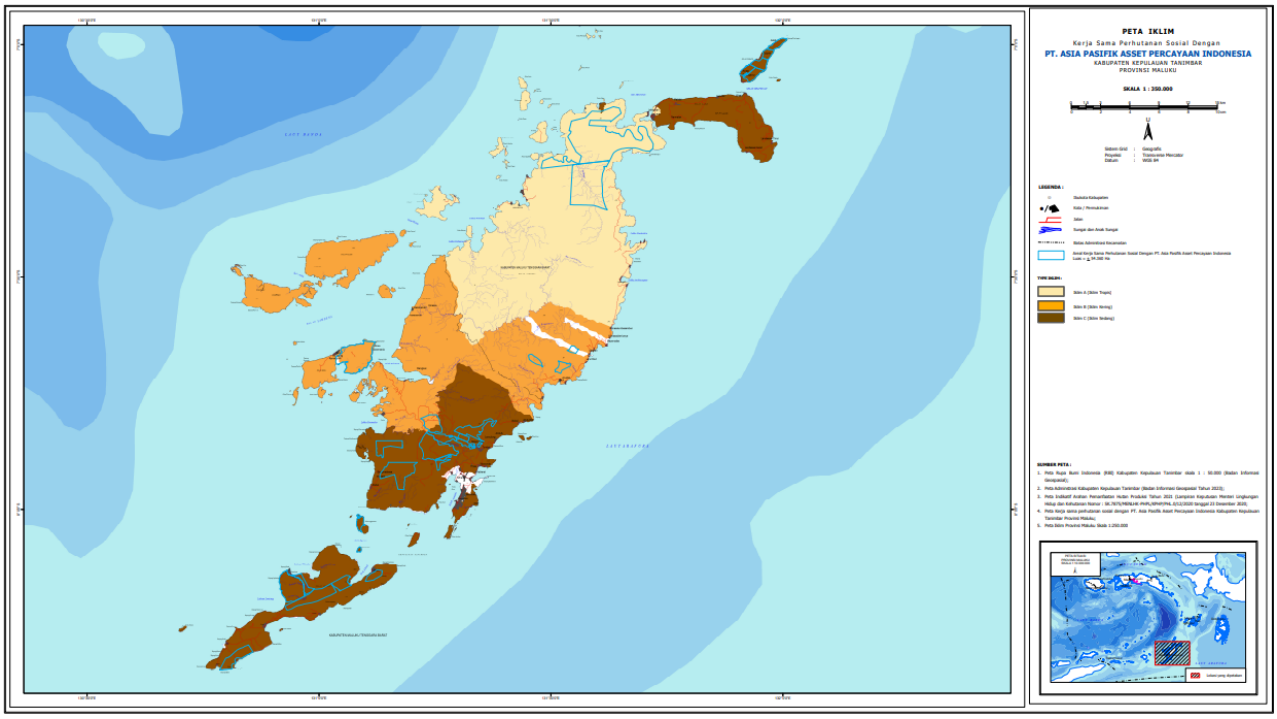
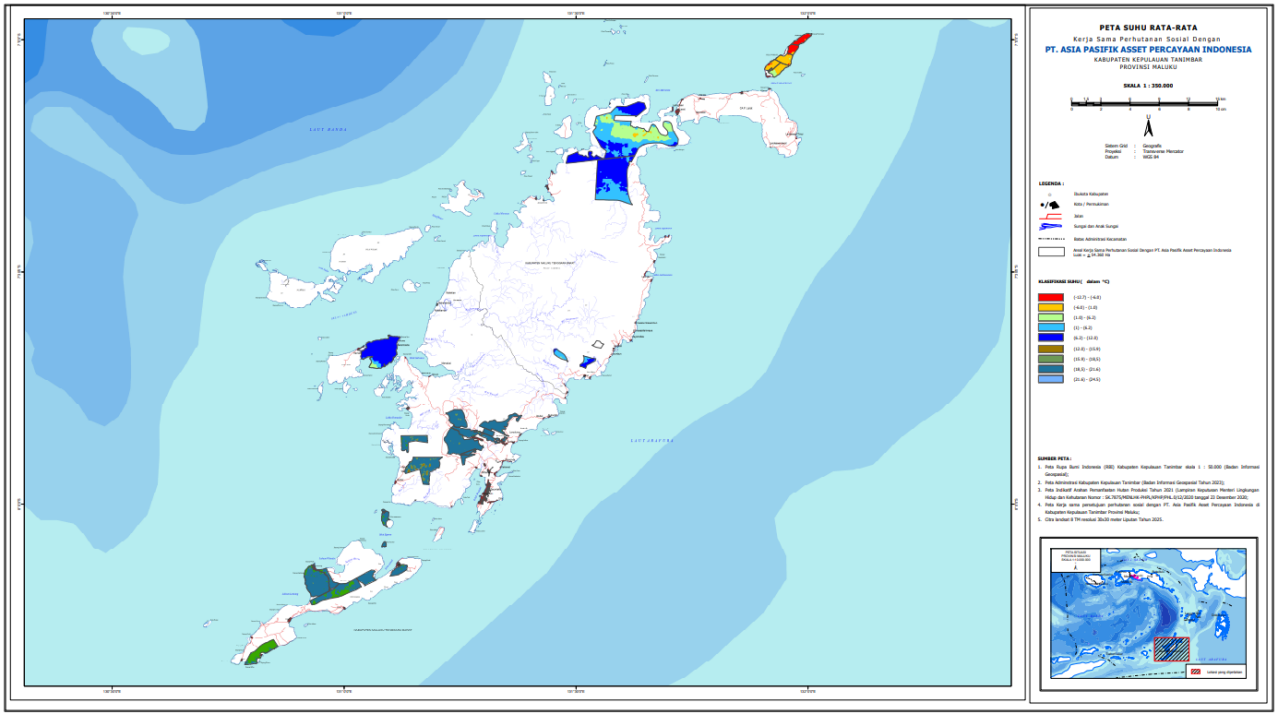


Figure 4. Climate Map within the project[24]



[24] PT. Asia Pasifik Asset Percayaan Indonesia. (n.d.). *Peta Iklim Kerjasama Perhutanan Sosial dengan PT. Asia Pasifik Asset Percayaan Indonesia, Kabupaten Kepulauan Tanimbar, Provinsi Maluku* [Map]. Scale 1:350,000.

Figure 5: Average Temperature Map using temperature classification to show average temperature distribution across the area.[25]

Watershed

The hydrological systems of the Tanimbar Islands are a critical physical parameter, directly influencing local ecosystems and community water resources. The restoration of these systems is a key co-benefit of the project.

Watershed (Daerah Aliran Sungai - DAS) Characteristics

The project zone is characterized by a dense network of small to medium-sized watersheds. The official KPHP "Area Description" identifies a total of **72 distinct watersheds (DAS)** within the broader landscape that encompasses the project areas.

Given the archipelago's geography and the relatively small size of the islands, these watersheds are typically short and have a rapid response to rainfall. The rivers are predominantly seasonal, with flows increasing dramatically during the wet monsoon season (December-March) and decreasing significantly, with some smaller streams drying up, during the pronounced dry season (May-October).

Hydrological Pattern

The drainage pattern across the low-lying, gently rolling topography of the Tanimbar Islands is generally **dendritic**. This pattern, resembling the branching of a tree, is typical of landscapes with uniform underlying geology, where river channels are formed by the natural convergence of surface water flows from higher to lower elevations.

Baseline Hydrological Condition and Project Impact

In the pre-project condition, the degraded landscape has a significantly impaired hydrological function. The lack of forest canopy and extensive ground cover leads to:

- **High Surface Runoff:** During heavy rainfall, water flows quickly over the exposed and often compacted soil surface rather than infiltrating into the ground.
- **Increased Soil Erosion:** The high-velocity runoff carries away topsoil, leading to land degradation and sedimentation of streams and coastal areas.

[25] PT. Asia Pasifik Asset Percayaan Indonesia. (n.d.). *Peta Suhu Rata-Rata Kerjasama Perhutanan Sosial dengan PT. Asia Pasifik Asset Percayaan Indonesia, Kabupaten Kepulauan Tanimbar, Provinsi Maluku* [Map]. Scale 1:350,000.

- **Reduced Water Retention:** The lack of infiltration means that less water is stored in the soil profile and groundwater reserves are not effectively recharged, exacerbating water shortages during the dry season.

The project's large-scale restoration activities will have a profound positive impact on the hydrological function of these 72 watersheds. By re-establishing forest cover, the project will:

- **Increase Infiltration:** The tree canopy will intercept rainfall, and the development of a forest floor with litter and root systems will significantly increase the rate of water infiltration into the soil.
- **Reduce Erosion:** The restored ground cover and tree root networks will stabilize the soil, drastically reducing surface runoff and soil erosion.
- **Regulate Streamflow:** By promoting groundwater recharge and slowing the release of water, the restored forests will help to regulate streamflow, reducing flash flooding during the wet season and potentially maintaining base flows for longer into the dry season.

This restoration of watershed services is a critical co-benefit of the project, enhancing climate resilience and directly improving the quality and reliability of water resources for the local communities and downstream ecosystems.

Figure 6. Map of the Water Basin within Project Area

Precipitation

The precipitation regime is the most critical climatic factor for the Tanimbar Islands, directly influencing the region's hydrology, ecosystem type, and the operational planning for the project's restoration activities.

Annual Rainfall and Data Sources

The project zone receives high annual rainfall, consistent with its tropical monsoon climate. Analysis of global climate datasets, including the Global Precipitation Climatology Centre (GPCC) and the World Bank Climate Change Knowledge Portal, indicates that the average annual rainfall for the Tanimbar Islands is in the range of **1,500 mm to 2,000 mm**.

Seasonal Pattern and Monsoon Influence

The defining feature of the region's climate is the strong seasonal distribution of rainfall, driven by the West Pacific Monsoon system. This creates a distinct hydrological cycle with a long, intense wet season and a pronounced dry season.

- **Wet Season (Musim Hujan):** This period generally occurs from **December to March**. It is characterized by heavy, consistent rainfall, often exceeding 300 mm per month during its peak. This season provides the optimal window for the project's planting activities, ensuring high soil moisture for seedling establishment and survival.
- **Dry Season (Musim Kemarau):** A significant dry period follows, typically from **May to October**. During these months, monthly rainfall can drop below 100 mm, and in the driest months (August-September), it is often less than 50 mm. This extended dry period increases water stress on vegetation and significantly elevates the risk of anthropogenic fires, which is a key driver of degradation that the project's management plan is designed to mitigate.

Climate Classification Confirmation

This distinct seasonal rainfall pattern provides the basis for the region's formal climate classification. The KPHP Unit XVIII "Area Description" classifies the climate as **Schmidt-Ferguson Type "B"**. This classification system is based on the ratio of dry months (average rainfall < 60 mm/month) to wet months (average rainfall > 100 mm/month). A Type "B" classification confirms that the project area is a wet region with a short dry season, which naturally supports the growth of a tropical moist forest ecosystem. This data substantiates that the pre-project degraded grasslands and shrublands are not a natural climax ecosystem but are the result of historical disturbances.

Figure 7. Precipitation Map within Project Area

Vegetation Land Cover and Forest Type

The project area is situated within the **Banda Sea Islands moist deciduous forests** ecoregion. While the potential natural vegetation is species-rich tropical moist forest, the actual pre-project land cover is a mosaic characterized by varying degrees of anthropogenic degradation.

To establish a precise and conservative baseline for carbon accounting, a rigorous multi-stage geospatial analysis was conducted. This involved an initial broad classification using the **EU JRC Tropical Moist Forest (TMF) Transition Map (1982–2024)**, followed by the application of strict exclusion criteria (settlements, agriculture, infrastructure buffers, slopes >25%). Finally, a detailed visual verification process using high-resolution Sentinel-2 imagery was applied to delineate the most degraded areas suitable for intensive afforestation.

This process resulted in the final stratification of the eligible project area into three distinct Project Accounting Areas (PAAs), as presented in Table X below.

Table 11: Final Baseline Land Cover Stratification of Eligible Project Area

Project Accounting Area (PAA)	Baseline Land Cover Description	Derivation Method	Area (ha)	% of Eligible Area
PAA1	**Non-Forest / Shrubland**	Visually verified subset of TMF "Degraded" and "Other land" classes, confirmed as plantable non-forest land.	**7,551.0**	29.08%
PAA2	**Degraded Forest**	Remaining eligible areas classified as TMF Class 20 ("Degraded"), characterized by low canopy cover and disturbed structure.	**5,948.9**	22.91%

PAA3	**Unmanaged Forest**	Eligible areas classified as TMF Class 10 ("Undisturbed"), representing ecologically suboptimal forest not under active commercial management.	**12,463.0**	48.01%
Total		**Final Eligible Project Area**	**25,962.9**	**100.00%**

Source: Project-specific geospatial analysis combining JRC TMF data, official exclusion layers, and manual visual verification (see Section 3.3 for detailed methodology).

This final stratification confirms that 100% of the project's accounting area meets the eligibility criteria of VM0047. PAA1 represents the most severely degraded areas targeted for intensive afforestation, while PAA2 and PAA3 represent forest areas requiring reforestation and enrichment to restore their full ecological function and carbon storage potential.

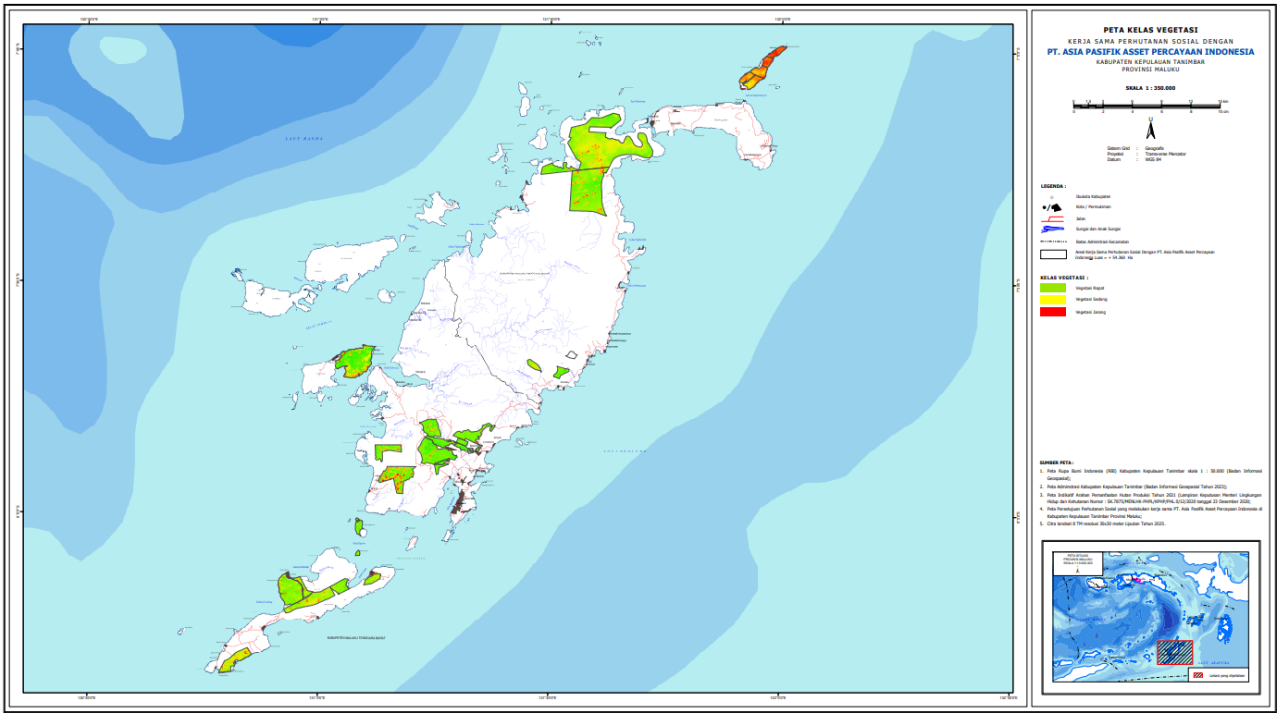


Figure 9. Vegetation Density Map within Project Area[26]

2.1.15 Social Parameters (VCS, 3.18; CCB, G1.3)

Communities and main settlements

The project zone is located within the Tanimbar Islands archipelago and directly involves **23 distinct villages and their associated Social Forestry (PS) institutions**. These communities are administratively located within the sub-districts of Tanimbar Selatan, Wertamrian, Wermaktian, and Selaru in the Maluku Tenggara Barat Regency.

The total population across these 23 communities is **38,933 people**[27]. Village size varies significantly, from small, remote settlements like Rumngeur (317 people) to larger central villages like Adaut (5,711 people). The local governance structure is a blend of formal government administration (*Desa Dinas*) and a deeply rooted traditional customary system known as *adat*, which is overseen by traditional leaders (*Tuan Tanah*) and governs community resource management and social norms.

Land uses and economic activities

26
PT. Asia Pasifik Asset Percayaan Indonesia. (n.d.). Peta Kelas Vegetasi Kerjasama Perhutanan Sosial dengan PT. Asia Pasifik Asset Percayaan Indonesia, Kabupaten Kepulauan Tanimbar, Provinsi Maluku [Map]. Scale 1:350,000.

27 Official government population data sourced from: https://www.bps.go.id/

Land uses:

The land use within the Tanimbar Islands project zone is defined by a dual system of formal state law and deeply rooted customary tradition, both of which are central to the project's design and legal foundation.

- **Formal Land Use Designation:** The project operates exclusively on **State Forest Land (**. The legal basis for all project activities is the **23 Social Forestry (Perhutanan Sosial - PS) licenses** granted by the Indonesian Ministry of Environment and Forestry to the local community institutions. These licenses (including LPHD, LD, and KTH designations) provide the communities with a formal, legally recognized right to manage these lands for a 35-year period. The official land classification within the broader landscape includes Protected Forest (HL), Permanent Production Forest (HP), and Limited Production Forest (HPT),
- **Traditional and Historical Land Use:** Historically and currently, the dominant land use practice by communities on the degraded lands targeted by the project is **shifting cultivation**, locally referred to as *nomaden*. This involves the rotational, small-scale clearing of shrubland and degraded forest for subsistence farming. This practice, combined with community grazing and recurrent fires, has contributed to the landscape's state of arrested succession and prevented natural forest regeneration.
- **Customary Land Tenure:** Parallel to the formal state system, day-to-day land access and resource management are governed by a robust customary law system known as *adat*. Customary rights (*hak ulayat*) are held collectively by clans or communities and are overseen by traditional leaders (*Tuan Tanah*). The project's design explicitly recognizes this dual tenure system by operating within the legal framework of the PS licenses while ensuring all on-the-ground activities are conducted with the free, prior, and informed consent of the customary rights holders.

Economic Activities:

The economy of the communities within the Tanimbar Islands project zone is overwhelmingly based on subsistence livelihoods, characterized by a deep reliance on natural resources and limited integration with the formal cash economy.

Primary Economic Sector: Agriculture

Agriculture is the central pillar of the local economy. A key finding from the official KPHP "Area

Description" (Table 2.18)[28] is that **98.86% of all households identify as farmers**. The agricultural practices are predominantly for subsistence and include:

- **Shifting Cultivation:** The primary farming system is a form of rotational, subsistence agriculture, locally referred to as *ladang* or *nomaden*. This involves the small-scale clearing of degraded shrubland and secondary forest to cultivate staple food crops.
- **Main Crops:** Key subsistence crops include sago, which is a traditional staple in the Maluku region, as well as cassava, sweet potatoes, and various fruits and vegetables grown in home gardens.

Supplementary Economic Activities
To supplement their agricultural livelihoods, communities rely on other natural resource-based activities:

- **Fisheries:** For the numerous coastal villages within the 23 Social Forestry license areas, fishing is a critical source of protein for household consumption and provides a small-scale source of cash income.
- **Forest Resource Utilization (Non-Timber Forest Products - NTFPs):** The surrounding forest landscape is an important source of essential goods. The communities also rely on a variety of NTFPs, including:
    - **Materials:** Collection of **rattan** and **bamboo** for construction and crafts.
    - **Food:** Foraging for wild foods such as sago and fruits like mango and jambu.
    - **Cash Products:** Harvesting of **candlenut (*kemiri*)** and ***kenari***, which are sold in local markets.
- **Artisan Activities:** Certain villages have specialized local economies, such as the traditional woodcarving craft noted in Tumbur village.

Characteristics of the Local Economy and Identified Barriers
The local economy is defined by its subsistence nature and faces significant barriers to development, which reinforces the cycle of degradation and poverty.

- **Limited Monetization:** A key indicator of the subsistence economy is that **bartering remains a practiced form of economic exchange**. This signifies a low circulation of cash and limited access to formal markets.
- **Economic Barriers:** There are everal critical challenges that the project is designed to address:

[28] According to KPHP Unit XVIII Maluku Tenggara. Area Description (Chapter II). Long-Term Forest Management Plan for Forest Management Unit XVIII, Maluku Tenggara Regency. Provincial Forestry Service, Maluku Province, Indonesia

- **Lack of Market Access:** The remote, archipelagic geography of the Tanimbar Islands creates significant logistical hurdles, isolating communities from larger markets and limiting their ability to sell surplus goods.
- **Limited Value-Chain Development:** There is little to no local processing of raw materials. Products like candlenut or rattan are sold in their raw form, capturing only a fraction of their potential value.
- **Lack of Financial Services:** The communities have minimal or no access to formal financial services such as credit or banking, which prevents investment in more productive or sustainable livelihood activities.

This baseline of economic vulnerability and reliance on unsustainable land use practices is a key driver of the environmental degradation that the project seeks to reverse. The project's introduction of sustainable agroforestry, support for NTFP value chains, and capacity building for community enterprises directly addresses these root economic causes, forming a core component of the project's additionality argument.

Ethnic groups and migration:

The project zone is home to the indigenous people of the Tanimbar Islands, who are part of the broader family of Austronesian peoples of Maluku. The population is composed of **indigenous Maluku Tenggara Barat**, confirming their deep historical and cultural roots in the archipelago. Unlike other parts of Maluku that experienced more intensive colonial settlement and migration, the Tanimbar Islands have maintained a high degree of cultural homogeneity.

The social fabric of the communities is built upon strong kinship systems and a tradition of mutual cooperation, known locally as ***gotong royong***. This collective spirit is a foundational element of community life and is a key asset that the project's community-based implementation model is designed to support and strengthen.[29]

A central pillar of the Tanimbarese identity is the **customary governance system known as the Adat system**. This system, which predates formal state law, governs social norms, land tenure, and resource management. The *adat* system is administered by traditional leaders, known as ***Tuan Tanah*** (literally 'Lords of the Land'), who hold significant authority and respect within the communities. The project's stakeholder engagement strategy is explicitly designed to

[29] Ellen, R. (2003). *On the Edge of the Banda Zone: Past and Present in the Social Organization of a Moluccan Trading Network*. University of Hawaii Press. (Provides anthropological context for the Maluku region).

work in partnership with this traditional governance structure, ensuring all activities are culturally appropriate and have the consent of the customary rights holders.

Migration History and Current Dynamics

Historically, the Tanimbar Islands were part of the wider maritime trade networks of the "Spice Islands," which facilitated cultural exchange with other parts of the archipelago. However, the islands did not become a major center for colonial settlement or large-scale, state-sponsored transmigration (*transmigrasi*) programs that have significantly altered the demographic makeup of other Indonesian islands.[30]

As a result, the population within the project's 23 communities is predominantly composed of people indigenous to the Tanimbar Islands, with deep ancestral ties to the land.

Contemporary population dynamics are characterized primarily by:

- **Natural population growth** within the existing communities.
- **Out-migration of youth**, who often leave the islands to pursue higher education or economic opportunities in regional centers like Saumlaki or the provincial capital, Ambon, due to the limited facilities available locally.

There is no evidence of significant recent in-migration or settlement pressure from outside groups that would create social conflict over land and resources. The project is therefore working with a stable, long-established indigenous population, which simplifies stakeholder engagement and ensures that the project's benefits are directed to the ancestral stewards of the land.

Religion:

The religious landscape of the Tanimbar Islands is a key aspect of its cultural identity. Based on the detailed inventory of community infrastructure provided in the government data, the population across the 23 project communities is predominantly Christian.

The data indicates the presence of both Protestant and Catholic churches throughout the villages, serving as important centers for community life, social cohesion, and moral guidance. The Cultural_Guidelines.md further emphasizes that religious leaders are highly respected and hold significant influence alongside traditional adat leaders.

The project's stakeholder engagement strategy is designed to be inclusive and respectful of this religious context, ensuring that project activities and communication are aligned with the cultural calendars and values of the communities.

Historical Context:

[30] Reid, A. (1993). *Southeast Asia in the Age of Commerce, 1450-1680: The lands below the winds*. Yale University Press. (Provides context on regional trade networks).

The Tanimbar Islands, as part of the broader Maluku "Spice Islands," have a rich history intertwined with regional maritime trade networks. While they were influenced by the colonial era, they did not become major centers of colonial administration or conflict in the same way as other parts of the archipelago.

In the post-independence period, the region has remained relatively stable. Unlike parts of Maluku that experienced significant social and religious conflict in the late 1990s and early 2000s, the Tanimbar Islands have largely maintained a state of social harmony. The project is therefore being implemented in a stable, post-conflict environment where the primary challenges are economic and environmental, not social unrest. The project's design, which is built on partnerships with existing legal and customary community institutions, reinforces this stability by empowering local governance structures.

Population expansion:

The population dynamics in the project zone are primarily driven by natural growth within the established indigenous communities. There is no evidence of large-scale, state-sponsored transmigration programs or significant recent in-migration that would create demographic pressure on land and resources.

The total population across the 23 Social Forestry license areas that form the project zone is 38,933 people (according to government data provided by Maluku province of the 23 Social Forestry Areas)[31]. While a long-term historical growth rate for the Tanimbar Islands specifically is not readily available, the primary demographic trend noted in the baseline analysis is the out-migration of youth seeking education and employment in larger urban centers.

This trend underscores the lack of local economic opportunities, which is a key driver of the "business-as-usual" scenario of land degradation. The project aims to counter this trend by creating local "green jobs" and sustainable enterprises, providing an incentive for the younger generation to remain and invest in their communities' long-term environmental and economic health.

Poverty:

The communities within the project zone face significant economic challenges and high rates of poverty. While specific income data for the Tanimbar Islands is limited, several key indicators from the project's baseline analysis demonstrate the prevalence of economic vulnerability:

Reliance on Subsistence Livelihoods: As documented in KPHP Unit XVIII Maluku Tenggara, 98.86% of households are farmers, primarily engaged in subsistence agriculture. This near-total reliance on non-cash, climate-vulnerable livelihoods is a primary indicator of poverty.

[31] Population data sourced from official government website: www.bps.go.id

Limited Market Integration: The continued practice of bartering as a form of economic exchange signifies a low-cash economy and significant barriers to market access, limiting opportunities for income generation.

Food security:

Food security in the project communities is intrinsically linked to subsistence agriculture and the health of the local marine and terrestrial ecosystems. The primary food system is based on family-level cultivation of staple crops such as sago, cassava, and sweet potatoes, supplemented by fishing and the foraging of wild foods from the surrounding landscape.

While this system provides a baseline of subsistence, it is characterized by significant vulnerabilities that the project aims to address:

- **Climate Vulnerability:** The heavy reliance on rain-fed, small-scale agriculture makes household food production highly susceptible to climate variability, such as prolonged dry seasons or unseasonal heavy rains, which can impact crop yields.
- **Market Isolation:** The remote, archipelagic nature of the Tanimbar Islands creates logistical challenges for both importing supplementary food staples and selling surplus produce. This can lead to occasional shortages and price volatility for essential goods.
- **Limited Dietary Diversity:** Dependence on a few staple crops can lead to nutritional challenges. The degradation of the surrounding forests has also reduced the availability of diverse wild foods and medicinal plants that traditionally supplemented community diets.

The project directly enhances food security by providing a shift in economic focus and through the creation of numerous jobs in the area, a change in its state of market isolation is expected.

Public Health

The state of public health infrastructure across the project zone is a critical development challenge. The government data on the villages, which provides a quantitative inventory of public services for the **38,933 people** across the 23 project communities, reveals a severe and systemic lack of access to formal healthcare.

The baseline data shows that for the entire project population, there is:

- Only **one Community Health Center (Puskesmas)**, located in the village of Kandar.
- Only **one Auxiliary Health Post (Pustu)**, also located in Kandar.

This means that **22 out of the 23 communities** in the project have **no formal health facility** of any kind. This extreme centralization of services creates significant barriers to accessing both preventative and emergency medical care for the vast majority of the population, who must undertake long and often costly journeys to receive treatment. This lack of access contributes to poorer health outcomes and increases household vulnerability.

The project is designed to directly address this critical need. The establishment of a **Community Development Fund**, financed by a portion of carbon revenues, will provide a dedicated mechanism for communities to invest in their own health infrastructure, such as funding the construction or staffing of new `Pustu` facilities in remote villages.

Drinking Water

Access to a safe, clean, and reliable water supply is a major concern for the communities in the project area. As noted in the KPHP Unit XVIII Maluku Tenggara, the project zone contains **72 distinct watersheds**.[32] In their healthy, forested state, these watersheds would naturally regulate water flow and maintain high water quality.

However, in the degraded pre-project condition, these hydrological services are impaired. Most villages rely on unimproved water sources, including:

- Groundwater from hand-dug wells.
- Direct collection from surface water (rivers and streams).
- Rainwater harvesting.

These sources are vulnerable to contamination, particularly during the heavy rains of the wet season which increase surface runoff and turbidity. They are also susceptible to scarcity during the prolonged dry season. The project's large-scale reforestation activities will directly address this issue at its source by restoring the health of the 72 watersheds, which is expected to improve natural water filtration, regulate streamflow, and enhance groundwater recharge. Furthermore, improving access to clean drinking water is a stated priority for the project's **Community Development Fund**, which can be used to finance community-led projects such as building protected wells, reservoirs, or filtration systems.

Education

[32] According to KPHP Unit XVIII Maluku Tenggara. Long-Term Forest Management Plan for Forest Management Unit XVIII, Maluku Tenggara Regency. Provincial Forestry Service, Maluku Province, Indonesia

Educational infrastructure and access to opportunities beyond the primary level are severely limited across the project zone, representing a major barrier to social and economic development.

The infrastructure inventory provides a stark quantitative picture of the educational landscape for the **38,933 people** in the project communities:

- While most villages have a Primary School (SD), access to higher education is almost non-existent.

This lack of local secondary education facilities forces young people to either terminate their education after middle school or leave their communities and families to pursue it, contributing to a "brain drain" of skilled youth.

The project will contribute to educational outcomes through two primary pathways:

a. **Community Development Fund:** The fund can be used by communities to provide **scholarships** for students to attend high school in regional centers or to invest in improving the facilities and resources of their local primary schools.
b. **Capacity Building and Training:** The project will implement extensive training programs for community members in technical skills such as nursery management, forest monitoring, agroforestry, and enterprise development. This provides a form of vocational, "green skills" education that is directly relevant to the local economy and creates pathways to new employment opportunities.

2.1.16 Project Zone Map and Project Location (VCS, 3.11, 3.18; CCB, G1.4-7, G1.13, CM1.2, B1.2)

The Tanimbar Islands Community Forest Restoration Project is located in the **Maluku Tenggara Barat Regency, Maluku Province, Republic of Indonesia**. The project is situated within the Tanimbar Islands archipelago, a group of islands in the Banda Sea.

Geographic Coordinates:
The project zone lies approximately between the geographic coordinates of **131° 4' 5" to 130° 4' 25" East longitude** and **7° 39' 3" to 7° 39' 23" South latitude**.

Project Zone and Administrative Area:
The project zone is defined by the legal boundaries of **23 Social Forestry (Perhutanan Sosial - PS) licenses**, covering a total area of **54,976.47 hectares**. These license areas are distributed across the sub-districts of **Tanimbar Selatan, Wertamrian, Wermaktian, and Selaru**.

The project directly involves the **23 Social Forestry Areas** associated with these licenses, which are the primary stakeholder communities for the project (as identified in Section 2.1).

Project Accounting Areas (PAAs): Within the broader project zone, a final eligible project area of **25,962.9 hectares** has been delineated for carbon accounting purposes. This area is stratified into three distinct Project Accounting Areas (PAAs) based on baseline land cover, as detailed in Section 3.3.

Figure 10: Villages around the 23 PS areas.

2.1.17 Project Activities and Theory of Change (VCS, 3.6; CCB, G1.8)

Table 11. Project Activities description and output, outcome and impact

Activity	Expected climate, community, and/or	Relevance to

description	biodiversity			project's objectives
	Outputs (short term)	**Outcomes (medium term)**	**Impacts (long term)**	
Establish and maintain infrastructure to efficiently manage the area	Training and equipping rangers, community watch-posts.	A team of well-trained rangers and community watch-posts perform the eco- monitors across the entire PA	The PA is well protected and managed in a comprehensive way. Deforestation and degradation in the PA are eliminated/ reduced.	Build and maintain the patrol infrastructure for PAAs by ARR activities of 77,047,743 tCO_2e over the initial 30-year quantification period of the project's 40-year lifetime.
Implement Subsidized Rice Logistics Program (Program Distribusi Beras Murah)	AAD logistics network purchases staple rice in bulk and transports it to 23 Village Cooperatives.	Rice is available to community members at a stabilized, subsidized price below the inflated market rate, regardless of monsoon weather or shipping disruptions.	Food Security (SDG 2): Elimination of food scarcity and price spikes. Economic Resilience: Household savings on food are redirected to health, education, and productive assets, reducing the economic desperation that drives illegal logging.	Addressing the "High-Cost Economy" driver of degradation. By ensuring affordable food security, the project reduces the immediate pressure on communities to exploit forest resources for quick cash during economic lean seasons.
Build a stronger enforcement of the law infrastructure and consensus by local authorities and	Training the community for enforcement of the law	A participatory forest protection team with law enforcement is built for eco-	The PA is well protected and managed in a comprehensive way. Deforestation,	Build and maintain the Law enforcement infrastructure to reduce forest destruction, wildlife

cooperatives.		protection across the PA.	degradation and encroachment in the PA is eliminated/reduced.	poaching and land encroachment in the project zone.
Improved Sanitation/ Healthcare by drinking water system by AAD.	Build pilot Clean Water Reservoir filter system or fix existing water-shed in targeted villages.	Build CleanWater Reservoir filter system in 23 Social Forestry Areas or fix existing water-shed to re-enforce confidence in the project.	The wellbeing of all 23 Social Forestry Areas is directly improved. Confidence of the project fortified.	Improved Community Livelihoods of 23 Social Forestry Areas
Established solar panel systems for villages in the project zone to provide affordable and clean energy.	Build pilot solar panel system in targeted villages.	Build a Solar Panel system in 23 Social Forestry Areas to re-enforce confidence in the project.	The wellbeing of all 23 Social Forestry Areas is directly improved. Confidence of the project fortified.	Improved Community Livelihoods of affordable clean energy in 28 villages
Build eco-charcoal program to reduce bio-waste and improve livelihood	Build a pilot project of Eco-Charcoal using coconut shell in targeted villages.	Build an eco-charcoal system in 1/2 23 Social Forestry Areas to re-enforce confidence in the project.	The wellbeing of all 23 Social Forestry Areas is directly improved. Confidence of the project fortified.	Improved Community Livelihoods of affordable clean energy in 23 Social Forestry Areas
Improved Healthcare by Mobile dental service by AAD.	Build a mobile dental/oral health service system.	Construct a school bases dental/oral service and education system	The overall dental/oral health improvement from school to community.	Improved Community Livelihoods of 23 Social Forestry Areas.
Training and employment in income generating activities by AAD, Cooperative and Technical Experts	Build New SIGS training on other NTFP	Add on additional NTFP training stations to further reduce dependency on extracting forest	Reduced risks through livelihood diversification	Implement sustainable livelihood programs by supporting community-led agroforestry and enterprises based on NTFPs, including the sustainable

				cultivation of Agarwood.
Protect the Native habitat of Agarwood and Shorea by Ranger and Watch-posts.	Training to identify Agarwood and Shorea native habitat and setup protection landmark.	Identify and protect native Agarwood and Shorea trees.	Set up HCV based Agarwood Shorea sanctuary in project zone	Maintain habitat for viable, abundant and diverse natural populations of High Conservation Value of Fauna and Flora

2.1.18 Sustainable Development Contributions (VCS, 3.17)

The Tanimbar Community Forest Restoration Project is fundamentally designed to generate significant, lasting sustainable development benefits in alignment with the UN Sustainable Development Goals (SDGs) and Indonesia's national development priorities. Project activities, including community-led reforestation, agroforestry, and capacity building across the **23 Social Forestry license areas**, directly address the core challenges of poverty, environmental degradation, and lack of economic opportunity faced by the **35,000 community members** in the project zone.

The project contributes to sustainable development by creating green jobs, diversifying local economies beyond subsistence agriculture, and enhancing food security through the introduction of sustainable agroforestry and non-timber forest product (NTFP) value chains. A key component of the project is the establishment of a **Community Development Fund**, which will use a portion of carbon revenues to address community-identified needs, such as improving access to clean water and supporting local health and education services. Furthermore, by restoring over 25,962.52 hectares of degraded land, the project enhances critical ecosystem services, improves climate resilience, and protects the unique biodiversity of the Wallacea hotspot.

The project's contributions will be monitored through specific social and environmental indicators, which will be reported at each verification. These activities directly support Indonesia's national strategies for poverty alleviation, green economy development, and achieving its Nationally Determined Contribution (NDC) under the Paris Agreement.

Summary of Project SDG Contributions

SDG Number & Title	Contribution Description	Estimated Project Contribution	Relevant SDG Target(s)	Key Project Indicator(s)
SDG 1: No Poverty	The project provides direct employment and supports community-based enterprises (e.g., nurseries, NTFP processing) to generate sustainable, long-term income.	Diversified and increased income streams for participating households.	1.2, 1.4	Proportion of population living below the national poverty line; Number of households with new income sources.
SDG 2: Zero Hunger	The project addresses the critical challenge of food insecurity caused by the region's archipelagic isolation and high market prices ("High-Cost Economy"). Instead of introducing high-risk livestock farming, the project implements a Subsidized Rice Logistics Program. By leveraging the project's supply chain to transport bulk staple rice to Village Cooperatives, the project ensures a consistent supply of food at stable, subsidized prices.	Stabilized food prices and guaranteed rice availability for 38,933 people across 23 villages, specifically buffering against price spikes during the rough sea (monsoon) season.	2.1	Volume of subsidized rice distributed (tons/year); Average household savings on basic food expenditure.

SDG 3: Good Health & Well-being	The Community Development Fund will be used to address the documented lack of health infrastructure, potentially funding auxiliary health posts (Pustu).	Improved access to basic health services for communities currently without facilities.	3.8	Coverage of essential health services.
SDG 5: Gender Equality	The project ensures equal participation and pay for women and supports their leadership roles in community forest governance and enterprise management.	Women hold leadership positions in community forest groups; equal pay for equal work is enforced.	5.5	Proportion of women in managerial/leadership positions.
SDG 6: Clean Water & Sanitation	Reforestation of 72 watersheds will improve hydrological functions, enhancing the quality and reliability of local water sources for domestic use and agriculture.	Improved water quality and availability for the 38,933 people in the project zone.	6.6	Change in the extent of water-related ecosystems over time.

SDG 8: Decent Work & Economic Growth	The project creates new, formal "green jobs" in a rural economy, developing transferable skills in nursery management, forest monitoring, and sustainable enterprises.	Creation of hundreds of full-time equivalent (FTE) jobs over the project lifetime.	8.5	Full and productive employment and decent work for all women and men.
SDG 13: Climate Action	The project will sequester an estimated 11.8 million tCO_2e, directly mitigating climate change and supporting Indonesia's Nationally Determined Contribution (NDC).	11,870,295 tCO_2e sequestered over 40 years.	13.2	Integration of climate change measures into national policies.
SDG 15: Life on Land	The project restores 25,962.9 ha of degraded terrestrial ecosystems in the Wallacea hotspot, creating and connecting habitat for endemic and threatened species.	Restoration of a globally significant biodiversity area; enhanced habitat for the Tanimbar Corella.	15.1, 15.5	Forest area as a proportion of total land area; Red List Index.

SDG 16: Peace, Justice and Strong Institutions	The project is built on the Social Forestry legal framework, strengthening the governance capacity, land tenure security, and decision-making power of the 23 local community institutions.	Enhanced capacity and empowerment of local, inclusive, and accountable institutions.	16.7	Responsive, inclusive, participatory and representative decision-making at all levels.

2.1.19 Implementation Schedule (CCB, G1.9)

Table 11: The Implementation schedule for the Tanimbar Community Restoration Project, showing key dates and milestones for the Project.

2.1.20 Risks to the Project (CCB, G1.10)

Table 12. Project Risk

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. Illegal Logging and Charcoal Production** Within the Project Accounting Area there are extractive activities, including illegal logging and the production of charcoal. These are additional threats of deforestation and degradation in the Project Accounting Area and pose a significant risk to the Project's climate benefits. Illegal logging activities are a major problem because the boundaries of forest areas were originally	Law enforcement and community members patrol the Project Accounting Area permanently and attempt to halt such activities. It has been recognized, however, that these law enforcement units are limited because of the size of the Project Accounting Area. The project therefore provides financial, political and human capacity support to maintain and enhance law enforcement. This is achieved by our plan of providing charcoal and employing more rangers, increasing ranger motivation and providing

customary land controlled by the local customary institution. The data we get from the Ministry of Environment and Forestry is data on the production of logs and processed wood in the form of plywood, veneer, and sawn timber. The Central Bureau of Statistics reports that the production of logs from Maluku and Papua in 2019 reached 1.5 million.

Wood Products from Maluccu

Year	Plywood (m^3)	Veneer (m^3)	Sawn Timber(m^3)
2016	1,223.79		
2018	2,218.7	3,045.66	
2019	4,373.68	5,648.63	
2020	5,926.5	5,310.76	346.76

Source: Ministry of Environmental and Forestry (2021)

Table above shows that there are 3 (three) official wood product industries from Maluku, namely plywood, veneer, and sawn timber. The largest production is plywood and veneer. Meanwhile, sawn timber is small, only reaching 346.76 m3. This is because permit holders to use wood from natural forests sell logs in the form of logs to other areas to be processed into processed wood products.

Meanwhile, there are 4 cases of illegal logging on Seram Island according to data from (*48.* TECHNICAL REPORT 3: PERMANENCE AND LEAKAGE IDENTIFICATION FROM NATURAL AND HUMAN ACTIVITY, FORDIA 2021). The theft was carried out on wood from the Dipterocarpaceae family and a mixture and there was agarwood. The stolen wood is then sold to Java, Nusa Tenggara and also

rangers with more equipment, training and agriculture technology.

	in the local market. Illegal Logging in Seram Island Year Species Volume Unit Location 2020 Dipterocarpaceae and mix 147.262 m3 SBT 2021 Agarwood 1920 kg 2019 Dipterocarpaceae and mix 205.9 m3 Maluku Tengah 2020 Dipterocarpaceae and mix 400 m3 Maluku Tengah	
	2. Agarwood Poaching As Agarwood present a high value in the market place and Maluku Province has 8 endangered species of Agarwood been reported including in Aquilaria malaccensis, Aquilaria hirta, Aquilaria cumingiana, Aquilaria filaria, and Gyrinops decipiens, Gyrinops salicifolia, Gyrinops moluccana and Gyrinops versteegii. Seram Island has Agarwood poaching of 1921Kg in 2021 (Table above), these are additional threats of deforestation and degradation in the Project Accounting Area and pose a significant risk to the Project's climate benefits. Law enforcement and community members patrol the Project Accounting Area permanently and attempt to halt such activities. It has been recognized, however, that these law enforcement units are limited because of the size of the Project Accounting Area and government funding.	The project therefore provides financial, political and human capacity support to maintain and enhance law enforcement. This is achieved by employing more rangers, implementing SIGS new Agarwood plantation and microbial inoculation with more equipment, training and technology.

	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, such as charcoal production.	Project staff monitor the Project Accounting 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 Accounting Area, thus mitigating anthropogenic fire potential. Furthermore, the Project Proponent will monitor fire events and other potential contributions to reversals as part of their annual monitoring efforts and is required to report on and account for any major loss of carbon in the Project Accounting Area. The AAD has a Forest Patrol team in place which incorporates local Forestry Patrol jointly with Community watch-post Patrol Assistance in this project.
Natural Risks	The region in which the Project is located is not generally susceptible to severe or destructive natural events. The primary types of natural events that could occur would be geologic events, pests or disease, flooding or fire. The area is not prone to any geologic activity and poses little to no risk to the Project. As the Project Accounting Area is a native and biodiverse ecosystem the risk from pests or disease that result in significant emissions reversal is low. There can be minor seasonal flooding from the annual monsoons. However, the species of this area are all adapted to the hydrological cycles and are not liable to monsoonal flooding. The Project Accounting Area is low slope and medium mountainous and there is a medium risk of erosion or landslides. Due to the Project activities that protect	The primary mitigation for this risk is to maintain the forest and ensure through monitoring that the trees and ecosystem remain healthy and intact through routine patrol. The AAD has a Forest Patrol team in place which incorporates local Forestry Patrol jointly with Community watch-post Patrol Assistance in this project.

	forests the risk of erosion or landslides is minimized. The risk of fire has the most potential to cause damage to the forests of the Project Accounting Area. However, the risk of significant emissions reversal is low. The tropical rain 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.	
Political Risks	In all countries, there exists a slight risk of shifting legislation or the potential of new policies that could potentially affect natural resource management and/or land tenure. There are original plans to convert forest to agriculture for food security and selective logging in Island where the natural forest lands were cleared for agriculture for food security and industry development purposes. However, these two possibilities have been stopped because of the Tanimbar Community Restoration Project. The further likelihood of such changes occurring in the Project Accounting Area is extremely small, because the Project Accounting Area is currently under government ownership and the Maluku Provincial UPTD KPHP Tanimbar Island Forest Management Unit is one of the Proponents.	As a highly visible international ARR project, the likelihood that the Maluku Provincial Government would allow the Project Accounting Area to be converted is low. Additionally, as the intent is to nest this Project into a future jurisdictional/national program, the core fundamental of this project is in line with the Indonesian national goal of preserving more forest and improving the living condition of villagers.
Policy risks	**1. Risk of reversal** 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 project	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

	development.	opportunities. All these factors build and enhance community support for the project and make them authentic stakeholders, thereby reducing the risk of opposition to the project and its goals.
	2. Insufficient Revenues The majority of ARR credits are currently sold on the voluntary market, posing a risk to recurring, sustainable income flow. If credits are not sold, there will be no revenue, and thus no monetary support for the Project over its 40-year lifetime, losing initial investments.	Nevertheless, the project proponent believes that the Project will be successful in attracting sufficient buyers of carbon credits. The Project has been developed as a cooperative effort between AAD and PT APAP, it is one of the largest projects in Indonesia, making it an attractive Project to the greater Tropical Asian region. In the future, this will allow for the sale of larger credit 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 believes that the risk of insufficient revenues to the Project's benefits is low.

2.1.21 Benefit Permanence (CCB, G1.11)

1. Institutional Permanence through Empowered Community Governance: The project's most fundamental strategy for permanence is its foundation in Indonesia's Social Forestry program. By vesting the legal rights and primary implementation responsibilities with the **23 local community institutions**, the project is building the capacity of permanent, local entities. Over the project's lifetime, these institutions will receive continuous training in sustainable forest management, financial planning, and enterprise governance. By the end of the crediting period, these community institutions will have the legal standing, technical skills, and decades of experience required to independently manage the restored forest as a sustainable community asset.

2. Economic Permanence through Diversified Livelihoods: The project aims to transition the local economy from one dependent on unsustainable, degradation-driving practices to one based on the sustainable use of a healthy forest ecosystem. This is achieved by:

- **Developing NTFP Value Chains:** The project will help establish the local capacity to sustainably harvest, process, and market Non-Timber Forest Products. This creates a durable, forest-based economy that is economically self-sustaining and provides a powerful, ongoing incentive for the community to protect the forest as the source of their income.

Unlike a scenario dependent solely on external carbon payments, this creates a diversified "green economy" that has its own internal financial momentum.

3. Social and Cultural Permanence through Integrated Benefits: The project embeds the value of the forest into the core of community well-being. By using carbon revenues to fund critical public services through the **Community Development Fund** (e.g., improved water systems, support for health and education), the project creates a direct, tangible link between a healthy forest and a healthy community. This fosters a deep and lasting cultural ethic of conservation and stewardship, ensuring that future generations will continue to protect the forest because they recognize it as essential to their quality of life.

By the end of the project's lifetime, the combination of legally empowered and technically skilled community institutions, a diversified and self-sustaining local green economy, and a deeply embedded cultural value for conservation will ensure the project's positive impacts on the climate, the community, and the region's unique biodiversity are permanent.

2.1.22 Financial Sustainability (CCB, G1.12)

The Tanimbar Community Restoration Project has a clear financial plan designed to ensure its successful implementation and the long-term sustainability of its climate, community, and biodiversity objectives. The project's financial structure relies on initial investment provided by the project proponent, supplemented by projected revenues from the sale of carbon credits.

Initial Funding & Proponent Commitment:
Asia Assets Developments Co., Ltd. (AAD), as the project proponent, possesses significant experience in project development and asset management. AAD is providing and securing the necessary upfront financial resources to cover all costs associated with project initiation, development (including technical studies and consultations), validation, and initial operational years until the project becomes self-sustaining through carbon revenue. AAD is fully committed to the project's success and has allocated internal resources to

guarantee operational continuity during the pre-revenue phase. Furthermore, AAD has a demonstrated track record of successfully developing and managing projects within the Verified Carbon Standard framework, underscoring its capacity to navigate the carbon market and manage project finances effectively.

Long-Term Sustainability through Carbon Finance:

The long-term financial viability of theproject is fundamentally dependent on the successful generation and sale of Verified Carbon Units (VCUs) under the VCS Program. Revenue generated from VCU sales is the primary mechanism intended to fund the project's ongoing operational costs over its 40-year lifetime. These costs include, but are not limited to:

- *Implementing and maintaining forest protection measures (e.g., patrols, monitoring).*
- *Carrying out required monitoring, reporting, and verification (MRV) activities for both carbon (VCS) and co-benefits (CCB).*
- *Supporting community development initiatives and benefit-sharing mechanisms as designed through stakeholder consultations (e.g., SIGS support and, health/education activities).*
- *Funding project management, administrative overhead, and personnel costs.*

Internal financial planning and modeling have been conducted to project these operational costs and estimate the level of carbon revenue required to ensure project sustainability and the delivery of anticipated co-benefits. This reliance on carbon finance underscores the project's additionality, as the comprehensive conservation and community development activities would not be financially feasible under the baseline scenario without this revenue stream.

Financial Management & Transparency:

AAD employs robust financial management practices and internal controls to ensure the effective, efficient, and transparent use of all project funds. This includes clear budgeting, expenditure tracking, and financial reporting procedures. Furthermore, AAD maintains a strong commitment to financial integrity and has incorporated anti-corruption mechanisms within its corporate governance and project management systems to prevent fraud, bribery, or mismanagement of funds. Detailed financial projections and documentation supporting the project's financial plan, including evidence of these management practices, are maintained and will be made available to the validation/verification body upon request.

This comprehensive financial strategy, combining strong proponent commitment and experience, secured initial funding, a clear plan for long-term operational funding through VCU sales, and a commitment to financial integrity, provides confidence in the project's financial sustainability and its ability to achieve its stated goals over the project lifetime

2.2 Without-project Land Use Scenario and Additionality

2.2.1 Conditions Prior to Project Initiation and Land Use Scenarios without the Project (VCS, 3.13; CCB, G2.1)

The conditions existing prior to the project's initiation are identical to the baseline scenario earlier. The project areas consist of landscapes that have been in a state of arrested ecological succession and degradation for over a decade. The project has been designed exclusively to restore these degraded areas and has not been implemented to generate GHG emissions for their subsequent reduction.

In accordance with the requirements for AFOLU projects, the following sections provide a detailed description of the pre-project conditions.

Ecosystem Type

The project is located in the Tanimbar Islands, which are part of the Wallacea biodiversity hotspot, a globally recognized priority area for conservation situated between the Sunda and Sahul continental shelves. The native ecosystem is classified as tropical moist broadleaf forest, specifically falling within the Banda Sea Islands moist deciduous forests ecoregion. This ecosystem is characterized by high levels of species endemism, but has been subjected to significant historical pressures.

Current and Historical Land-Use

The current land use within the project's eligible areas is a mosaic of degraded, non-productive landscapes. Historical land use for at least the past 10 years has been dominated by unsustainable subsistence practices that have prevented the natural regeneration of the native forest ecosystem. The primary historical drivers of this degradation include:

- **Shifting Cultivation:** The practice of rotational, small-scale agriculture (*ladang*) has led to the progressive clearing of forest patches.
- **Anthropogenic Fires:** Recurrent fires, often used for land clearing or managing grazing areas, have suppressed tree seedling survival and favored the dominance of fire-tolerant grasses and shrubs.

- **Grazing Pressure:** Unmanaged grazing by livestock has further inhibited the establishment of young trees.

Analysis of historical satellite imagery and the JRC Tropical Moist Forest (TMF) Transition Map confirms that the project areas have been in a non-forested (<10% tree cover) or degraded state for over a decade, fulfilling the core eligibility requirements of the VM0047 methodology.

Present and Prior Environmental Conditions

- **Climate:** The Tanimbar Islands experience a tropical monsoon climate (Am under the Köppen classification), characterized by distinct wet and dry seasons. Average annual rainfall is typically high, ranging from 1,500 to 2,000 mm, with the majority falling during the wet season from December to March. The average annual temperature is stable, hovering around 26-27°C, providing year-round growing conditions, but the pronounced dry season can increase fire risk and stress on vegetation.
- **Topography and Hydrology:** The Tanimbar Islands are generally low-lying, with a topography dominated by coastal plains and gently rolling hills. The official KPHP Area Description confirms that **99.99% of the broader project landscape has a slope of 0-8%**. This low-slope terrain minimizes natural erosion risk but also makes the area accessible for agricultural conversion. The hydrology is characterized by numerous small, seasonal watersheds and rivers, rather than large river basins.
- **Soils and Geology:** The islands are geologically composed of Tertiary sedimentary rocks, including limestones, sandstones, and clays. The dominant soil type identified in the official KPHP Area Description is **Ultisols**. These are old, highly weathered soils known for being acidic (measured **pH of 4.0-5.4**) and having low natural fertility and low organic matter content. This poor soil condition is a significant biophysical barrier that severely limits the potential for natural forest regeneration without active intervention.
- **Vegetation:** The baseline vegetation within the project's eligible areas is a direct result of the historical degradation and poor soil conditions. It is not a natural savanna or grassland ecosystem but rather a degraded landscape dominated by fire-tolerant grasses (such as *Imperata cylindrica*), resilient shrubs (*Semak Belukar*), and scattered, remnant individual trees. The quantitative geospatial analysis confirms this, showing the eligible project area.
- **Biodiversity:** Prior to project initiation, the degraded state of the landscape offers poor quality habitat for the region's unique and endemic fauna. The lack of forest structure and connectivity severely limits resources for forest-dependent species. The project area is critical habitat for numerous endemic species, including the globally Near Threatened **Tanimbar Corella (** and **Fawn-breasted Thrush (*Zoothera machiki*)**, whose populations are primarily threatened by this ongoing habitat loss.

This comprehensive baseline of long-term ecological degradation and prohibitive biophysical barriers demonstrates the clear need for active restoration intervention and forms a robust foundation for the project's additionality argument under the VM0047 methodology.

2.2.2 Most-Likely Scenario Justification (CCB, G2.1)

Based on a thorough analysis of the conditions prior to project initiation (detailed in Section 1.14) and an evaluation of potential land-use alternatives, the **continuation of the pre-project state of degradation** is determined to be the most likely without-project land use scenario for the entire **25,962.9 ha** eligible project area.

This justification is based on a systematic evaluation of land-use scenarios and the prohibitive barriers that prevent any alternative outcomes, as required by the VT0001 additionality tool.

Land Use Scenarios Without the Project:
In the absence of the Tanimbar Islands Community Forest Restoration Project, the following alternative land-use scenarios were considered for the degraded Social Forestry lands:

1. **Continuation of Degradation (The Baseline Scenario):** The project area remains in its current state of arrested succession—a mosaic of degraded non-forest land (shrubland, grassland) and ecologically suboptimal forest. It continues to be subject to pressures from recurrent fires and unsustainable subsistence activities, with no significant net increase in carbon stocks or biodiversity value.
2. **Active, Large-Scale Reforestation by Communities:** The 23 Social Forestry community institutions, as the legal rights holders, undertake a large-scale, coordinated effort to restore the degraded lands without the support of the VCS project.
3. **Active Reforestation by Government or Other Third Party:** A government agency or another private/non-profit entity implements a large-scale restoration project in the area without carbon finance.
4. **Conversion to Other Land Uses:** The land is converted to more intensive commercial use, such as industrial-scale plantations (e.g., oil palm) or other developments.

Barriers to Alternative Scenarios:
A comprehensive barrier analysis (detailed in Section 3.5) demonstrates that all alternative scenarios, other than the continuation of degradation, are not plausible.

- **Barriers to Community-Led Reforestation (Scenario 2):** This scenario is prevented by the prohibitive barriers faced by the local communities, including:

- **Financial Barriers:** The communities are engaged in subsistence livelihoods and lack the significant upfront and long-term capital required for large-scale nursery operations, planting, and maintenance.
- **Technological Barriers:** There is a lack of local technical expertise in restoration silviculture for degraded lands, large-scale nursery management, and the complex monitoring required for such an initiative.

- **Barriers to Government/Third-Party Reforestation (Scenario 3):** There are no existing or planned government programs to fund and implement large-scale ecological restoration in these specific Social Forestry areas. Furthermore, the high cost and lack of direct financial returns make such a project unattractive to private investors without a mechanism like carbon finance.
- **Barriers to Conversion to Plantations (Scenario 4):** While theoretically possible, converting designated Social Forestry land to large-scale industrial plantations would require a complex, costly, and politically uncertain re-zoning and permitting process. It is a less immediate and far less probable scenario than the continuation of the current, legally established land use designation.

Conclusion on the Most Likely Scenario:
Considering the significant and demonstrable financial, technological, and institutional barriers that prevent any alternative restoration scenarios, the **continuation of the pre-project state of degradation (Scenario 1)** represents the most credible, well-documented, and justifiable baseline scenario for the project area.

The evidence from the government data (confirming poor soil quality and ecological degradation) and the initial community research(confirming the lack of financial and technical capacity) overwhelmingly supports the conclusion that, without the intervention of this VCS project, the land would remain in its degraded state. The project's activities are therefore fully additional to this baseline.

2.2.3 Community and Biodiversity Additionality (CCB, G2.2)

The significant community and biodiversity benefits generated by the Tanimbar Islands Community Forest Restoration Project are demonstrably additional and would not occur under the baseline scenario of continued land degradation across the **25,962.9 ha** project area. Without the project's specific interventions, its participatory community-based model, and the crucial enabling factor of carbon finance, these positive social and ecological outcomes would not be realized.

Community Additionality

- **Contrast with Baseline Socioeconomic Conditions:** The baseline scenario for the **38,933 people** in the project communities is one of economic stagnation and limited opportunity. Livelihoods are almost entirely dependent on subsistence farming (**98.86% of households**), which is vulnerable to climate change and provides minimal cash income. There are no existing mechanisms or programs in the region that are addressing the systemic lack of market access, the absence of financial services, or the critical gaps in public health and education infrastructure. The baseline is a continuation of this poverty and vulnerability.

The project introduces specific community benefits that are **additional** because:

1. **Structured Empowerment and Participation:** The project mandates a full **Free, Prior, and Informed Consent (FPIC)** process, transforming communities from passive landholders into active partners in project design and governance. The establishment of a formal **Feedback and Grievance Redress Mechanism (FGRM)** provides channels for accountability and dialogue that are entirely absent in the baseline.
2. **Sustainable Livelihood Development:** Crucially, the project is not just planting trees; it is actively creating new, sustainable economic pathways. The development of **agroforestry systems** and support for **NTFP value chains** (e.g., for candlenut, rattan) are targeted interventions designed to create long-term, resilient income sources. These activities require technical expertise and market linkages that the communities do not possess and would not otherwise receive.
3. **Targeted Development through a Dedicated Funding Mechanism:** The project includes the creation of a **Community Development Fund**. This is a specific, dedicated mechanism to channel carbon revenues to address community-prioritized needs, such as investing in **clean water systems, health posts, and educational support**. Such targeted social investment is not occurring in the baseline and would not occur without the project.
4. **Overcoming Financial and Capacity Barriers:** All of these positive community outcomes are prevented in the baseline by the same barriers that make the restoration itself additional: a lack of capital and technical capacity. **Carbon finance is the essential mechanism** that funds the training, the materials, the market access support, and the direct investments that make these additional community benefits possible.

Biodiversity Additionality

The baseline scenario of continued degradation leads to direct and ongoing negative biodiversity impacts:

- **Habitat Degradation and Fragmentation:** In the baseline, the landscape remains a mosaic of degraded grasslands and shrublands with low habitat value. This prevents the recovery of the native moist deciduous forest ecosystem and keeps the habitat for forest-dependent species fragmented and suboptimal. This directly threatens the long-term viability of biodiversity in a region recognized as the Wallacea hotspot and a Key Biodiversity Area.
- **Ongoing Anthropogenic Pressure:** The baseline is characterized by recurrent fires and grazing pressure, which actively suppress the regeneration of native flora and degrade habitat for ground-dwelling fauna. There are no existing, funded programs to effectively manage these landscape-scale threats.
- **Lack of Conservation Mandate or Funding:** In the baseline, there is no mandate, incentive, or financial mechanism for proactive biodiversity conservation. There are no programs for targeted habitat restoration, species monitoring, or threat reduction.

The project generates **additional** biodiversity benefits by:

1. **Active Large-Scale Habitat Restoration:** The core additionality is the **restoration of 25,962.9 ha of degraded land**. This is not a passive process but an active intervention that re-establishes the fundamental structure of the native forest ecosystem, creating new habitat that would not exist otherwise.
2. **Implementing Active Threat Reduction:** The project specifically funds and implements a **community-based fire management program** and promotes sustainable land uses that reduce grazing pressure. This provides a level of active, landscape-scale threat management that is completely absent in the baseline.
3. **Targeted Benefits for Species of Conservation Concern:** The project's activities will directly restore and expand the critical habitat for globally Near Threatened species, including the **Tanimbar Corella (** and the **Fawn-breasted Thrush (*Zoothera machiki*)**.
4. **Funding Biodiversity Monitoring:** The project incorporates a **dedicated biodiversity monitoring plan** (see Section 7.3), which enables adaptive management informed by conservation targets. This capacity to monitor and respond to biodiversity trends is a key additional benefit that is unfunded and absent in the baseline scenario.

These biodiversity outcomes are additional because the baseline lacks both the conservation mandate and, critically, the financial mechanism to cover the significant operational costs of large-scale restoration, threat management, and monitoring. **Carbon finance provides the necessary revenue stream** to make this shift from a degrading landscape to a restored, protected ecosystem viable.

2.2.4 Benefits to be used as Offsets (CCB, G2.2)

Only the climate benefits (i.e., quantified GHG emission reductions and removals verified under the VCS Program and issued as VCUs) generated by the project are intended to be used as carbon offsets.

No distinct community or biodiversity benefits generated by the project are intended to be used, quantified, or claimed as separate offsets under any other crediting scheme. The community and biodiversity outcomes are co-benefits resulting from the project activities funded primarily through the climate mitigation (carbon offset) component, and their value is recognized through the CCB certification.

2.3 Safeguards and Stakeholder Engagement

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

Table 13: Stakeholder Identification

Stakeholder Identification	*Stakeholders were primarily identified through the legal framework of Indonesia's Social Forestry (Perhutanan Sosial - PS) program. The process involved:* *1. Legal Identification: Identifying the 23 community institutions holding the formal Social Forestry licenses (LPHD, LD, IUPHKm, KTH) that define the project area.* *2. Community Consultation: Engaging with these community institutions to identify further stakeholders, including traditional leaders (Tuan Tanah), village government officials, and the general village representatives.* *3. Partner Identification: Identifying implementing partners (PT. APAP) and government agencies (Maluku Provincial Forestry Department).* *List of Stakeholders:* *- The 23 Social Forestry community groups (license holders)* *- Traditional leaders (Tuan Tanah)* *- Village government bodies* *- Local community members within the 23 Social Forestry Areas* *- PT Asia Pasifik Asset Percayaan (PT. APAP) (Local implementation partner)* *- Asia Assets Developments Co., Ltd. (AAD) (Project proponent)* *- Maluku Provincial Forestry Department*
Legal or customary tenure/access rights	*Legal Rights: The 23 community groups (LCs) hold legally-binding Social Forestry licenses issued by the Indonesian Ministry of Environment and Forestry. These licenses grant them*

	secure land tenure and management rights for 35 years. Crucially, the licenses include the right to the "utilization of environmental services" (pemanfaatan jasa lingkungan), which under Indonesian Regulation No. 21/2022, explicitly includes carbon sequestration rights. This forms the legal basis for community ownership of the carbon credits. *Customary Rights: Underlying the state legal framework is the customary (adat) law, which governs community access to and management of land and resources. These rights are held collectively by the community and overseen by traditional leaders (Tuan Tanah). The project explicitly recognizes and integrates these customary rights, ensuring that all activities are aligned with traditional governance. There are no known conflicting rights, as the legal licenses were granted based on community-held lands.*
Stakeholder diversity and changes over time	*The primary stakeholder groups are the 23 local communities, which are culturally homogenous to the Tanimbar region but organized under different Social Forestry legal structures (LPHD, LD, KTH, etc.), reflecting different internal governance models. The main economic activities are small-scale subsistence agriculture and fishing. Incomes are generally below the regional poverty line. Social structure is strongly influenced by adat law and the leadership of the Tuan Tanah. Interactions between community groups and the project proponents (AAD, PT. PATI) are formalized through partnership and benefit-sharing agreements. The structure of the groups is expected to remain stable, though the project will introduce new economic roles for future potential partners .*
Expected changes in well-being	*Relative to the baseline of degraded lands and limited income, the project is expected to cause significant positive changes in well-being:* *- Economic: Creation of direct employment (nurseries, planting, monitoring) and generation of long-term income through benefit-sharing from carbon credit sales. Diversification of livelihoods beyond climate-vulnerable agriculture.* *- Social: Strengthening of community institutions (cooperatives, forest management bodies) and increased capacity for sustainable land management. Investment in community infrastructure, education, and healthcare through a community development fund.* *- Ecosystem Services: Restoration of forest cover will improve watershed protection, enhance water quality and availability, reduce soil erosion, and increase the availability of non-timber forest products and traditional medicinal plants, which are important resources for the communities.*
Location of	*The local communities (LCs), who are also the customary rights*

stakeholders	*holders, are located in the villages associated with the 23 Social Forestry licenses across the Tanimbar Islands archipelago, Maluku Tenggara Barat Regency, Indonesia (see Section 1.13 for a detailed list). The project proponents and partners are based in Indonesia and Taiwan. No negative impacts are predicted for areas outside the project boundary. Conversely, the project's leakage mitigation strategies (e.g., providing alternative resources) are expected to have a positive impact by reducing pressure on surrounding forests.*
Location of resources	*The territories are the 23 legally defined Social Forestry license areas, totaling approximately 54,500 hectares. These are the same lands to which the communities have customary access rights under `adat` law. The key resources are the land itself for restoration, and the future benefits derived from the restored forest, including carbon credits, sustainable timber and non-timber forest products (NTFPs), and improved ecosystem services (e.g., clean water). Sacred sites (`tahatan`) within these territories have been mapped and are excluded from all project activities.*

2.3.2 Stakeholder Descriptions (VCS, 3.18, 3.19; CCB, G1.6, G1.13)

Key stakeholders identified include, but are not limited to:

- **Local Communities (23 Social Forestry Institutions):** The most critical stakeholders are the **38,933 people** comprising the 23 community institutions that hold the legal Social Forestry licenses.
  - **Rights and Interests:** As the legal license holders, they hold the primary rights to manage the land and benefit from its resources, including the carbon removals generated by the project. Their primary interests are in securing sustainable livelihoods, improving community well-being, and preserving their cultural connection to the land.
  - **Relevance:** They are the project's core partners and the primary implementers of all on-the-ground restoration and protection activities. The project's success is entirely dependent on their active and willing participation.
- **Indigenous Peoples (IP):** Specifically, the people residing in surrounding areas. These groups have distinct cultural identities, customary rights, and often rely heavily on forest resources for subsistence. Their unique rights and perspectives require specific attention through the FPIC process.
- **AAD (Project Proponent):** Responsible for project design, implementation, funding, MRV, and overall management. Interest lies in successful conservation outcomes, generation of carbon credits, and positive stakeholder relationships.
- **Government Agencies:**

- Ministry of Environment and Forestry (MoEF): National authority for forestry licensing and regulation.
- Maluku Provincial Forestry Department: Regional oversight, potential partners in implementation/monitoring.
- Sub-district and Village Governments: Local administration, crucial for communication, coordination, and implementation of community activities.

- **Customary Institutions:** Traditional leaders (e.g., Raja Negeri, Kepala Adat, Kepala Mata Rumah) within Negeri/Desa Adat structures, holding customary authority over land and community matters.
- Potential partners or monitors.

(A detailed Stakeholder Description Table will be compiled in Appendix 1)

Table 14: Communities included in the Project Accounting Area for the Tanimbar Community Restoration Project

Village (Nama Desa)	Social Forestry Group (Nama PS)	Total Population
Alusi Batjas	LPHD Alusi Batjas	636
Kandar	LPHD Kandar	1,963
Adaut	LD Adaut	5,711
Fursui	LPHD Fursui	1,144
Namtabung	LD Namtabung	2,103
Arma	LPHD Arma	2,333
Bomaki	LD Bomaki	1,477
Inglei	LD Nifmasbulur	2,070

Latdalam	LD Latdalam	3,229
Wowonda	LD Bangruti	1,871
Lelingluan	LPHD Lelingluan	2,360
Weratan, Welutu, Themin	LD Resisaleba	3,784
Arui Das	LD Lelkoly	1,024
Lorulun	LPHD Lorulun	2,155
Tumbur	KTH Taware & KTH Bulur Tubun	1,516
Wermatang	LPHD Wermatang	*Data Pending*
Adodo Fordata	LPHD Adodo Fordata	902
Awear	LPHD Awear	338
Romean	LPHD Romean	1,661
Rumngeur	LPHD Rumngeur	317
Sofyanin	LPHD Sofyanin	1,028

Walerang	LPHD Walerang	803
Total Population		**38,425** (+ Wermatang)

The following list of community groups and specific stakeholders was derived from the stakeholder analysis performed during the SOCIAL AND BIODIVERSITY IMPACT ASSESSMENT (SBIA/PRA) workshops

Table 15**:** Stakeholder Assessments

Stakeholder	Rights, interest, and overall relevance to the project
Project Proponent	Holder of tenure and carbon units rights and enforcer of project.
Local and Provincial Forest Bureau	Supervising body for this project.
Local Cooperatives	Representative for the local communities. Provide lessons and trainings, micro-finance, and direct employment.
Local Residents	Residents who may possibly have their lifestyle or rights affected by project activities.

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

Full project documentation will be made accessible throughout the project lifetime via:

- **Verra Registry:** Publicly available project documents (PD, monitoring reports, validation/verification reports) will be uploaded to the Verra Project Hub.
- **Project Website:** www.asiaassetsdev.com where key documents and updates will be posted.
- **Local Access:** Hard copies of key documents (especially summaries in Bahasa Indonesia) will be made available upon request at Designated project field office location(s) - TBD and potentially deposited at relevant Sub-district and/or Village offices within the project zone.

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

Summary project information will be actively disseminated using culturally appropriate methods:

- **Initial Information:** Project summaries (objectives, activities, location, proponent, basic carbon/CCB concepts, contact information) translated into Bahasa Indonesia will be prepared in accessible formats (e.g., simple brochures, posters). These will be distributed during initial consultations and made available in village offices/community centers.
- **Monitoring Results:** Summaries of monitoring reports (key findings on carbon performance, community impacts, biodiversity status) will be prepared in Bahasa Indonesia and shared through community meetings, posters in villages, and potentially via local radio or other relevant local media. The project website will also host these summaries.
- **Language:** All summary materials and key consultations will be primarily in Bahasa Indonesia, the national language widely understood in the region. Translation or facilitation into local dialects will be provided if necessary during specific community meetings.

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

Informational meetings with Stakeholders took place during the site visit that took place on October 1st, 2025 and ended on October 18th, 2025. Meetings took place in all regions of the 23 Social Forestry Area where stakeholders were identified and major focal points were discussed.

The process was designed to be culturally appropriate and inclusive. It involved a series of community-level meetings held in each of the 23 Social Forestry Areas. All information was presented in the local Indonesian language to ensure full comprehension. Meetings were announced in advance to allow for maximum participation from all community members, including women and marginalized groups. Outcomes of the meetings, including attendance and consent, were formally documented through signed agreements and meeting minutes.

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

While the project's primary impacts are expected to be positive, potential risks *resulting from project activities* are identified and mitigated (refer also to Appendix 3):

- **Exclusion Risk:** Project protection activities (patrols, restricted access to certain areas) could potentially limit communities' access to resources they traditionally used, negatively impacting livelihoods, especially for vulnerable/forest-dependent groups.
    - *Mitigation:* Detailed participatory mapping of customary use areas during FPIC; designing protection zones in consultation with communities; developing viable and accessible alternative livelihood programs; clear communication about project boundaries and rules; functioning FGRM.
- **Benefit Inequality:** Project benefits (e.g., employment, program support) may be captured by local elites or more accessible groups, marginalizing women, IPs, or poorer households.
    - *Mitigation:* Proactive targeting of vulnerable groups in project design; transparent criteria for employment and program participation; gender-sensitive planning; specific outreach to IP communities; monitoring benefit distribution; FGRM.
- **Expectation Management:** High community expectations regarding project benefits (jobs, financial aid) may not be fully met, leading to disappointment or conflict.
    - *Mitigation:* Clear, realistic communication about project scope, timelines, available resources, and benefit-sharing mechanisms during FPIC and ongoing consultations; managing expectations transparently; FGRM.
- **Safety & Security Risks:** Project staff (especially patrols) or community members involved in project activities could face safety risks (e.g., difficult terrain, wildlife encounters, potential confrontation with illegal actors). Increased project presence could potentially introduce social friction or safety concerns, particularly for women/girls.
    - *Mitigation:* Provision of appropriate training, safety equipment (PPE), and communication tools for project staff/patrols; development of clear operational safety protocols (SOPs); code of conduct for project staff emphasizing respect for local communities and gender sensitivity; collaboration with local authorities on security issues; accessible reporting channel within FGRM for safety/conduct concerns.
- **Pollutants/Waste:** Project operations (base camps, vehicle use, potential nursery activities) could generate waste or minor pollution.

- *Mitigation:* Implementation of waste management plan (reduce, reuse, recycle principles for domestic waste); proper handling/disposal procedures for any hazardous materials (e.g., fuel, oil); minimizing environmental footprint of any necessary infrastructure.

The project commits to the principle of 'no net harm' and will actively monitor and manage these risks throughout its lifetime, adapting strategies as needed based on monitoring results and stakeholder feedback.

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

Information regarding potential costs (e.g., opportunity cost of restricted forest access), risks (e.g., participation risks, potential negative impacts as per 2.3.6), and benefits (e.g., employment, livelihood support, ecosystem services, capacity building) has been and will continue to be shared with communities in a transparent, timely, and culturally appropriate manner. This occurs primarily through:

- **FPIC Consultations:** Dedicated meetings where project details, potential impacts (positive and negative), proposed mitigation measures, and benefit-sharing plans are discussed openly using clear language (Bahasa Indonesia, local facilitation if needed) and visual aids.
- **Information Materials:** Dissemination of summary documents (brochures, posters) outlining key project aspects.
- **Ongoing Dialogue:** Regular communication via project staff/liaison officers and accessible feedback channels (FGRM).

This information is provided *before* communities are asked to provide formal consent, allowing ample time for internal discussion, questions, and informed decision-making regarding participation. Community feedback gathered during this process is used to refine project design and mitigation measures.

2.3.8 Information to Stakeholders on Validation and Verification Process (VCS, 3.18.6, 3.19; CCB, G3.3)

Communities and other stakeholders will be informed about the VCS and CCB validation and verification processes, including their purpose, timelines, and the role of the independent auditor (VVB):

- **Measures Taken**: Specific announcements and explanations will be provided during community meetings and consultations preceding the audit activities. Information will also be disseminated via village leadership and local project contacts.
- **Communication Methods**: Verbal explanations (in Bahasa Indonesia, with local facilitation if needed), simple written summaries or posters outlining the audit

process, and contact information for the project team for further questions.

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

Notification: Communities and relevant stakeholders will be notified of the planned VVB site visit schedule at least [e.g., two-three weeks] in advance, through village heads and project liaison staff.

Facilitation of Communication: The project will facilitate direct and independent communication between the VVB and stakeholders. This includes:

- Organizing meetings where the VVB can speak directly with community members (including separate focus groups for women, IPs, or other specific groups if requested by the VVB or community).
- Ensuring VVB auditors can travel freely within the project zone to meet stakeholders without undue influence from project staff (though logistical support will be provided).
- Providing contact information (e.g., VVB public contact, project FGRM channel which can forward concerns) should stakeholders wish to communicate confidentially outside of planned meetings.
- Emphasizing to communities their right to speak freely and raise any concerns with the auditors.

2.3.10 Stakeholder Consultations (VCS, 3.18; CCB, G3.4)

Stakeholder consultations are foundational to the project design and ongoing implementation.

- **Initial Phase:** Informal consultations (as mentioned in 2.3.5) helped gauge initial interest and identify key local concerns (e.g., related to 23 Community/Village/ Social Forestry, community needs, forest access). This informed the preliminary project concept.
- **FPIC Process:** A formal, documented FPIC process was implemented involving all identified communities, IP groups, and customary rights holders. This involves multiple rounds of information sharing and consultation meetings, conducted in a culturally sensitive manner (respecting local protocols, timing, language needs) and ensuring representation of diverse groups (women, youth, elders, different livelihoods). The aim is to achieve documented consent for project activities and agreement on benefit-sharing and grievance mechanisms.
- **Government & Other Stakeholders:** Ongoing consultations are held with relevant government agencies (Provincial Forestry Department) to ensure alignment, collaboration, and compliance.

- **Impact on Design:** Stakeholder input gathered to date has emphasized the importance of clear communication, respect for customary areas, tangible livelihood benefits, and local employment. Project design incorporates these elements, for example, by prioritizing local hiring for patrols and ensuring community development activities are designed based on local needs identified during consultations.

(Table for documenting specific comments and responses will be populated during and after formal consultations and the public comment period).

Table 16**:** Stakeholder Engagement

Date of stakeholder consultation	***October 1st- October 18***
Stakeholder engagement process	*The process was designed to be culturally appropriate and inclusive. It involved a series of community-level meetings held in each of the 23 Social Forestry Areas. All information was presented in the local Indonesian language to ensure full comprehension. Meetings were announced in advance to allow for maximum participation from all community members, including women and marginalized groups. Outcomes of the meetings, including attendance and consent, were formally documented through signed agreements and meeting minutes.*
Consultation outcome	*The consultations resulted in broad community consent for the project design and implementation. Key discussion points included:* *- Project Design: The restoration activities, species selection, and timeline were explained and agreed upon.* *- Risks, Costs, and Benefits: A transparent discussion was held covering potential risks (e.g., project failure), costs (community time commitment), and the significant benefits (employment, carbon revenue, ecosystem services).* *- Legal Rights: All relevant Indonesian laws covering workers' rights, land tenure, and carbon rights were explained.* *- FPIC & VCS Process: The principles of Free, Prior, and Informed Consent (FPIC) were discussed, and the communities were informed about the VCS and CCB validation and verification process.*
Ongoing communication	• *A framework for continuous communication is established:* • *- Annual Community Meetings: To report on project progress, monitoring results, and provide full transparency on financials from carbon credit sales.*

	• *- Publicly Available Documentation: The PDD and all subsequent monitoring and verification reports will be made publicly available online via the Verra Registry.* • *- Local Language Summaries: Key findings and reports will be summarized, translated into the local language, and distributed within the communities to ensure information accessibility.*

Table 17**:** Public Comments and Response

Summary of comment received	When comment was received	Actions taken
TBD	TBD	TBD

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

The project establishes a plan for continuous communication and consultation throughout its lifetime:

- **Regular Meetings**: Periodic meetings (e.g., annually or biennially) will be held in key villages or representative forums to provide project updates, discuss monitoring results, and gather feedback.
- **Liaison Staff**: Dedicated project field staff/community liaison officers will maintain regular contact with communities.
- **FGRM**: The Feedback and Grievance Redress Mechanism provides a formal channel for ongoing input and concerns.
- **Participatory Monitoring**: Involving community members in monitoring activities (e.g., patrols, biodiversity monitoring) provides continuous feedback opportunities.
- **Adaptive Management**: Project management will regularly review stakeholder feedback and monitoring results. This information will be used to make necessary adjustments to project activities, implementation strategies, benefit distribution, or risk mitigation measures, ensuring the project remains relevant, effective, and responsive to stakeholder needs and changing conditions. Decisions on significant adaptations will involve consultation with affected stakeholders.

2.3.12 Stakeholder Consultation Channels (CCB, G3.5)

Consultations are conducted directly with communities or through their legitimate representatives, identified through a combination of formal structures and customary recognition:

- **Formal Representatives**: Village Heads (Kepala Desa/Negeri), Village Consultative Councils (BPD/Saniri), Sub-district Heads (Camat).
- **Customary Representatives**: Traditional Leaders (Raja Negeri, Kepala Adat, Kepala Mata Rumah) where applicable and recognized by the community.
- **Community Groups**: Direct engagement with representatives of specific groups (women's groups, youth groups, farmer/fisher associations, IP representatives).
- **Information Sharing**: Adequate information sharing is ensured through multiple channels (meetings, documents, local announcements) in accessible language (Bahasa Indonesia), providing sufficient detail and time for stakeholders to understand implications before decisions are made. Records of consultations (minutes, attendance lists, agreements) are maintained to document the process.

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

In order to ensure effective participation of Tanimbar Community Restoration Project communities it was important to hold meetings and workshops during time periods where 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 in such a manner that each stakeholder could respond. This included via written invitations, and phone calls. All communication was conducted in Indonesian, a language every participant speaks, thus enabling participants to fully understand and enabling their full participation.

The project enables effective stakeholder participation through:

- **FPIC**: Provides the primary mechanism for communities to influence initial project design and provide consent.
- **Participatory Planning**: Community development activities are designed based on needs identified with communities. Community members will be involved in planning and implementing relevant activities (e.g., nursery management, reforestation, patrol routes).
- **Employment & Capacity Building**: Prioritizing local employment (Section 2.3.18) and providing relevant training (Section 2.3.17) empowers local individuals to actively participate in implementation.
- **Cultural & Gender Sensitivity**: Consultation methods respect local customs and schedules. Specific efforts are made to create safe spaces for women and marginalized groups to participate and voice opinions (e.g., separate focus groups, timing meetings appropriately, ensuring female facilitators are available). Project staff receive training on cultural sensitivity and gender equity.

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

AAD and all entities involved in the project are committed to upholding principles of non-discrimination and preventing sexual harassment:

- **Policy**: A clear anti-discrimination and anti-harassment policy, compliant with Indonesian Law (e.g., Law No. 13/2003 on Employment, Law No. 39/1999 on Human Rights) and international standards (e.g., ILO conventions), applies to all project staff, contractors, and partners. Discrimination based on gender, ethnicity, religion, age, disability, sexual orientation, or any other status is prohibited.
- **Training**: Project staff receive mandatory training on the anti-discrimination/anti-harassment policy, cultural sensitivity, gender equity, and respectful community engagement.
- **Recruitment & Operations**: Employment practices ensure equal opportunity (Section 2.3.18). Project activities are designed to be inclusive and avoid reinforcing existing inequalities.
- **Monitoring & Reporting**: Adherence to the policy is monitored. The FGRM provides a confidential channel for reporting any instances of discrimination or harassment, which will be investigated promptly and impartially, with appropriate disciplinary action taken if warranted.

2.3.15 Feedback and Grievance Redress Procedure (VCS, 3.18.4; CCB, G3.8)

Table 18**:** Feedback and Grievance Redress Management (FGRM) Procedure

Development process	The project strives to minimize the possibility of conflicts and grievances by maintaining close linkages between and working proactively with communities and stakeholders throughout the Project Accounting Area. The Project additionally has an open-door policy, encouraging community members, stakeholders and employees to visit the Project Office, and discuss any issues or feedback directly with project staff. The AAD office also allows comments and feedback which are followed up upon by project staff. A project email has also been disseminated to communities. If conflicts or grievances arise, the project has a feedback and grievance redress policy and process, the purpose of which is to provide an efficient, fair and accessible mechanism for resolving complaints and conflicts, and ensure that the process is transparent and comprehensive. The project

	feedback and grievance redress process has been publicized to communities and a copy provided to the project validator. The full grievance policy has been submitted to the validator and is available to anyone upon request. In summary, community members and project stakeholders are encouraged to submit grievances, comments or feedback to the Project Office through several channels, with all communication methods receiving the same level of response. The primary method for communication will be through the Project Office or Sub-office.
Grievance redress procedure	**Process of receiving and hearing:** Any comment can be submitted via the following open channel: 1. AAD's website at www.asiaassetsdev.com 2. Maluku AAD office 3. Community leaders and officials also act as a communication channel between PP and the local community. **Process of responding and attempting to resolve grievances:** Any comment received will be answered within 21 days, unless it is a public comment posted on Verra, as it requires an update on the project description document to answer. Stage 1: An attempt to further understand the incident and the measures that could be taken will first be conducted digitally, via phone or mail. A formal written response will be provided after the interaction in a manner that is culturally appropriate. A meeting between the party submitting the grievance incident and PP will be arranged, if necessary, to resolve the conflict. All grievance reports received and meeting minutes will be made publicly available at the PT Asia Pasifik Asset Percayaan Indonesia office. The meeting will be conducted in a culturally appropriate manner, considering traditional conflict resolution methods such as traditional peace-making ceremonies (pela gandong). Village leaders will be consulted to incorporate the appropriate traditional conflict resolution methods used by the communities. Stage 2: Any grievances that are not resolved by amicable negotiations, shall be referred to mediation by a neutral third party that is agreed by both parties. The neutral third party could include Bogar Agricultural University or the Maluku Provincial Forestry Department.

	Stage 3: Any grievances that are not resolved through mediation shall be referred either to a) arbitration, to the extent allowed by the laws of the relevant jurisdiction or b) court of Jakarta, Republic of Indonesia, without prejudice to a party's ability to submit the grievance to a competent supranational adjudicatory body, if any.

2.3.16 Accessibility of the Feedback and Grievance Redress Procedure (VCS, 3.19; CCB, G3.8)

The FGRM will be publicized through:

- Community meetings during FPIC and project implementation.
- Posters and information sheets (in Bahasa Indonesia) displayed in village offices and community centers, including contact details for lodging grievances.
- Explanation by project liaison officers during regular village visits.
- Information on the project website.

Grievances received and their resolution status will be documented internally. Summaries of grievances (anonymized where appropriate) and responses will be made publicly available periodically (e.g., annually via website/community meetings) to ensure transparency, while respecting confidentiality.

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

The Tanimbar Community Restoration project is committed to building local capacity by providing comprehensive orientation and ongoing training for all project personnel, with a particular focus on employees recruited from communities within the project zone (Section 2.3.18). This training is designed not only to equip workers with the necessary skills for effective project implementation but also to foster locally useful knowledge and competencies that enhance long-term employability and support sustainable development in the region.

Training components include:

1. **Project Induction & Orientation:** All new personnel receive a thorough introduction covering:
    - The project's background, objectives (climate, community, biodiversity), and activities (ARR, SIGS, community support).

- Relevant VCS and CCB standards and requirements.
- AAD's operational policies, including the Code of Conduct, Anti-Discrimination and Anti-Harassment Policy (Section 2.3.14), and Occupational Health and Safety (OHS) procedures (Section 2.3.19).
- The project's Feedback and Grievance Redress Mechanism (FGRM) (Section 2.3.15).
- Basic principles of forest conservation, biodiversity protection, and sustainable development relevant to Tanimbar Island.

2. **Role-Specific Technical Training:** Tailored training is provided based on job responsibilities. Examples include:
   - **Forest Patrol Teams:** Practical skills in navigation (map reading, GPS use), patrol planning and execution protocols, identification and recording of threats (illegal logging signs, encroachment indicators, poaching signs like snares), basic biodiversity observation, community interaction and conflict de-escalation techniques, relevant forestry and conservation regulations, first aid, and potentially the use of data collection tools like SMART (Spatial Monitoring and Reporting Tool).
   - **Community Liaison & SIGS Support Staff:** Training in effective communication and facilitation skills, participatory rural appraisal (PRA) techniques, understanding the specific Sustainable Income Generating Schemes (SIGS) being supported (e.g., Climate-Smart Agriculture techniques, sustainable NTFP harvesting/processing, small livestock management), basic monitoring of community program progress, explaining the FGRM process, and coordinating with the PT APAPI on collective marketing elements.
   - **Nursery & Restoration Support Staff** Techniques for native seed collection, storage, and germination; nursery management practices (soil mix, watering, pest control without harmful chemicals); seedling propagation and handling; appropriate site preparation and planting techniques for local conditions; basic monitoring of seedling survival and growth.
   - **Monitoring Support Staff (Carbon/Biodiversity):** If local staff are involved, training may include standardized methods for forest inventory plot measurement (DBH, tree ID), biodiversity survey techniques (e.g., line transects, point counts if applicable), accurate data recording, and use of monitoring equipment.

3. **Capacity Building & Knowledge Transfer:**
    - **Focus on Transferable Skills:** Training emphasizes skills applicable beyond the project, such as sustainable agriculture practices, basic financial literacy (linked to SIGS/micro-finance), organizational skills (via partner involvement), and improved environmental awareness.
    - **Ongoing Learning:** Training is not a one-off event; refresher courses and opportunities for skill advancement will be provided throughout the project lifetime.
    - **Knowledge Retention:** To mitigate knowledge loss due to staff turnover, the project relies on:
        - Development and use of clear Standard Operating Procedures (SOPs) for key activities.
        - On-the-job mentoring by experienced supervisors and technical staff.
        - Maintaining comprehensive project records and documentation accessible to relevant personnel.
        - Encouraging participation from a broad base within the community to develop a wider pool of skilled individuals.

This structured approach to training aims to ensure effective project implementation while building lasting capacity within the local communities, contributing to the project's long-term sustainability and positive impact. Training opportunities are provided equitably, with specific efforts to include women and members of vulnerable groups (Section 2.3.18, GL2.4).

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

The project prioritizes maximizing direct employment opportunities for residents of the communities within the project zone (identified in Section 2.3.2) as a key strategy for delivering local benefits and ensuring project sustainability. AAD recognizes the invaluable local knowledge and familiarity community members possess regarding the landscape, social dynamics, and biodiversity.

Local Hiring Preference:

For all project positions, ranging from field staff (e.g., forest patrols, nursery workers, SIGS facilitators) to administrative support and potentially supervisory roles, **preference will be given to qualified residents from local communities**. Where local and non-local candidates possess comparable qualifications and experience for a

role, the local candidate will be prioritized. The project aims to fill the majority of its operational positions with local personnel.

Equal Opportunity and Non-Discrimination:
All recruitment and employment practices adhere strictly to the project's Equal Opportunity Policy (referencing Section 2.3.14) and Indonesian labor laws. Selection is based on merit, skills, and experience relevant to the position, ensuring **equal opportunity regardless of gender, ethnicity, religion, age, or other status**. Specific efforts are made to encourage applications from **women and members of identified vulnerable or marginalized groups** within the communities. The project commits to **equal pay for equal work** and safe working conditions for all employees.

Recruitment and Selection Process:

- **Advertisement:** Job vacancies are advertised publicly and accessibly within the project zone using appropriate local channels, such as postings on village notice boards, announcements via village heads and customary leaders, and dissemination through our partner network.
- **Application & Selection:** Interested local residents can submit applications through designated channels. The selection process involves application review against clear job requirements, followed by interviews conducted by a panel typically including the AAD Field Manager and the relevant technical lead. Where appropriate and agreed, a representative from the PT APAPI or the community may be invited to observe or participate in the selection process to enhance transparency.
- **Feedback:** Unsuccessful candidates, particularly those from local communities, will be provided with constructive feedback regarding their application where feasible, aiming to assist them in future opportunities.

Capacity Building for Employment:
Recognizing that local candidates may sometimes require additional skills, the project commits to providing necessary orientation and role-specific training (as detailed in Section 2.3.17) to successful local hires. Where qualified local candidates are not immediately available for certain specialized roles, the project may hire externally while concurrently implementing a plan to train local counterparts for future succession.

This approach ensures fair access to employment benefits, leverages local capacity, and integrates the community directly into the project's implementation and long-term success.

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

An assessment identifies key occupational safety risks for project workers, particularly field staff:

- **Physical Hazards:** Slips/trips/falls on difficult forest terrain, injuries from falling branches, potential wildlife encounters (e.g., snakes, wild boar), risks associated with using tools (e.g., machetes), vehicle/boat transport accidents.
- **Environmental Hazards:** Exposure to weather extremes, potential vector-borne diseases (e.g., malaria, dengue).
- **Security Hazards:** Potential confrontation with illegal loggers or poachers.

Mitigation Measures:

- **Compliance:** Adherence to all relevant Indonesian labor laws regarding Occupational Health and Safety (OHS).
- **Training:** Mandatory safety training for all field staff covering risk identification, safe work procedures, first aid, emergency response, and safe use of equipment.
- **PPE:** Provision and mandatory use of appropriate Personal Protective Equipment (e.g., sturdy boots, long clothing, gloves, helmets where needed, potentially insect repellent).
- **Equipment & Communication:** Ensuring tools are well-maintained; providing communication devices (e.g., satellite phones/radios) for remote teams; equipping field posts with comprehensive first aid kits.
- **Protocols:** Development of SOPs for high-risk activities (e.g., patrols in remote areas, boat travel), including check-in/check-out procedures and emergency evacuation plans.
- **Working Hours & Conditions:** Ensuring reasonable working hours and conditions to prevent fatigue.
- **Health Support:** Access to basic medical support and clear procedures for handling workplace injuries or health emergencies.
- **Security:** Patrols conducted in teams; coordination with local authorities for security backup if needed; conflict de-escalation training.

Workers will be thoroughly informed of these risks and mitigation measures during induction and ongoing safety briefings.

2.4 Management Capacity

2.4.1 Project Governance Structures (CCB, G4.1)

The Tanimbar Community Restoration Project involves several key entities with distinct roles and responsibilities:

- **Asia Assets Developments Co., Ltd. (AAD):** Main project proponent, responsible for overall project management, securing financing, coordinating among partners, ensuring compliance with VCS/CCB standards, and holding carbon rights.
- **PT Asia Pasifik Asset Percayaan Indonesia (APAPI):** Local implementing party appointed by AAD.
- **Maluku Provincial Forestry Department (Dinas Kehutanan Provinsi Maluku):** Provincial-level government authority supervising the KPHP and providing regulatory oversight and guidance for forestry activities within the province.
- **Ministry of Environment and Forestry (MoEF), Republic of Indonesia:** National-level government authority responsible for overarching forestry policy, licensing (including PBPH/MUK), national carbon regulations (NEK, SRN PPI), and final approval of forestry-related project activities. Acts as the ultimate supervising body.

Detailed responsibilities for project management and implementation personnel within AAD and partner organizations are maintained internally. Collaboration and coordination mechanisms are established between these entities to ensure effective project execution.

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

Successful implementation requires a diverse set of technical skills, including:

- **Forest Management:** Expertise in tropical forest ecology, sustainable forest management principles (even if for conservation), silviculture (for understanding baseline/regrowth and potential restoration), forest inventory techniques.
- **Carbon Accounting (VCS):** Deep understanding of VM0047 methodology, carbon stock measurement (field inventory, potentially remote sensing/LiDAR), GHG

emission/removal calculations, MRV protocols, uncertainty analysis, non-permanence risk assessment.

- **Biodiversity Assessment & Monitoring (CCB):** Skills in conducting field surveys for flora and fauna, species identification (particularly Maluku endemics/RTE species), habitat assessment, HCV identification, biodiversity monitoring techniques (e.g., transects, plots, camera trapping, SMART patrols), conservation planning.
- **Community Engagement & Social Science (CCB):** Expertise in participatory rural appraisal (PRA), socio-economic surveys, FPIC facilitation, conflict resolution, community development program design and implementation, gender analysis, cultural sensitivity, FGRM management, social impact monitoring.
- **GIS & Remote Sensing:** Proficiency in using GIS software (e.g., ArcGIS, QGIS) for mapping (boundaries, strata, land cover, HCVs), spatial analysis, and utilizing satellite imagery (Landsat, Sentinel, potentially RADAR/LiDAR) for monitoring land cover change, deforestation/degradation alerts, and potentially biomass estimation support.
- **Project Management:** Skills in planning, budgeting, financial management, team coordination, logistics, reporting, adaptive management, and stakeholder relations.
- **Legal & Policy:** Understanding of Indonesian forestry law, environmental regulations, carbon project policies, land tenure issues, and international standards (VCS/CCB).

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

A) Project Management Leads

Asia Assets Developments Co., Ltd:

As a company that has been dedicated to asset management and development activities since 2012, with its strong advising staff, including Dr. Stephen Shen, who was the former Director General of the Environmental Protection Administration (EPA) of Taiwan for 6 years, the highest ranking governmental position equivalent to the head of the Minister of Environment, AAD is capable of managing and implementing the project.

Alex Chi – Managing Director– AAD – Project Lead
Joined AAD in 2013 and has been the managing director of AAD and its projects since 2020. Responsible for communications with local authorities and governmental representatives.

2.4.4 Project Management Partnerships and Team Development (VCS, 3.19; CCB, G4.2)

Recognizing the specific technical demands of an ARR carbon project with CCB components, AAD complements its core management capacity through strategic partnerships and team development:

- **Technical Consultancy:** AAD has partnered with PT Fairatmos, which possesses demonstrated expertise in VCS/CCB project development, carbon accounting (specifically ARR methodologies), biodiversity assessment, social impact analysis, and MRV system design in the Indonesian context. This partnership provides critical technical guidance and quality assurance throughout project design and implementation.

- **Local Collaboration:** The project actively seeks collaboration with local government agencies (KPH, BKSDA) for activities like joint patrols and enforcement, leveraging their local knowledge and authority. Partnerships with local universities or CSOs specializing in conservation or community development in Maluku will be explored for research, monitoring support, and community program delivery.
- **Recruitment Strategy:** AAD is committed to building internal capacity. Key technical lead positions e.g., Carbon Lead, Field Operations Manager are being recruited with individuals possessing relevant experience in forestry, conservation, or carbon projects. Ongoing training (Section 2.3.17) and professional development opportunities will be provided to project staff.

All relevant project management experience is present in the current Tanimbar Community Restoration Project partners. The Tanimbar Community Restoration Project management team has full relevant experience to support the project.

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

AAD, as the Project Proponent and implementing organization, possesses the financial stability and commitment necessary to support the project throughout its lifetime. Initial project development and operational costs are secured through AAD's corporate investment ensuring activities can proceed independent of immediate carbon revenue. The long-term financial health is further supported by the projected revenues from VCU sales, as detailed in the project's financial analysis (Section 2.1.22). Documentation supporting AAD's financial capacity and project-specific financial planning is available for review by the validation/verification body.

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

AAD is committed to operating with the highest standards of integrity and transparency, strictly prohibiting corruption and unethical behavior in all project activities.

- **Policies & Compliance**: AAD adheres to a strict code of conduct and anti-corruption policy, compliant with Indonesian law and international best practices (e.g., anti-bribery, anti-fraud). All project staff, partners, and contractors are required to comply with this policy.
- **Financial Controls**: Robust financial management procedures are implemented, including segregation of duties, clear authorization processes for expenditures, regular internal reviews, and to prevent embezzlement or financial mismanagement. Procurement processes are designed to be transparent and competitive.
- **Training & Awareness**: Project staff receive training on the code of conduct, anti-corruption policies, and ethical responsibilities.
- **Transparency & Reporting**: Project operations, financial flows related to benefit sharing, and grievance records will be managed transparently (as detailed in relevant sections). The FGRM (Section 2.3.15) serves as a channel for stakeholders to report any suspected unethical behavior or corruption related to the project without fear of reprisal. All credible allegations will be investigated thoroughly.

2.4.7 Commercially Sensitive Information (VCS, 3.5.2 – 3.5.4; CCB Rules, 3.5.13 – 3.5.14)

No commercially sensitive information has been excluded from the public version of the PD.

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 Tanimbar Community Restoration Project is designed and implemented in full compliance with all applicable national, provincial (Maluku), and local laws, statutes, and regulatory frameworks of the Republic of Indonesia. The project proponent, AAD, ensures adherence to these legal requirements throughout the project lifetime. Key relevant legal instruments include:

A. National Laws (Undang-Undang - UU):

- **UU No. 41/1999 concerning Forestry (as amended by UU 11/2020):** Provides the foundational framework for forest management.
    - *Key Provisions:* Defines state control over forests (Art 4); categorizes forest functions including Production Forest (HP/HPT) where the project operates (Art 6); mandates sustainable and environmentally sound forest

management principles (Art 21); acknowledges community involvement and customary rights (Art 68-70, amended aspects).

- **UU No. 32/2009 concerning Environmental Protection and Management (as amended by UU 11/2020):** Sets requirements for environmental protection.
    - *Key Provisions:* Mandates environmental protection principles (Art 3); requires environmental impact assessments (AMDAL) or management efforts (UKL-UPL) for activities with potential impacts (Part Four); includes provisions for community participation in environmental protection (Art 70).
- **UU No. 5/1990 concerning Conservation of Living Natural Resources and Their Ecosystems:** Governs biodiversity conservation.
    - *Key Provisions:* Establishes principles for conservation and sustainable use; provides the basis for protecting specific species and ecosystems (relevant to CCB aspects).
- **UU No. 11/2020 concerning Job Creation (Omnibus Law):** Significantly amended provisions within Forestry, Environmental, and other laws, aiming to streamline licensing and investment, including frameworks enabling Multi-Forestry Business (MUK).
- **UU No. 23/2014 concerning Regional Government:** Defines authorities of provincial/district governments.
    - *Key Provisions:* Outlines regional government roles in natural resource management, environmental supervision, and permit issuance coordination (relevant Articles e.g., 11, 12, 14).
- **UU No. 16/2016 concerning Ratification of the Paris Agreement:** Formalizes Indonesia's international climate commitments.
- **UU No. 39/1999 concerning Human Rights:** Guarantees fundamental rights.
    - *Key Provisions:* Underpins requirements for respecting community rights, ensuring non-discrimination, and providing access to remedy (relevant to FPIC, FGRM, CCB G5).
- **UU No. 25/1992 concerning Cooperatives:** Provides legal basis for partner PT Asia Pasifik Asset Percayaan Indonesia.
    - *Key Provisions:* Allows cooperatives to hire employees (Art 17), conduct business activities (Art 41), provide member benefits (Art 42), and engage in education/training (Art 4, Art 57).

B. Government Regulations (Peraturan Pemerintah - PP):

- **PP No. 23/2021 concerning Forestry Management:** Implements forestry provisions of UU 11/2020.
    - *Key Provisions:* Details the licensing process for Forest Utilization Business Permits (PBPH - Chapter II); elaborates on Multi-Forestry Business (MUK) including Environmental Service Utilization (e.g., carbon sequestration/storage - Chapter III, Part 7, esp. Art 176, 188); outlines forest protection requirements (Chapter V).
- **PP No. 22/2021 concerning Implementation of Environmental Protection and Management:** Details environmental approval processes (AMDAL/UKL-UPL) under the risk-based approach introduced by UU 11/2020.

C. Presidential Regulations (Peraturan Presiden - Perpres):

- **Perpres No. 98/2021 concerning Implementation of Carbon Economic Value (Nilai Ekonomi Karbon - NEK):** Establishes the national carbon pricing framework.
    - *Key Provisions:* Defines NEK mechanisms including carbon trading (Art 5); mandates the National Registry System for Climate Change Control (SRN PPI) for recording mitigation actions and carbon units (Art 48-53); sets basis for domestic and potentially international carbon trading linked to NDC achievement.

D. Ministry of Environment and Forestry (MoEF) Regulations (Permen LHK):

- **Permen LHK No. 8/2021 concerning Forest Management and Preparation of Forest Management Plans...:** Provides technical details for PBPH operations.
    - *Key Provisions:* Specifies requirements for preparing Work Plans (RKU/RKT) under PBPH, including those focused on environmental service utilization (carbon).
- **Permen LHK No. 7/2021 concerning Forestry Planning, Changes in Forest Area Designation...:** Governs forest area administration.
- **Permen LHK No. 21/2022 concerning Guidance for Implementation of Carbon Economic Value:** Provides further detail on implementing NEK activities under Perpres 98/2021.
- **Permen LHK No. 7/2023 concerning Procedures for Carbon Trading:** Outlines specific procedures for carbon trading within Indonesia's system.
    - *Key Provisions:* Confirms eligibility for carbon projects under PBPH (Art 6); details requirements for project document validation (DRM), verification

(LTV), SRN PPI registration, and potential benefit sharing considerations (Chapter II, III, IV).

- **Permen LHK No. P.32/2016 concerning Forest and Land Fire Control:** Relevant to fire prevention activities.
- *(Contextual)* Permen LHK No. P.70-P.73/2017 concerning SRN, MRV, GHG Inventory: Established the initial national framework.

E. Specific Project-Related Decrees & Approvals:

- **MoF Decree No. SK.537/Menhut-II/2012:** Granting the initial IUPHHK-HA licenses for the concession areas subsequently managed under this project (initially held by PT. BLM).
- **MoEF Decree No. SK.687/MenLHK/Setjen/HPL.0/9/2021:** Approving the PBPH license conversion specifically *for PT. BLM (PAA1)*.
- **MoEF Recommendation Letters (Surat Arahan) for PT. GES (PAA2):** Supporting the PBPH MUK Logged to Protected Forest (LtPF) activity for the GES2 site
- **Approved Work Plans (RKU/RKT) for PT. BLM:** Including MoEF approval SK.16/UHP-1/2015 and subsequent revision approval SK.10084/2019, which document the planned baseline logging activities *for the BLM site (PAA1)* and serve as the basis for the **proxy baseline estimation for the GES2 site (PAA2)** (due to lack of specific approved GES2 RKU documentation).

Compliance Assurance:

AAD ensures project activities strictly adhere to all conditions within its management rights agreements, permits (including PBPH MUK requirements), and all applicable laws. Compliance is maintained through regular operational checks, internal audits, legal counsel review, adherence to SRN PPI registration and reporting, and cooperation with relevant government oversight agencies (MoEF, KPH, BKSDA).

2.5.2 Relevant Laws and Regulations Related to Worker's Rights (VCS, 3.18.2; CCB, G3.11)

The project adheres to all Indonesian laws and regulations concerning labor and workers' rights, ensuring fair treatment, safe working conditions, and awareness of rights for all employees and contracted workers. Key legislation includes:

- Law No. 13/2003 on Manpower (as amended by Law No. 11/2020).
- Law No. 1/1970 on Work Safety.
- Law No. 21/2000 on Trade Unions.

- Government Regulation No. 35/2021 (Fixed-Term Contracts, Outsourcing, Working Hours, Termination).
- Government Regulation No. 36/2021 (Wages).
- Relevant regulations regarding social security (BPJS Ketenagakerjaan) and health insurance (BPJS Kesehatan, e.g., Presidential Regulation No. 82/2018).

Assurance: The project ensures compliance by: providing formal employment contracts, paying wages at or above minimum standards, adhering to regulations on working hours and leave, providing mandatory social security and health insurance, implementing OHS measures (Section 2.3.19), upholding freedom of association, prohibiting child labor and forced labor, and informing all workers of their rights during induction and through accessible workplace postings.

2.5.3 Human Rights (VCS, 3.19)

The project recognizes, respects, and promotes human rights in line with the Indonesian Constitution, national laws (e.g., Law No. 39/1999 on Human Rights), and applicable international principles including the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and relevant ILO Conventions. Particular attention is paid to the rights of local communities and indigenous peoples within the project zone:

- **Recognition of Rights:** Acknowledges the existence of diverse communities, including the indigenous Nuaulu people, and their rights to culture, identity, customary practices, and participation in decisions affecting them.
- **FPIC:** Committed to implementing a robust FPIC process (see Section 2.5.7) for activities impacting community lands, resources, or livelihoods.
- **Non-Discrimination:** Upholds principles of non-discrimination in all project activities and employment practices (Section 2.3.14).
- **Grievance Mechanism:** Provides an accessible FGRM (Section 2.3.15) for stakeholders to raise concerns, including potential human rights impacts.
- **Cultural Heritage:** Commits to identifying and protecting sites of cultural significance through participatory mapping and consultation (Section 2.5.4).
- **No Forced Displacement:** Project activities will not cause involuntary physical or economic displacement (Section 2.5.9).

Adherence to International and National Legal Frameworks:

Indonesia Law:

The 1945 Constitution of Indonesia (UUD 1945):

This is the foundation of all laws in Indonesia and includes provisions for human rights, particularly after the amendments following the Reform era.

Law No. 39 of 1999 on Human Rights:

This comprehensive law defines and outlines various human rights protections in Indonesia, including rights related to life, family, self-development, justice, freedom, and social welfare.

Law No. 11 of 2005 on the Ratification of the International Covenant on Economic, Social and Cultural Rights:

This law incorporates international standards on economic, social, and cultural rights into Indonesian law.

Law No. 12 of 2005 on the Ratification of the International Covenant on Civil and Political Rights:

This law incorporates international standards on civil and political rights into Indonesian law.

Law No. 7 of 1984 on the Ratification of the Convention on the Elimination of All Forms of Discrimination against Women:

This law addresses women's rights and gender equality in Indonesia.

Law No. 40 of 2008 on the Elimination of Racial and Ethnic Discrimination:

This law addresses issues of racial and ethnic discrimination in Indonesia.

International Laws and Conventions:

United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)

ILO Convention 169 on Indigenous and Tribal Peoples

Universal Declaration of Human Rights

Project Design and Implementation:

a) Free, Prior, and Informed Consent (FPIC):

The project ensures that all activities are conducted with the free, prior, and informed consent of the local indigenous communities, as mandated by UNDRIP and ILO Convention 169. This process involves:

Comprehensive community consultations

Transparent information sharing

Respect for traditional decision-making processes

b) Land Rights and Resource Management:

The project recognizes and respects the customary land rights of indigenous peoples, as outlined in Article 26 of UNDRIP.

It operates under the social forestry management agreement, which aligns with Indonesia's recent regulations (e.g., Ministry of Environment and Forestry Regulation No. 7/2023) that allow carbon rights development without requiring a Forest Rights Certificate (PBPH).

c) Cultural Preservation and Traditional Knowledge:

The project incorporates local traditional knowledge in forest conservation efforts, respecting Articles 11 and 31 of UNDRIP.

It supports the cultivation of agarwood, a culturally significant plant, promoting both economic development and cultural preservation.

d) Economic Empowerment and Benefit Sharing:

The project provides local employment opportunities, microloans, and supports agarwood cultivation, aligning with Article 21 of UNDRIP on the right to economic development.

A fair benefit-sharing mechanism ensures that the local communities receive equitable returns from the carbon credits generated.

Institutional Safeguards:

To ensure the protection of human rights throughout the project lifecycle, the following institutional safeguards have been established:

a) Grievance Mechanism:

A transparent and accessible grievance mechanism allows community members to raise concerns or complaints, ensuring their voices are heard and addressed promptly.

b) Participatory Monitoring and Evaluation:

Local community members are involved in monitoring project activities and evaluating outcomes, promoting transparency and accountability.

c) Capacity Building Programs:

Training programs are provided to enhance local skills in forest management, sustainable agriculture, and carbon monitoring, empowering the community to actively participate in and benefit from the project.

d) Gender Equality and Inclusion:

The project ensures equal participation and benefit-sharing for women and marginalized groups within the community, in line with Article 22 of UNDRIP.

f) Adaptive Management:

Regular reviews and stakeholder consultations allow for project adjustments to better meet community needs and rights.

By implementing these measures, the project not only complies with international and national legal frameworks but also actively promotes the rights and well-being of the indigenous and local communities in Tanimbar Island.

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

The project is located entirely within the ancestral lands of the indigenous people of the Tanimbar Islands. The project fully acknowledges that the **23 stakeholder communities** are indigenous, possessing distinct cultural identities, customary rights, and deep, long-standing relationships with the lands and forests within the project zone.

Identification of Indigenous Peoples and Cultural Heritage

- **Identification of Peoples:** The project identifies the communities in the project zone, totaling **38,933 people**, as the indigenous rights holders for the project area. The population is indigenous Maluku Tenggara Barat, with a shared cultural heritage and strong kinship systems.
- **Identification of Cultural Heritage:** The project is undertaking a comprehensive process to identify and map all sites and resources of cultural significance. This is a core component of the Free, Prior, and Informed Consent (FPIC) process.Through participatory workshops with community elders and traditional leaders (*Tuan Tanah*), the project is identifying and mapping:
    - **Sacred Sites** These are areas of spiritual significance, including sacred groves, ancestral sites, and ceremonial locations.
    - **Customary Use Areas:** Areas traditionally used for hunting, fishing, gathering medicinal plants, and other subsistence activities.
    - **Traditional Knowledge:** The project is also documenting the rich traditional ecological knowledge related to native species, forest management, and seasonal calendars, which will be integrated into the project's restoration and monitoring plans.

Preservation and Protection of Cultural Heritage
The project is fundamentally committed to avoiding any negative impacts on the cultural heritage of the Tanimbar communities and will actively contribute to its preservation. The project's social safeguards include the following measures:

- **Strict Exclusion of Sacred Sites:** All identified sacred sites (*tahatan*) are designated as strict protection zones. These areas are **explicitly excluded** from all project restoration and operational activities. A buffer zone will be established around each site in agreement with the community to ensure they remain undisturbed.
- **Respect for Customary Law (*Adat*):** All project activities are designed and implemented in a manner that is fully compliant with the local *adat* system. This includes respecting customary protocols for accessing land, managing resources, and making community decisions.

- **Culturally Respectful Operations:** All project staff and partners are required to undergo comprehensive cultural sensitivity training. All project activities, including community meetings, monitoring patrols, and field surveys, will be conducted in a culturally respectful manner.
- **Support for Cultural Preservation:** Where requested by the communities, the project will support efforts to document and maintain their cultural heritage and traditional ecological knowledge. This may include supporting intergenerational knowledge transfer programs and integrating traditional practices into the project's long-term management plan.

Engagement with Indigenous Peoples

The project's entire engagement strategy is built on a foundation of respect for the communities as indigenous rights holders. Specific engagement protocols have been developed as part of the FPIC process to ensure that all interactions are culturally appropriate and that the communities' customary decision-making processes and leadership structures are respected at all times.

2.5.5 Statutory and Customary Property Rights (VCS, 3.18, 3.19; CCB, G5.1)

Land tenure within the project zone is complex, involving both state-controlled land and areas under customary access and use:

- Statutory Rights: The primary legal right within the Project Area (±24,963 ha) is the state-granted forestry permits for Community/Village/Social Forestry, the control of which is now held by AAD. This designates the land as State Forest Land.
- Customary Rights & Access: Many local communities, including the indigenous Nuaulu, have historical and ongoing customary claims and practices within or overlapping the concession area. This includes rights to access forest resources (timber for domestic use, NTFPs, hunting grounds), cultivate specific areas (gardens, sago groves), and potentially recognized customary land areas (tanah adat) or sacred sites. The user notes highlight reliance on farming, hunting, and gathering in several villages adjacent to or potentially within the concession.
- Mapping: A key activity under the FPIC process will be participatory mapping with communities to delineate areas of:
    - Village administrative boundaries.
    - Customary tenure claims (tanah adat).
    - Current community resource use (farming, fishing, hunting, NTFP collection).
    - Sacred or culturally significant sites.
    - This mapping will inform project planning, activity implementation (e.g., patrol routes, placement of any infrastructure), and potential benefit-sharing or co-management arrangements.

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

The project is committed to recognizing and respecting all legitimate property rights within the project zone:

- **Statutory Rights:** AAD exercises its control derived from the forestry license in compliance with Indonesian law and the terms of the license (as potentially modified for conservation focus).
- **Customary Rights:** The project explicitly recognizes the existence of customary rights and access by local communities and IPs, even within the state-designated concession area. The project will:
    - **Not extinguish** legitimate customary rights through its activities.
    - Use participatory mapping and FPIC to understand and document these rights.
    - Design project activities (e.g., patrol boundaries, conservation zones) to avoid infringing on critical customary use areas or sacred sites, wherever feasible and agreed upon.
    - Seek agreements with communities regarding resource access and management within the project area, potentially exploring co-management or clearly defined access protocols for specific non-destructive uses (e.g., NTFP collection in designated zones), consistent with conservation objectives.
- **Securing Rights:** While the project cannot grant formal statutory title for customary lands (which is a government process), it will support communities in documenting their claims through participatory mapping and dialogue, which can aid in future recognition processes with the government. The project will ensure its own operational boundaries and activities are clearly defined and communicated to avoid unintended encroachment or conflict.

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

The project has conducted stakeholder engagements with local communities living on the periphery of the project to inform them about the project and explain that the project will in no way encroach on private or community property.

Table 19. FPIC Process

Description of process for obtaining consent	A formal FPIC process is being implemented, adhering to international best practices and CCB/VCS requirements. Key steps include:

	1) Identification: Identifying all potentially affected communities, IP groups, and customary rights holders (ongoing). 2) Information Disclosure: Providing comprehensive, accessible, and culturally appropriate information about the project (goals, activities, proponent, timelines, potential impacts/benefits/risks, FGRM, benefit sharing concepts) in Bahasa Indonesia (and local facilitation if needed), well in advance of seeking consent. 3) Consultation & Participation: Facilitating open, two-way consultations within communities, allowing sufficient time for internal deliberation, questions, and expression of concerns, ensuring representation of women, IPs, and vulnerable groups. 4) Consent/Agreement: Seeking documented consent (or withholding of consent) from communities through their legitimate representatives or customary decision-making processes regarding project implementation and key agreements (e.g., benefit sharing). 5) Documentation: Maintaining thorough records of all FPIC activities (meetings, attendees, information shared, concerns raised, agreements reached). FPIC is treated as an ongoing process, not a one-off event.
Outcome of FPIC process	The intended outcome is a transparent agreement between AAD and each affected community/rights-holder group, documenting their informed consent to project activities within their respective areas of interest, outlining agreed mitigation measures, benefit-sharing arrangements, and roles/responsibilities. Assurance: The project explicitly guarantees it will not involve involuntary resettlement or relocation of people or activities. It will not encroach upon lands vital for subsistence or culture without explicit, informed consent and fair compensation/alternatives agreed upon through the FPIC process. Customary rights and significant sites identified during FPIC will be respected and integrated into project management plans. Details of specific agreements will be documented as FPIC progresses

2.5.8 Benefit Sharing Mechanisms (VCS, 3.18, 3.19;)

Table 20. Benefit Sharing Mechanism

Process used to design the benefit sharing	The benefit sharing mechanism (BSM) was co-designed with communities. Initial consultations explore community priorities and preferred benefit types (e.g., direct employment, support for community infrastructure, funding for sustainable livelihood projects, capacity

plan	building). The design process emphasizes transparency regarding projected carbon revenues, project operational costs, and the portion available for benefit sharing, ensuring communities understand the financial context. Different options for benefit distribution (e.g., direct village funds, support for specific community projects, individual payments for specific roles like patrols) are being discussed to ensure equity and alignment with local preferences and governance structures.
Summary of the benefit sharing plan	Direct Employment Opportunities: Prioritizing local residents for paid positions within the project, such as forest patrols, community liaison roles, and potentially roles supporting SIGS activities (Section 2.3.18). Support for Community Development Initiatives: Utilizing a portion of project resources (derived primarily from carbon revenue) to fund community-prioritized projects and programs identified during consultations. Examples include support for establishing Sustainable Income Generating Schemes (SIGS) (e.g., climate-smart agriculture, sustainable NTFPs, small livestock) facilitated via the PT APAPI, investments in community infrastructure (like the planned clean water systems), and support for local health and education needs. The specific allocation and governance mechanisms for managing these funds/programs at the community level will be determined through participatory agreement. Capacity Building and Training: Providing access to relevant training programs aimed at enhancing skills for project participation and broader sustainable livelihoods (Section 2.3.17). Percentage of profit from the project as stated in the contract. The overall BSM will be designed to ensure benefits are distributed transparently and equitably, with specific consideration for reaching marginalized and vulnerable groups, and contribute to the long-term sustainable development of the project zone communities.
Approval and dissemination of benefit sharing plan	As documented in the contract between AAD and provincial government. The contract is available in the head office of the AAD and Cooperation group. The BSM will be formally agreed upon as part of the FPIC process, with documented consent from community representatives. The agreed plan will be translated into Bahasa Indonesia and disseminated widely through community meetings, village notice boards, and potentially simplified summaries. It will be made readily accessible for community members to review. Implementation and fund disbursement will be monitored, with regular reporting back to communities on benefits delivered.

2.5.9 Property Rights Protection (VCS, 3.18, 3.19; CCB, G5.3)

The project guarantees that its activities will not lead to the involuntary removal or relocation of people from their lands or territories. It also guarantees that project activities will not force people to relocate activities essential to their culture or livelihood without their FPIC. Through the participatory mapping and consultation process, areas critical for subsistence, cultural practices, or customary tenure will be identified and respected within project planning and implementation. Any potential restriction on access or use will only occur with the explicit FPIC of the affected rights holders and will include agreed-upon compensation or alternative measures.

2.5.10 Illegal Activity Identification (VCS, 3.19; CCB, G5.4)

Potential illegal activities affecting the project zone include illegal logging, agricultural encroachment, poaching, and uncontrolled fires (potentially linked to land clearing).

- **Measures to Reduce Illegal Activities:**
  - **Presence & Deterrence:** Regular forest patrols by trained project staff and potentially community partners act as a deterrent.
  - **Monitoring:** Use of SMART patrol technology and potentially remote sensing alerts (e.g., GLAD alerts) to detect incursions early.
  - **Community Engagement:** Building local support for conservation through benefit sharing and awareness programs reduces local incentive for illegal activities and can foster community-based reporting/guardianship. Providing viable alternative livelihoods reduces economic pressure driving illegal resource extraction.
  - **Collaboration & Enforcement:** Reporting detected illegal activities to KPH, BKSDA, and police for appropriate legal action. Collaboration on joint patrols enhances enforcement capacity.
- **Prohibition of Illicit Labor Practices:** The project strictly prohibits the use of human trafficking, forced labor, and child labor in all its operations and contracts, in compliance with Indonesian law and international standards. This is enforced through hiring policies, contractual clauses with third parties, staff training, and the grievance mechanism.

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

Past Disputes: To the best of current knowledge, there are no major ongoing, unresolved conflicts directly related to tenure or resource rights within the specific project area that would be prejudiced by project activities.

Potential Future Disputes: The project acknowledges that tenure complexities and resource pressures could lead to future disputes.

Mitigation Measures: The project commits to neutrality regarding any pre-existing disputes it is not directly involved in. The robust FPIC process aims to proactively identify and address potential conflicts related to project activities. The FGRM (Section 2.3.15) provides a dedicated mechanism for peacefully resolving any disputes.

As there are no on-going disputes, there is no potential for the project to prejudice them through its activities.

2.5.12 Approvals (CCB, G5.7)

The project has obtained and will maintain all necessary approvals from relevant government authorities and local communities to ensure its legal and social license to operate throughout its lifetime.

Government Approvals

- **Underlying Social Forestry Licenses:** The project's primary legal foundation is the **23 Social Forestry (Perhutanan Sosial - PS) licenses** granted by the Indonesian Ministry of Environment and Forestry (or the Governor of Maluku for older permits). These decrees (e.g., SK.10405/MENLHK-PSKL/PKPS/PSL.0/9/2023 for Namtabung, SK.5810/MENLHK-PSKL/PKPS/PSL.0/9/2018 for Arma, etc.), as detailed in Section 1.13, provide the legal authority for the community institutions to manage the land and implement the project activities.
- **National Carbon Project Registration:** The project will secure approval from the Ministry of Environment and Forestry through its registration in the **National Registry System for Climate Change Control (Sistem Registri Nasional - SRN PPI)**, in compliance with Presidential Regulation 98/2021 and its implementing regulations and the MRA between Verra and the Indonesian Government.
- **Compliance with Provincial and Regency Regulations:** The project operates in coordination with and adheres to all relevant regulations and development plans of the Maluku Provincial Government and the Maluku Tenggara Barat Regency Government.

Community and Customary Approvals

- **Documented Community Consent (FPIC):** Formal, documented consent for the project will be obtained through a comprehensive **Free, Prior, and Informed Consent (FPIC)** process with each of the 23 participating community institutions. This consent,

documented in legally recognized agreements, serves as the primary approval from the legal rights-holders of the land.

- **Customary Leader Endorsement:** As part of the FPIC process, the project will also secure the endorsement and consent of the legitimate customary authorities (*Tuan Tanah* and *adat* councils) in each community. This serves as the project's "social license," ensuring that all activities are approved under the traditional governance structures of the Tanimbar people.

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

2.5.13.1 No Double Issuance

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

No, this project is only registered with Verra under the VCS methodology and is in no way receiving or seeking credit for reductions and removals in another GHG program or any of the other mentioned form.

2.5.13.2 Registration in Other GHG Programs

Is the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

No, this project is only registered with Verra under the VCS methodology and is in no way receiving or seeking credit for reductions and removals in any other GHG program.

2.5.13.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

No, this project is only registered with Verra under the VCS methodology and has not yet been rejected by any other GHG programs.

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

2.5.14.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

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 ☒ No

Although the regulation in Indonesia regarding voluntary carbon credit is not fully constructed yet, there are no regulation preventing the registration of projects on voluntary carbon credit issuing platform. Furthermore, this project is not registered through any compliance carbon projects within Indonesia or anywhere in the world besides on VCS. In conclusion, no, project reductions and removals or project activities are not also included in an emissions trading program or binding emission limit.

2.5.14.2 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

No, this project is only registered with Verra under the VCS methodology and has not sought, received, or is planning to receive credit from another GHG-related environmental credit system.

2.5.14.3 Supply Chain (Scope 3) Emissions

Do the project activities specified in Section 1.12 affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated

with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."

☐ Yes ☒ No

If yes to all:

Provide evidence does not affect the emission footprints of any products that are part of a supply chain.

2.6 Additional Information Relevant to the Project

2.6.1 Leakage Management (VCS, 3.11, 3.15)

The project will implement a comprehensive leakage management and mitigation plan in accordance with **VMD0054: Module for Estimating Leakage** from ARR Activities. The primary potential leakage risk is activity-shifting, where project activities could displace pre-project activities (e.g., grazing, fuel-wood collection) to areas outside the project boundary.

Leakage risk is considered low, as the project is designed to be a net positive for local livelihoods. Mitigation measures are integrated into the project design and include:

- **Providing Sustainable Alternatives**: The project will establish woodlots for fuel-wood and promote agroforestry systems to provide alternative sources for resources that might otherwise be sourced from surrounding forests.
- **Intensifying Livelihood Benefits**: By creating employment and generating income from carbon finance and sustainable forest products, the project reduces the economic drivers for local communities to engage in activities that cause deforestation or degradation elsewhere.
- **Community Engagement**: Continuous engagement with communities will monitor for and address any potential displacement of activities.

A formal leakage assessment will be completed as part of the final PDD, and leakage will be monitored throughout the pr*oject crediting period.*

Table 21: Brief Overview of leakage mitigation strategies in the Tanimbar Islands ARR Project.

Leakage Management Activity	Description
Improved NTFP Siviculture	Training will be provided to the communities on the methods and best practices involved in conservation sivicuture. This program will aim to increase yields on existing community members and decrease the rate of land conversion. It will also build and support produce storage facilities and value-added technologies to take advantage of market price fluctuations and aid in achieving high sale prices.
Employment of a Ranger Force	This Project will hire and equip a ranger force that provides direct protection of the land from conversion. This force acts as a deterrent to the conversion of the Project Accounting Area but also a powerful outreach tool to the local communities, providing assistance with wildlife issues and information.
Tree Nurseries	The Project will establish multiple tree nurseries in key locations. The nurseries buy seedlings from community members who participate in an out-growing scheme. The seedlings are nurtured in greenhouses, before being planted in degraded areas and on area farms.
Education	The Project will provide several programs to improve the access to and quality of education for youth in the communities. This includes providing school scholarships and the construction of actual school buildings.
Micro-finance schemes	The Project will use best-practice in micro-finance to enhance community member's access to capital and markets. This will include micro-loans, micro insurance and other small and medium development practices (SME).
Eco-Charcoal Training	Sinetics Accreditation International will utilize its extensive experience in the establishment and operation of an eco-charcoal program to train local community members. These community members will then be supported in the establishment of their own eco- charcoal programs.

2.6.2 Further Information

No additional information is anticipated.

3 CLIMATE

3.1 Application of Methodology

3.1.1 Title and Reference of Methodology (VCS, 3.1)

Table 22. Title and Reference of Methodology

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Methodology	VM0047	VM0047 Methodology for Afforestation, Reforestation and Revegetation	1.1
Module	VMD0054	VMD0054 Module for Estimating Leakage from ARR Activities	1.0
Tool	VT0001	Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities	3.0
Tool	N/A	AFOLU Non-Permanence Risk Tool	4.2

3.1.2 Applicability of Methodology (VCS, 3.1)

Table 23. Application of Methodology

Reference ID/Title	Applicability condition	Justification of conformance
VM0047 V1.1 Section4.1(3)	Project activities increase vegetative cover	All three project activities (PAA1, PAA2 and PAA3) aim to increase vegetative cover through either direct planting.
VM0047 v1.1 Section 4.1(2)	Where area-based and census-based approaches are used together, they are applied in non-overlapping areas defined at the project start	The project only uses the area-based approach.

VM0047 v1.1 Section 4.1(3)	For lands enrolled in a project, the quantification approach is selected at the project start date and used for the entire project crediting period.	The area-based approach is applied to all land enrolled in the project.
VM0047 v1.1 Section 4.1(4)	The project start date is documented as the earliest of the following: The date on which the agreement between AAD and Community/Village/Social Forest permit holders signed. The land use change date	The start date is 1 October , 2025, which coincides with the date on which one day after the agreement is signed. This is the earliest date for any land use change date.
VM0047 v1.1 Section 4.1(5)	Where projects take place on organic soils or wetlands, ARR activities are developed using a multiple project activity design, applying this methodology to account for aboveground biomass and using a Wetland Restoration and Conservation methodology (e.g., VM0036 Methodology for Rewetting Drained Temperate Peatlands) to account for other carbon pools.	The project does not take place on organic soils or wetlands.
VM0047 v1.1 Section 4.2(1)	[Area-based approach] Project activities involve direct planting activities (e.g., manual planting, broadcast seeding), indirect activities associated with assisted natural regeneration (e.g., liana cutting, weed management, or barriers that prevent animal grazing), or a combination of direct and indirect activities.	The project activities include both direct (i.e., manual planting) and indirect (i.e., assisted natural regeneration) activities.
VM0047 v1.1 Section 4.2(2)	[Area-based approach] Project proponents establish a t = 0 carbon stock estimate for all significant carbon pools. The method for establishing t = 0 estimates depends on the activity that initiates the project start date.	t=0 carbon stock estimates for all significant carbon pools have been estimated based on the activity that initiates the project start date. See Sections 3.1.6 and 3.2.

VM0047 v1.1 Section 4.2(3)	[Area-based approach] Leakage must be monitored and quantified using VMD0054. It must not be assumed to be de minimis.	Leakage is monitored and quantified using the latest version of VMD0054. See Section 3.2.3.
VM0047 v1.1 Section 4.4.1(1)	[Area-based approach] The project does not occur on lands that have met the definition of managed forest at any point in the 10-year period immediately preceding the project start date.	The project does not occur on lands that have met the definition of managed forest at any point in the 10-year period immediately preceding the project start date. This has been documented through the project area delineation process for each Project Activity Area.
VM0047 v1.1 Section 4.4.1(2)	[Area-based approach] Clearing of pre-existing woody biomass does not involve timber harvesting nor results in degradation of native ecosystems.	Any pre-existing woody biomass that is cleared will not involve timber harvesting. Only invasive species if there is any of pre-existing woody biomass and minor amounts of shrubs/bushes will be cleared as a part of site preparation and therefore will not result in the degradation of native ecosystems.
VM0047 v1.1 Section 4.4.1(3)	[Area-based approach] The project is not planting fewer than 50 planting units per hectare and could use the census-based approach.	The planting density for all PAAs exceeds 50 planting units per hectare.
VMD0054 v1.0	This module applies to estimating leakage emissions from ARR activities. Projects using this module must meet all applicability conditions of the methodology VM0047 Afforestation, Reforestation and Revegetation v1.1.	The project meets all the applicability conditions of VM0047 v1.1 (see the rows above in this table for details).
VT0001	1. AFOLU activities the same or similar to the proposed project activity on the land within the proposed project boundary performed with or without being	The project activities lead to no violation of applicable law..

	registered as the VCS AFOLU project shall not lead to violation of any applicable law even if the law is not enforced.	
	2. The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario. Project proponent(s)proposing new baseline methodologies shall ensure consistency between the determination of a baseline scenario and the determination of additionality of a project activity	The additionality of the project was performed using the tool "VT0001 Tool for Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use AFOLU project Activities", Version 3.0. in the section 3.1.5.2 demonstrates the step1. Identification of alternative land use scenarios to the proposed VCS AFOLU project activity. Step 2. Investment analysis. Step 3. Barrier analysis. Step 4. Common Practice Analysis.
AFOLU Non-Permanence Risk Tool	This tool has no internal applicability conditions.	The project can use this tool to calculate AFOLU Non-Permanence Risk Rating.

3.1.3 Project Boundary (VCS, 3.12)

Spatial Boundaries

The spatial boundary of the project encompasses the **23 Social Forestry (Perhutanan Sosial - PS) license areas** located in the Tanimbar Islands, Maluku Tenggara Barat Regency, Indonesia, totaling **54,976.47 hectares**. The legal boundaries of these licenses define the project zone.

Delineation of Eligible Area and Baseline Strata

To ensure a conservative accounting approach and strict compliance with VM0047, the eligible project area was delineated through a detailed geospatial workflow. This process provides a transparent and replicable audit trail for defining the project's carbon accounting baseline.

A. Data Sources

The analysis utilized the following official and publicly available datasets:

- **Project Boundaries (AOI):** Government-issued polygons for the 23 Social Forestry licenses.
- **Land Cover Baseline:** EU JRC Tropical Moist Forest (TMF) Transition Map – Main Classes (1982–2024).
- **Topography:** SRTM 1″ (~30 m) DEM.
- **Exclusion Layers (Maluku 1:50,000):** Datasets for settlements, agriculture (wet rice, dryland, gardens), lakes, swamps, roads, and rivers.

B. Exclusion Criteria and Conservative Constraints

The following exclusions were systematically applied to the AOI to derive the final eligible area:

- **Settlements & Active Agriculture:** All areas mapped as settlements, wet rice, dryland agriculture, gardens, lakes, and swamps were removed.
- **Infrastructure & Riparian Buffers:** A 10-meter buffer was applied to both sides of mapped roads, and a 30-meter riparian buffer was applied from river centerlines. These buffered areas were excluded.
- **Slope Constraint:** Areas with a slope greater than 25% were excluded to ensure operational feasibility and prevent erosion risk from planting activities.
- **Minimum Mapping Unit (MMU):** Fragmented parcels smaller than 0.25 ha were removed to exclude operationally unplantable slivers.

C. Baseline Land Cover Stratification

Within the final Eligible AOI, baseline land cover was stratified using the TMF Transition Map. A conservative policy was adopted where classes indicating active regrowth (TMF 30) or recent, unclassified change (TMF 50) were excluded from the baseline denominator to avoid over-crediting. The land was categorized into three main strata for the project's accounting purposes:

Table 23: Final Baseline Land Cover Stratification of Eligible Project Area

PAA	Class (TMF Code) & Derivation	Description	Area (ha)	% of Eligible Area
PAA1	Other Land (41, 43, 70)	Visually verified, operationally feasible non-forest and	**7,551.0**	29.08%

		shrubland areas for intensive afforestation.		
PAA2	Degraded (20) - Remainder	Remaining eligible areas classified as degraded forest with low canopy cover and disturbed structure.	**5,948.9**	22.91%
PAA3	Undisturbed (10)	Unmanaged, ecologically suboptimal forest not under a commercial management plan.	**12,463.0**	48.01%
Total		**Final Eligible Project Area**	**25,962.9**	**100.00%**

The project is strategically stratified into three distinct Project Accounting Areas (PAAs) based on a rigorous, multi-stage geospatial analysis of the baseline land cover, totaling an eligible project area of **25,962.9 hectares**:

- **PAA1: Afforestation of Degraded Non-Forest Land (7,551.0 ha):** This PAA consists of the most degraded shrublands and non-forest areas that have been visually verified as suitable for intensive restoration. Project activities will focus on **active afforestation** through the direct planting of a mix of pioneer and climax native species to establish new forest cover.
- **PAA2: Reforestation of Degraded Forest (5,948.9 ha):** This PAA covers areas identified by the TMF dataset as degraded forest. Activities will involve a combination of

reforestation and enrichment planting to increase stocking density and assisted natural regeneration (ANR) to accelerate the recovery of the forest structure.

- **PAA3: Enrichment of Unmanaged Forest (12,463.0 ha):** This PAA consists of forest that, while not recently cleared, is unmanaged and ecologically suboptimal. In full compliance with VM0047 v1.1, project activities will focus on **enhancing forest carbon stocks** through enrichment planting and ANR to restore the forest's ecological integrity, biodiversity, and carbon density..

Figure 6-1: Spatial boundaries for PAA1, PAA2, and PAA3.

For more details of the PAAs check Delineating Project Accounting Areas within Section 3.1.4

Gases and Carbon Pools

Carbon dioxide (CO_2) was determined to be the primary source of greenhouse gas emissions in the project, given the threat of deforestation and conversion from the drivers listed in the baseline scenario. Methane (CH_4) and nitrous oxide (N_2O) are conservatively excluded from the project.

Table24: A list of the greenhouse gases considered

Source		Gas	Included?	Justification/explanation
Baseline	Burning of biomass (whether by natural or anthropogenic causes)	CO_2	Excluded	Conservative to exclude
		CH_4	Excluded	Conservative to exclude
		N_2O	Excluded	Conservative to exclude
	Emissions from nitrogen fertilizer	CO_2	Excluded	Conservative to exclude
		CH_4	Excluded	Conservative to exclude
		N_2O	Excluded	Conservative to exclude
	Combustion of fossil fuels (in vehicles, machinery and equipment)	CO_2	Excluded	Conservative to exclude
		CH_4	Excluded	Conservative to exclude
		N_2O	Excluded	Conservative to exclude
Project	Burning of biomass (whether by natural or anthropogenic causes)	CO_2	Excluded	Carbon stock decreases due to burning are accounted as a carbon stock change
		CH_4	Yes	The project conducts biomass burning as part of the fire management plan (i.e., a 20m prescribed burn around project areas per year). For verification and future monitoring events, emissions from burning of biomass will be monitored. This emissions source has been calculated (ex-ante) and deemed de minimis for the ex-ante calculation of estimated GHG carbon dioxide removals.

		N_2O	Yes	The project conducts biomass burning as part of the fire management plan (i.e., a 20m prescribed burn around project areas per year). For verification and future monitoring events, emissions from burning of biomass will be monitored. This emissions source has been calculated (ex-ante) and deemed de minimis for the ex-ante calculation of estimated GHG carbon dioxide removals.

Source		Gas	Included?	Justification/explanation
	Emissions from nitrogen fertilizer	CO_2	No	Conservative to exclude
		CH_4	No	Conservative to exclude
		N_2O	Yes	The project applies fertilizer for a portion of PAAs. For verification and future monitoring events, emissions from nitrogen fertilizer will be monitored. This emissions source has been calculated (ex-ante) and deemed de minimis for the ex-ante calculation of estimated GHG carbon dioxide removals.
	Combustion of fossil fuels (in vehicles, machinery and equipment)	CO_2	No	De minimis
		CH_4	No	De minimis
		N_2O	No	De minimis

Table 25: Required and optional carbon pools for forest project accounting areas and justifications

Carbon Pools	Included?	Justification/Explanation of choice
Aboveground trees	Included	The stock change in the above ground tree biomass must be estimated

Above ground non-tree	Excluded	Exclusion is always conservative when forests remain as forest
Belowground	Excluded	Unlikely to change significantly in forests remaining as forests, and is difficult to measure, thus omission is conservative.
Dead wood (naturally accumulated)	Excluded	Following IPCC guidelines, it is assumed that carbon stocks in the naturally occurring dead wood pool (both standing and lying) are equivalent in both the project and baseline scenario, and therefore this pool is conservatively excluded. It is not conservative to account for this pool in the baseline scenario only
Litter	Excluded	Insignificant and exclusion is conservative
Soil organic carbon	Excluded	Exclusion is always conservative when forests remain as forest

3.1.4 Baseline Scenario (VCS, 3.13)

The baseline scenario as identified as the Afforestation, Reforestation and Revegetation (ARR) using VM0047 Methodology for Afforestation, Reforestation and Revegetation V 1.1 refers to VCS tool VT0001 for the Demonstration and Assessment of Additionality in Agricultural, Forestry and Other Land Use (AFOLU). Below is a description of the steps to determine the baseline scenario according to the methodology and tool.

Applicability Conditions

- The project meets all applicability conditions detailed in Section 4 of the VM0047 v1.1 methodology: see section 3.1.2 for how the project meets the applicability conditions of VM0047 v1.1.
- The project activities will produce vegetative cover allowing for clear spatial delineation of the project area: see section 2.1.17 for description of project activities and section 2.1.16 and 3.1.3 for maps of the delineated project areas (i.e., Figures 4, 10, and 11).
- The project's performance benchmark must be updated at each verification or every five years, whichever comes first: the performance benchmark will be updated at each verification using annual measurements of the stocking index.

3.1.5 Additionality (VCS, 3.14)

In compliance with the methodology's requirements, the project's additionality is demonstrated utilizing the most current version of the VCS tool VT0001 designed for the demonstration and assessment of additionality in AFOLU project activities. Following the

VT0001, the project's eligibility, including the legal rights and intent to harvest, has been thoroughly reviewed.

Furthermore, the alternative land use scenarios to the proposed project is explained in Chapter

3.1.4. Baseline Scenario, and the steps following the additionality methods are detailed below:

3.1.5.1 Regulatory Surplus (VCS, 3.14)

Is the project located in an UNFCCC Annex 1 or Non-Annex 1 country?

☐ Annex 1 country ☒ Non-Annex 1 country

Are the project activities mandated by any law, statute, or other regulatory framework?

☐ Yes ☒ No

If the project is located inside a Non-Annex 1 country and the project activities are mandated by a law, statute, or other regulatory framework, are such laws, statutes, or regulatory frameworks systematically enforced?

☐ Yes ☒ No

For the baseline scenario proposed, the planned agriculture conversion and harvesting of forest scenario is acting under **Law No. 23 of 2014 on Regional Governance** [33]This law concerns the governance of local governments in Indonesia. It clearly defines the distribution of power between the central government and local governments, including provincial, city, and regency levels. Specifically, in forestry and environmental management, this law grants local governments (including regency-level governments) certain authorities, such as managing local forest resources, issuing related permits, and supervising environmental protection measures. Mores specifically articles 11 and 12 lists the rights of the regional governmental agency's right.

Environmental Protection and Management Law (Law No. 32 of 2009)

This law aims to protect and manage Indonesia's environmental resources, covering water resources, forest resources, air quality, and more. It includes regulations on Environmental Impact Assessment (AMDAL), corporate environmental responsibilities, and the government's role in environmental protection.

[33] https://faolex.fao.org/docs/pdf/ins160168.pdf

As the conversion is acting within the right granted by the law, project activities stopping the baseline activities are not mandated by a law, statute, or other regulatory framework.

Please refer to 2.5.1 for more details.

For the proposed baseline scenario regarding unplanned agriculture conversion, it is the duty of the government to prevent unplanned deforestation and degradation, however, the lack of resource from the local enforcing body results in a steady loss of forest cover due to unplanned deforestation, as shown in historical data. Therefore, although the project activities regarding the protection of forest affected by unplanned agriculture conversion is mandated by a law, statute, or other regulatory framework, the regulations/rules are not systematically enforced.

3.1.5.2 Additionality Methods (VCS, 3.14)

The additionality of the project was performed using the tool "VT0001 Tool for Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use AFOLU project Activities", Version 3.0. Below are the steps that were followed to assess the additionality and determine the baseline of the project

Step 1. Identification of alternative land use scenarios to the proposed VCS AFOLU project activity

Sub-step 1a. Identify credible alternative land use scenarios to the proposed VCS AFOLU project activity.

a) Identify realistic and credible alternative land-use scenarios to the proposed ARR project activity.

Three potential alternative scenarios for the **25,962.9 ha** eligible project area were identified:

1. **Continuation of the Pre-Project Conditions of Degradation:** This scenario represents the "business-as-usual" trajectory. The land would remain as a mosaic of degraded non-forest land (shrublands, grasslands) and ecologically suboptimal unmanaged forest. It would continue to be subject to the historical drivers of degradation, including recurrent anthropogenic fires, grazing pressure, and unsustainable subsistence-level resource extraction. As a result, the landscape would remain in a state of arrested ecological succession with no significant net increase in carbon stocks or biodiversity value.
2. **Implementation of the Proposed Project Activity without VCS Registration:** In this scenario, the project proponents (AAD and partners) and the 23 local community institutions would attempt to implement the large-scale, coordinated restoration project without the financial revenue and structuring framework provided by the VCS Program.

3. **Conversion to Large-Scale Commercial Agriculture/Plantations:** In this scenario, the state-designated Social Forestry lands would be re-zoned and converted to intensive commercial use, such as industrial-scale plantations (e.g., oil palm, industrial timber) by a third-party developer.

Analysis of Regional Context and Pressures: While Indonesia has national development goals that sometimes favor large-scale investment, the specific context of the Tanimbar Islands makes Scenario 3 (large-scale conversion) less probable in the short to medium term compared to the continuation of degradation. Unlike other parts of Indonesia, the Tanimbar Islands have not been a focus for major industrial plantation investment due to their remote location, logistical challenges, and the established Social Forestry land tenure.

The primary pressures on the land are local and subsistence-based. As documented in the KPHP Unit XVIII Maluku Tenggara, **98.86% of households are farmers** practicing shifting cultivation, and this, combined with community-set fires, is the main driver of landscape degradation. There is no evidence of active, large-scale commercial development plans for the project's specific 23 license areas. Therefore, the most direct threat and most likely alternative is not organized industrial conversion, but the continuation and potential expansion of the small-scale, decentralized degradation that has defined the landscape for decades.

Sub-step 1b: Consistency with enforced mandatory laws and regulations.

- **Scenario 1 (Continuation of Degradation):** This scenario is consistent with the legal framework. While Indonesian law generally aims to prevent forest degradation, there are **no specific, enforced laws or regulations that mandate** the active, large-scale restoration of these particular degraded Social Forestry lands. The lack of resources for enforcement and management by local authorities means that the continuation of the status quo does not violate any systematically enforced laws.
- **Scenario 2 (Project without VCS):** Implementing a voluntary restoration project is also fully consistent with Indonesian law and the objectives of the Social Forestry program.
- **Scenario 3 (Conversion to Plantations):** This scenario would require a major change in the legal status of the land, including the revocation of the existing 35-year Social Forestry licenses and a formal re-zoning by the government. This makes it a legally complex and less plausible alternative.

Sub-step 1c: Selection of the baseline scenario.

Based on the barrier analysis conducted in Step 3, **Scenario 1 (Continuation of the Pre-Project Conditions of Degradation)** is determined to be the most plausible and credible baseline scenario.

Scenario 2 is demonstrated to be non-viable due to prohibitive financial and technological barriers. Scenario 3 is less plausible due to the significant legal hurdles and the lack of existing commercial pressure on these specific lands. Therefore, the analysis proceeds with the robust conclusion that without the project, the land would continue to degrade.

ii. Project activity on the land within the project boundary performed without being registered as the VCS AFOLU project;

One of the identified alternative scenarios is the implementation of the Tanimbar Islands Community Forest Restoration Project by the project proponents and community partners, but without being registered under the VCS Program and thus without access to revenue from the sale of carbon credits. A thorough analysis demonstrates that this scenario is not financially or operationally feasible.

Proponent's Role and Financial Reality

The project proponent, Asia Assets Developments Co., Ltd. (AAD), in line with its established project development philosophy, has invested significant resources in the initial phases of the project. This includes conducting feasibility studies, comprehensive geospatial analysis, and extensive stakeholder consultations to co-design the project with the 23 community institutions.

However, these upfront activities have been sustained by AAD's own investment capital. The long-term, multi-decade operational costs of implementing a restoration project across **25,962.9 hectares** are of a completely different magnitude. These ongoing costs include:

- Operating dozens of community nurseries to produce millions of seedlings.
- Funding labor for planting and intensive maintenance for several years.
- Supporting community monitoring and fire patrol teams.
- Financing the community development and sustainable livelihood programs that are essential for the project's success.

AAD's business model for high-integrity conservation projects is predicated on using initial private capital to de-risk and develop projects to the point where they can be sustained by a long-term, reliable revenue stream. In the absence of any other commercial output (like timber), that revenue stream can only come from carbon finance.

Lack of Alternative Funding Sources

The Tanimbar Islands have not historically attracted significant, large-scale, long-term funding from major international conservation NGOs or philanthropic donors. Grant-based funding is typically short-term and project-specific, and is insufficient to sustain a 40-year operational commitment at this scale.

Therefore, without the revenue generated from the sale of Verified Carbon Units (VCUs), AAD would be unable to financially support the project's long-term operational activities. The initial investment in feasibility and design would be lost, and the project would not proceed beyond the planning stage.

The funds from the sale of VCUs are therefore not just a supplementary benefit; they are the **instrumental and indispensable financial mechanism** that makes the entire project viable. This revenue stream is required to cover the ongoing operational costs, fund the essential community co-benefit programs, and provide the financial incentive necessary for all stakeholders to commit to this long-term land-use change.

Without being registered as a VCS project, this alternative scenario fails. The project would not be implemented, and the baseline scenario of continued degradation would prevail.

iii. Activities like the proposed Project activity on at least part of the land within the project boundary of the proposed VCS AFOLU project at a rate from legal requirements;

This analysis considers the alternative scenario where activities similar to the proposed project are implemented as a result of legal or regulatory requirements, without the specific intervention of this VCS project. A review of the legal and institutional context demonstrates that this scenario is not plausible.

Legal Status of the Project Land

The entirety of the Project Accounting Area is State Forest Land (`Hutan Negara`). However, the direct management authority for these lands has been legally devolved to the **23 local community institutions** through 35-year Social Forestry (Perhutanan Sosial - PS) licenses issued by the Ministry of Environment and Forestry. This is a critical distinction from state-managed Forest Management Units (FMUs/KPHs). While the local KPHP has an oversight role, the primary responsibility for land management rests with the community license holders.

Analysis of Legal and Regulatory Requirements

While Indonesian national policy broadly encourages forest protection and rehabilitation, there

are **no specific, enforced laws or regulations that legally mandate** these 23 community institutions to undertake a large-scale, systematic, and costly ecological restoration project across the **25,962.9 ha** of their licensed areas.

The Social Forestry program's primary legal function is to grant tenure and provide a framework for community-based management. It does not, however, come with the dedicated, long-term funding or technical support necessary to implement a project of this nature and scale. The legal requirement is to manage the land sustainably, but the *de facto* reality, as evidenced by the landscape's long-term degraded state, is that without a significant external intervention and financing mechanism, this management results in the continuation of the degraded baseline.

Institutional Barriers to a "Legally Required" Scenario
The scenario of a government-led restoration project is also not plausible due to significant institutional and financial barriers. The local government and forestry agencies in the Maluku Tenggara Barat Regency, like many in remote parts of Indonesia, are under-resourced. They lack the budget and personnel to effectively manage their existing responsibilities, let alone to fund and implement a proactive, multi-million-dollar restoration project across tens of thousands of hectares of community-managed land.

All areas under the jurisdiction of the provincial government must compete for limited funds from the national budget, leaving most areas, particularly remote ones like the Tanimbar Islands, significantly underfunded for proactive conservation or restoration work.

Therefore, while the spirit of Indonesian law supports conservation, there is no credible, legally-mandated pathway through which the proposed project activities would be implemented in the absence of this specific, privately-funded VCS project.

Sub-step 1b. Consistency of credible land use scenarios with enforced mandatory applicable laws and regulations

- **Scenario 1: Continuation of the Pre-Project Conditions of Degradation**
  This scenario is **consistent** with the legal and regulatory framework. While national laws like **UU No. 41/1999 on Forestry** broadly aim to prevent forest degradation, there are no specific, systematically enforced regulations that mandate the active restoration of these particular degraded Social Forestry lands. The `BABII_Analysis.md` and historical satellite data provide clear evidence that, in practice, degradation has been the long-term, prevailing condition. The lack of government resources for enforcement and proactive management in remote areas like the Tanimbar Islands means that the

continuation of this degraded state does not violate any effectively enforced law. Therefore, it is a legally plausible baseline scenario.

- **Scenario 2: Implementation of the Proposed Project Activity without VCS Registration**
  This scenario is **consistent** with the legal and regulatory framework. The implementation of voluntary, community-led forest restoration is fully aligned with and supported by the spirit of Indonesia's Social Forestry program (e.g., **Permen LHK No. 9/2021**) and national environmental laws.
- **Scenario 3: Conversion to Large-Scale Commercial Agriculture/Plantations**
  This scenario is **not consistent** with the current, enforced legal framework. The project lands are legally designated as State Forest Land under Social Forestry licenses with a 35-year tenure. Converting this land to large-scale industrial plantations would require a formal revocation of these licenses and a complex, high-level re-zoning process by the Ministry of Environment and Forestry. As such, this scenario is not a legally credible alternative in the short to medium term.

Conclusion:
Both the baseline scenario (continuation of degradation) and the project activity scenario (voluntary restoration) are fully consistent with all applicable and enforced laws and regulations. The analysis now proceeds to the next steps of the VT0001 tool to determine which of these two legally plausible scenarios is the most likely to occur in the absence of the project.

Sub-step 1c. Selection of the baseline scenario:

Based on the analysis of barriers in the subsequent steps, **Scenario 1 (Continuation of the Pre-Project Conditions of Degradation)** is determined to be the most credible and plausible baseline scenario. The other alternative scenarios—implementing the project without VCS registration or conversion to large-scale plantations—are shown to be non-viable due to prohibitive financial, technological, and legal barriers. Therefore, the additionality analysis proceeds with the baseline assumption that without the project, the land would remain in a degraded state

Step 2. Investment analysis

Sub-step 2a. Determine appropriate analysis method

According to the VT0001 tool, if the proposed project activity is expected to generate no financial or economic benefits other than carbon revenues, a simple cost analysis or a barrier analysis (Step 3) may be used.

The Tanimbar Islands Community Forest Restoration Project is designed for ecological restoration and community co-benefits. It does not involve commercial timber harvesting and is

not expected to generate any significant financial returns outside of the sale of VCUs. Therefore, the project proponents have selected the **Barrier Analysis (Step 3)** as the appropriate method to demonstrate additionality.

Sub-step 2b. Apply simple cost analysis

As the barrier analysis was chosen, simple cost analysis was not performed.

Step 3. Barrier analysis

Sub-step 3a. Identify barriers that would prevent the implementation of the type of proposed project activity

This analysis demonstrates that there are significant, well-documented, and prohibitive barriers that would prevent the implementation of the proposed large-scale restoration activities in the absence of the project's registration under the VCS Program. The revenue and structure provided by the project are essential to overcome these barriers.

3a.1. Financial Barriers:

Without the financial mechanism of carbon credit sales, the project is not financially viable. The barriers are prohibitive for both the local communities and any potential private developer.

- **Prohibitive Costs for Communities:** The project's activities—including operating nurseries, planting across **25,962.9 ha**, long-term maintenance, and fire prevention—require substantial and sustained financial investment. The local communities, with livelihoods based almost entirely on subsistence farming (**98.86% of households**) and limited access to cash or formal financial services (`BABII_Analysis.md`, `Community_Baseline_Report.md`), completely lack the capital to fund such an initiative.
- **Lack of Commercial Viability for Private Investment:** For a private investor, the project generates no direct revenue. There is no timber to be sold, and the potential income from NTFPs like candlenut or agroforestry products would take many years to materialize and would be insufficient to cover the high operational costs of large-scale restoration and protection. The project is a net financial loss without an external revenue stream. Revenue from the sale of VCUs is the only mechanism that makes the project financially feasible.

3a.2. Institutional and Governance Barriers:

The successful implementation of the project requires a level of technical expertise that is not locally available within the Tanimbar Islands.

- **Lack of Restoration Expertise:** The restoration of heavily degraded tropical landscapes, particularly those with acidic and infertile Ultisols, requires specialized silvicultural knowledge of native species, appropriate site preparation techniques, and pest/disease management. This technical capacity does not exist within the local communities or regional government agencies.
- **Lack of Carbon Monitoring (MRV) Capacity:** The project is required to implement a complex and rigorous MRV plan compliant with VM0047. This includes designing and managing a network of permanent sample plots, conducting precise biometric measurements, analyzing remote sensing data for the performance benchmark, and managing complex datasets for verification. This highly specialized technical capacity is entirely absent locally and must be brought in by the project proponent.

3a.3. Social and Cultural Barriers:

While the communities hold the legal licenses, the institutional capacity to manage a project of this scale and complexity is a significant barrier.

- **Limited Management Capacity:** The 23 Social Forestry institutions are primarily community-based social structures, not professional land management organizations. They lack the experience in project management, financial administration, and logistical coordination required to implement a multi-million-dollar, 40-year restoration project.
- **Lack of Government Support:** As in many remote parts of Indonesia, the local government and forestry agencies are under-resourced and do not have the budget or personnel to provide the intensive, long-term technical and financial support that would be required to overcome the barriers listed above.

3a.4. Market Barriers:

The proposed project activity is a radical departure from the common practice in the region.

- **Prevailing Land Use:** As established in the baseline, the prevailing practice for degraded lands in the Tanimbar Islands is a cycle of low-intensity subsistence use, sporadic grazing, and periodic burning. There is no precedent in the region for large-scale, systematic, privately-funded ecological restoration. The project is not "business as usual" for any actor in the region—community, government, or private sector. The barriers of cost, technology, and capacity have effectively prevented any such activities from being common practice.

Sub-step 3b. Show that the identified barriers would not prevent the implementation of at least one of the alternative land-use scenarios

The significant investment, technological, and institutional barriers identified in Sub-step 3a effectively prevent the implementation of the proposed project activity without VCS registration. However, these same barriers **do not prevent the continuation of the baseline scenario: the continuation of the pre-project conditions of degradation.**

The baseline scenario is defined by a lack of investment, a lack of advanced technical intervention, and the continuation of existing, low-input subsistence practices. It requires no new capital, no specialized silvicultural knowledge, and no complex project management structures. The financial and capacity barriers that make large-scale restoration impossible for the local communities have no bearing on their ability to continue the status quo of small-scale shifting cultivation and resource extraction.

Therefore, the barriers that prevent the project activity are not applicable to the baseline scenario. Without the intervention of the VCS project to overcome these barriers, the unsustainable land-use practices that cause degradation are the only viable and likely activities to continue. By demonstrating this critical need for carbon financing to overcome these barriers, the project highlights that the sale of VCUs is the essential catalyst for achieving sustainable, large-scale forest restoration in the Tanimbar Islands.

Step 4. Common Practice Analysis

The proposed project activity—a large-scale, privately-funded, community-led ecological restoration project under a carbon crediting framework—is **not common practice** in the Tanimbar Islands or the broader Maluku Province.

While some small-scale, localized tree planting initiatives may have been attempted by government agencies or NGOs in the past, there are no existing projects of a comparable scale, methodology, or financial structure. A review of land use in the region confirms that the prevailing practice for degraded lands is either continued low-intensity subsistence use (the baseline) or complete abandonment, not active, systematic, large-scale restoration.

Why the Project is Not Common Practice

The lack of similar projects is a direct consequence of the prohibitive barriers identified in Step

3. The high costs, lack of local technical capacity, and absence of a viable business model (without carbon finance) have prevented such activities from becoming common practice for any actor in the region—community, government, or private sector.

AAD's Role and the Need for Carbon Finance

The project proponent, Asia Assets Developments Co., Ltd. (AAD), has been developing this project concept and engaging with local communities, funding these initial stages with its own at-risk capital, consistent with its established development model. However, the long-term, multi-million-dollar operational costs of implementing and monitoring the restoration across **25,962.9 hectares** for 40 years are unsustainable for AAD or any private entity without a new, consistent source of revenue.

The funds generated from the sale of VCUs are therefore instrumental. They will provide the sustainable, long-term revenue stream required to:

- Maintain and expand the restoration activities over the entire project area.
- Fund the essential community development and livelihood programs that ensure local support and mitigate degradation drivers.
- Support the community-based protection and monitoring activities that guarantee the permanence of the restored forest.

In the context of the Tanimbar Islands, where government resources for proactive conservation are limited and there is a lack of significant, long-term NGO investment, a project funded by the voluntary carbon market is the only feasible pathway to achieve landscape-scale ecological restoration. Therefore, the project activity is demonstrably not common practice.

Similar Activity Comparison

Gunung Leuser National Park represents a comparable forest protection initiative in Indonesia with the following similarities:

• Geographic context: Located in Indonesia
• Regulatory framework: Operating under Indonesian forestry laws
• Conservation purpose: Protection of forest ecosystems and biodiversity

Scale Comparison

Gunung Leuser National Park covers 1,092,692[34] hectares across North Sumatra and Aceh provinces, making it comparable in scale to the project zone (**54,976.47 hectares**).

[34] https://asean.chm-cbd.net/protected-areas/gunung-leuser-national-park-core-sumatras-tropical-rainforest-heritage

Essential Distinctions

1. Government Support and Resources[35]
   Gunung Leuser receives significant advantages that are not available to the Tanimbar Community Restoration Project project activity:
   • Annual government budget of IDR 30.6 billion (as of 2017)
   • Direct UNESCO World Heritage site funding and support
   • Multiple international NGO partnerships providing additional resources
2. Operational Support[36]
   Gunung Leuser benefits from:
   • Eight Wildlife Protection Teams conducting regular patrols
   • International donor funding of $400,000 for ranger protection
   • Established research stations and monitoring systems
3. Financial Sustainability[37]
   Unlike the Tanimbar project, Gunung Leuser has:
   • Government budget allocation, though insufficient (IDR 36,20 8/ha)
   • International conservation grants
   • Multiple NGO partnerships providing operational support

The reason between the distinction from Gunung Leuser and Tanimbar Restoration Project is that Gunung Leuser is a national park, therefore it can receive additional support. There are no cases of success project within Indonesia that operates similar activity as Tanimbar Community Restoration Project and are not registered under any GHG reduction programme.

These distinctions demonstrate that while Gunung Leuser represents a similar activity, it operates with significant governmental and international support that is not available to the project, making the identified barriers not apply to this similar activity, making carbon credit revenue essential for the project's implementation and success

3.1.6 Methodology Deviations (VCS, 3.20)

The Tanimbar Community Restoration Project does not deviate from the VCS methodology VM0047.

3.2 Quantification of Estimated GHG Emission Reductions and Removals

The project uses an Allometric equation from "National Forest Reference Level for Deforestation, Forest Degradation and Enhancement of Forest Carbon Stock 2022 submission to UNFCCC" by The Republic of Indonesia. As there is no wetland in the Project Accounting Area, therefore

[35] https://biodiversitylinks.org/library/resources/lessons-learned-technical-brief-multi-layered-conservation-management-in-leuser-landscape/@@download/file/Multi-layered%20Conservation%20Management.pdf
[36] https://globalconservation.org/news/leuser-ecosystem-protection-2022-23-progress-with-breaking-news
[37] https://biodiversitylinks.org/library/resources/lessons-learned-technical-brief-multi-layered-conservation-management-in-leuser-landscape/@@download/file/Multi-layered%20Conservation%20Management.pdf

the equation from reference table Annex 4.3. explicated for Maluku province was used as follows:

3.2.1 Baseline Emissions (VCS, 3.15)

3.2.1.1 VM0047 Section 6.1 Selection of the baseline

Please refer to Section 3.1.4 and 3.1.5 above.

Allometric Equations

The project uses an Allometric equation from "National Forest Reference Level for Deforestation, Forest Degradation and Enhancement of Forest Carbon Stock 2022 submission to UNFCCC" by The Republic of Indonesia. As there is no wetland in the Project Accounting Area, therefore the equation from reference table Annex 4.3. explicated for Maluku province was used as follows:

The D stands for diameter at breast height. The G stands for Wood Density according to the tree species. If no wood density was found, the default value 0.57 g/cm^3 was used based on a wood density average for Tropical Asia by Reyes et al. (77).

Table Annex 4.3. Allometric equation used in FRL

Forest Type	Reference	Allometric Equations using D and ρ variables
Mangrove Forest	Chave et al, 2005	$AGB = Exp\ [-1.349 + 1.98\ Ln\ D + 0.207\ (Ln\ D)^3 - 0.0281\ (Ln\ D)^3] \times \rho$
Other forest	Manuri *et al.*, 2017	Sumatera- Kalimantan $AGB=0{,}167D^{2{,}560}G^{0{,}889}$ Jawa – Bali – Nusa Tenggara – Sulawesi - Maluku $AGB=0{,}151D^{2{,}560}G^{0{,}889}$ Papua $AGB=0{,}206D^{2{,}560}G^{0{,}889}$

The Allometric equation is used according to the Indonesia National Standard for Maluku Province and is used in the monitoring calculation.

Note:

- *W or B or AGB_{est} or AGB is aboveground biomass (kg)*
- *ρ or G is wood density (g/cm3)*
- *D is DBH (cm)*
- *H is height (m)*
- *Based on the R^2 value and the data attributes from each allometric equation, we then conclude to use (Manuri, 2017) allometric for biomass estimation.*

- *Allometrci equation used in Indonesia NFL submitted to UNFCCC 2022*

The volume of each tree and species is calculated using Approach 5 of the Indonesia Monograph for Allometric Models to Estimate Tree Biomass in Forest Ecosystems in Indonesia (Krisnawati, et al., 2012).

$$V = 0.25\pi \times \left(\frac{DBH}{100}\right)^2 \times H \times F \qquad (Approach\ 5\ Krisnawati\ et\ al., 2012)$$

V	tree volume, m3
DBH	tree diameter at breast-height, cm
H	tree height, m
F	tree form factor, dimensionless

The tree form factor value, known as "*angka bentuk pohon*" (F), is 0.81. This figure is derived from actual timber harvested by PT BLM in 2018 and 2019, comparing the mean tree diameter at the bottom (*Diameter Pangkal, DP*) and the mean tree diameter at the top (*Diameter Ujung, DU*).

Merchantable timber volume at the plot level is calculated by summing the timber volume of all trees exceeding the defined cutting limits: a minimum diameter at breast height (DBH) of 50 cm. Moreover, this calculation only includes all species listed in the Indonesia Ministry of Forestry Decree on the Grouping of Timber Species as a Basis for Imposing Forestry Fees (Kep-Menhut-163-2003). Based on the FAO Global Forest Resources Assessment 2020 for Indonesia, the growing stock level for the Maluku province in Secondary Dryland Forest (*Hutan Lahan Kering Sekunder)* is 60.25 m^3 ha^{-1}. According to the IPCC 2006 INV GLs AFOLU Chapter 4 Table 4.5, the biomass conversion and expansion factor applicable to wood removal (BCEFR) is a 1.89-ton dry mass m^{-3}.

3.2.1.2 VM0047 Section 8.2 Equations List for Carbon Stocks

According to the area-based quantification approach and the carbon pools being used for the Tanimbar Community Restoration Project (i.e., woody biomass and litter) estimating gross and subsequently net emissions removals involves the following equations listed below

Equation 1: Carbon stock change in the project scenario in year *t* ($\Delta C_{WP,t}$) (input for Equation 32)

Equation 2: Change in carbon stocks in biomass pools in project scenario through year *t* ($\Delta C_{WP-biomass,t}$) (input for Equation 1)

Equation 3: Change in carbon stock in woody biomass in the project scenario through year *t* ($\Delta C_{WP-woody,t}$) (input for Equation 2)

Equation 4: Average carbon stock in woody biomass in the project scenario in year *t* ($C_{WP-woody,t}$) (input for Equation 3)

Equation 9: Change in carbon stock in litter in the project scenario through year *t* ($\Delta C_{WP-LI,t}$) (input for Equation 2)

Equation 10: Average carbon stock in litter in the project scenario in year *t* ($C_{WP-LI,t}$) (input for Equation 9)

Equation 12: Project emissions from biomass burning and fertilizer in year *t* (PE_t) (input for Equation 32)

Equation 13: Emissions due to biomass burning in the project scenario ($PE_{bburn,t}$) (input for Equation 12)

Equation 14: Average aboveground biomass stock subject to burning in the project scenario in the monitoring interval ending in year *t* ($B_{WP,t}$) (input for Equation 16)

Equation 15: Emissions due to nitrogen fertilizer in the project scenario ($PE_{fert,t}$) (input for Equation 12)

Equation 16: Direct nitrous oxide emissions due to fertilizer use in the project scenario in year *t* ($PE_{Ndirect,t}$) (input for Equation 15)

Equation 18: Organic N fertilizer applied in the project scenario in year *t* ($F_{wp,ON,t}$) (input for Equations 16 and 20)

Equation 19: Indirect nitrous oxide emissions due to fertilizer use in the project scenario in monitoring interval ending in year *t* ($PE_{Nindirect,t}$) (input for Equation 15)

Equation 20: Indirect nitrous oxide emissions produced from atmospheric deposition of N volatilized due to nitrogen fertilizer use in year *t* ($Nfert_{wp,volat,t}$) (input for Equation 19)

Equation 21: Indirect nitrous oxide emissions produced from leaching and runoff of N, in regions where leaching and runoff occurs, due to nitrogen fertilizer use in year *t* ($Nfert_{wp,leach,t}$) (input for Equation 19)

Equation 28: Uncertainty (UNC_t) (input for Equation 32)

Equation 32: Net carbon dioxide removals (CR_t) (input for Equation 34) Equation 34: Annualized carbon dioxide removals (CRannualized)

Equation A6: Performance Benchmark (PB_t) (input for Equation 32) Equation 10 (VMD0054 v1.0): Leakage (LK_t) (input for Equation 32)

3.2.2 Project Emissions (VCS, 3.15)

GROSS EMISSIONS REMOVALS

In accordance with the applicability conditions of VM0047 V1.1, the increase in carbon stocks due to each PAA type in each annual cohort (instance), carbon stock changes from the start of the project through year *t* represent the projected (ex-ante) or actual (ex-post) gross emissions removals (t CO_2e) resulting from growth of vegetation due to project activities (i.e., tree planting and /or natural revegetation) and are estimated as follows:

$\Delta C_{WP,t} = \Delta C_{WP\text{-}biomass,t} \times 44/12$ (**Equation 1**)

Where:

$\Delta C_{WP,t}$ = project carbon stock change through year *t* (t CO_2e)

$\Delta C_{WP\text{-}biomass,t}$ = change in carbon stock in biomass carbon pools in the project scenario through year *t* (ton Carbon)

44/12 = ratio of molecular weight of carbon dioxide to carbon (unitless)

t = 1, 2, 3, …, *t* years elapsed since the project start date

Note: the Soil Organic Carbon pool is not included in this project, and therefore $\Delta C_{WP\text{-}soc,t}$ is omitted from Equation 1.

$\Delta C_{WP\text{-}biomass,t} = \Delta C_{WP\text{-}woody,t} + \Delta C_{WP\text{-}LI,t}$ (**Equation 2**)

Where:

$\Delta C_{WP\text{-}biomass,t}$ = change in carbon stock in biomass carbon pools in the project scenario through year *t* (ton Carbon)

$\Delta C_{WP\text{-}woody,t}$ = change in carbon stock in woody biomass in the project scenario through year *t* (ton Carbon)

$\Delta C_{WP-LI,t}$ = change in carbon stock in litter in the project scenario through year *t* (ton Carbon)

t = 1, 2, 3, …, *t* years elapsed since the project start date

For ex-ante calculations used towards validation, the litter pool ($\Delta C_{WP-LI,t}$) has conservatively been excluded from the estimated (ex-ante) emissions removals, and therefore for validation $\Delta C_{WP-biomass,t} = \Delta C_{WP-woody,t}$.

Towards verification, the litter pool will be included in emissions removals calculations.

Note: the non-woody biomass and dead wood pools are not included in this project, and therefore $\Delta C_{WP-herb,t}$ and $\Delta C_{WP-DW,t}$ are omitted from Equation 2.

WOODY BIOMASS

The net carbon stock change in carbon pools relating to woody biomass in the project scenario using the area-based quantification approach is estimated as:

$$\Delta C_{WP-woody,t} = A \times (C_{WP-woody,t} - C_{WP-woody,t=0}) \quad \text{(Equation 3)}$$

Where:

$\Delta C_{WP-woody,t}$ = change in carbon stock in woody biomass in the project scenario through year *t* (t C)

A = Area (ha)

$C_{WP-woody,t}$ = average carbon stock in woody biomass in the project scenario in year *t* (t C/ha)

t = 1, 2, 3, …, *t* years elapsed since the project start date

$$C_{WP-woody,t} = C_{WP-woody-AB,t} \times (1 + R) \quad \text{(Equation 4)}$$

Where:

$C_{WP-woody,t}$ = average carbon stock in woody biomass in the project scenario year *t* (t C/ha)

$C_{WP-woody-AB,t}$ = average carbon stock in aboveground woody biomass in the project scenario in year *t* (t C/ha)

R = root to shoot ratio (t root d.m. / t shoot d.m.)

t = 1, 2, 3, …, *t* years elapsed since the project start date

The change in carbon stock in woody biomass is estimated using the stock difference method (VM0047 V1.1 Reference: Bird, et. al., 2010), which estimates the difference in carbon stocks at two points in time.

For ex-ante calculations used towards validation, $\Delta C_{WP-woody,t}$ (Equation 3) is determined using

best available conservative inputs to build growth and yield curves / models. Per intervention, growth (i.e., changes in dbh over time) and yield (i.e., converting dbh into aboveground biomass using Indonesia Government UNFCCC allometric equations) curves were built for a subset of representative species planted where sufficient published data was available. For species where insufficient data was available, representative species were used as proxies (based on similarity). ex-ante allometric equations and root-to-shoot ratios used for each species modelled are shown in *Table 37*. Stand level (i.e., per ha) changes in aboveground biomass were generated by summing each species planted multiplied by its planting density, factoring in mortality/survival rates, replacement planting, and natural regeneration (particularly for I2 and I3). The stand level changes were then multiplied by the amount of hectares planted per intervention (as per the rollout schedule, *Table 40*).

Table Annex 4.3. Allometric equation used in FRL

Forest Type	Reference	Allometric Equations using D and ρ variables
Mangrove Forest	Chave et al, 2005	$AGB = Exp\ [-1.349 + 1.98\ Ln\ D + 0.207\ (Ln\ D)^3 - 0.0281\ (Ln\ D)^3] \times \rho$
Other forest	Manuri *et al.*, 2017	Sumatera- Kalimantan $AGB=0{,}167D^{2{,}560}G^{0{,}889}$ Jawa – Bali – Nusa Tenggara – Sulawesi - Maluku $AGB=0{,}151D^{2{,}560}G^{0{,}889}$ Papua $AGB=0{,}206D^{2{,}560}G^{0{,}889}$

LITTER

The net carbon stock change in carbon pools relating to litter in the project scenario using the area-based quantification approach is estimated as:

$$\Delta C_{WP\text{-}LI,t} = A \times (C_{WP\text{-}LI,t} - C_{WP\text{-}LI,t=0}) \quad \textbf{(Equation 9)}$$

Where:

$\Delta C_{WP\text{-}LI,t}$ = change in carbon stock in litter in the project scenario through year *t* (t C)

A = Area (ha)

$C_{WP\text{-}LI,t}$ = Average carbon stock in litter in the project scenario in year *t* (t C/ha)

t = 1, 2, 3, …, t years elapsed since the project start date

$C_{WP\text{-}LI,t} = DM_{WP\text{-}LI,t} \times CF$ (**Equation 10**)

Where:

$C_{WP\text{-}LI,t}$ = Average carbon stock in litter in the project scenario in year t (t C/ha)

$DM_{WP\text{-}LI,t}$ = Average litter dry mass per hectare in the project scenario in year t (t d.m./ha)

CF = Carbon fraction of dry biomass (t C/t d.m.)

t = 1, 2, 3, …, t years elapsed since the project start date

For ex-ante calculations used towards validation, $\Delta C_{WP\text{-}LI,t}$ (Equation 9) has been conservatively excluded from emissions removals calculations.

Towards verification (i.e., ex-post based on actual growth) as per the Climate Monitoring Section (see Section 3.3) at each monitoring event and within a dedicated network of PSPs associated with each annual cohort, plot-level litter will be determined within sub-plots according to defined standard operating procedures (SOPs).

EMISSIONS FROM PROJECT ACTIVITIES

For each intervention type in each annual cohort (instance), emissions from Project Activities may include potential impacts resulting from biomass burning and/or fertilizer use and are determined using the following equation:

$PE_t = PE_{bburn,t} + PE_{fert,t}$ (Equation 12)

Biomass Burning

To determine the emissions specifically from biomass burning involves the following equation:

$$PE_{bburn,t} = A_{burn,t} \times \sum_{g=1}^{G} (GWP_g \times EF_g \times B_{WP,t} \times COMF \times 10^{-3}) \quad \text{(Equation 13)}$$

Where:

$PE_{bburn,t}$ = Project emissions due to biomass burning in year *t* (t CO_2e) $A_{burn,t}$ = Area burned in the monitoring interval ending in year *t* (ha) GWP_g = Global warming potential for gas *g* (dimensionless)

EF_g = Emission factor for gas *g* (kg gas/t d.m. burned)

$B_{WP,t}$ = Average aboveground biomass stock subject to burning in the project scenario in the monitoring interval ending in year *t* (t d.m./ha)

COMF = Combustion factor (dimensionless)

t = 1, 2, 3, …, t years elapsed since the project start date

g = 1, ..., G greenhouse gases (methane and nitrous oxide) (dimensionless)

10—3 = Conversion of kg CO2e to tCO2e

The average aboveground biomass stock subject to burning is estimated as follows:

$$B_{WP,t} = (C_{WP\text{-}woody\text{-}AB,t-\Delta t} + C_{WP\text{-}herb,t-\Delta t} + C_{WP\text{-}DW,t-\Delta t} + C_{WP\text{-}LI,t-\Delta t}) \times (1/CF) \quad \textbf{(Equation 14)}$$

Where:

$B_{WP,t}$ = *Average aboveground biomass stock subject to burning in the project scenario in the monitoring interval ending in year t (t d.m./ha)*

$C_{WP\text{-}woody\text{-}AB,t-\Delta t}$ = *Average carbon stock in aboveground woody biomass in the project scenario in year t − Δt (t C/ha)*

$C_{WP\text{-}herb,t-\Delta t}$ = *Average carbon stock in non-woody biomass in the project scenario in year t*

−− Δt (t C/ha)

$C_{WP\text{-}DW,t-\Delta t}$ = *Average carbon stock in dead wood in year t − Δt (t C/ha)*

$C_{WP\text{-}LI,t-\Delta t}$ = *Average carbon stock in litter in the project scenario in year t − Δt (t C/ha)*

CF = Carbon fraction of dry biomass (t C/t d.m.)

t = 1, 2, 3, …, t years elapsed since the project start date Δt = Length of monitoring interval ending in year t (years)

*For ex-ante calculations used towards validation, $PE_{bburn,t}$ (**Equation 14**) was calculated based on a 20m buffer around the project areas, which is burned annually as part of the fire management plan of the project. For I1 and I3, this 20m buffer was based on the delineated Year 1 project areas where activities have already commenced. The ratio of area burned (i.e., the 20m buffer) to the project area was then used to estimate the area burned in future years. For I2, a 20m buffer was generated around the*

representative proportion of planting areas for Years 2-5 (as described in Section 3.1.5.2 and as shown in Figure 13). The estimates of area burned are conservative estimates that may exaggerate the extent of area being burned annually. Default IPCC values were used for all parameters in Equation 16, as described in Section 3.3.1.

For ex-ante projections and towards project validation: the significance of emissions due to biomass burning were calculated using the procedure in Appendix 2 of VM0047 v1.1 and were deemed de minimis as they (combined with all other emissions sources) represented less than 5% of the total amount of carbon removals expected from the project.

*Towards verification, as trees continue to grow within annual cohorts wherein tree planting and / or rewilding has occurred, and as fire management practices are continued, the incidence of fire is expected to decrease while resilience towards fire is expected to increase - if and when fire does occur within the project area, the extent and impact will be quantified and factored into the calculation of climate benefits as per the d*etails provided in the climate monitoring plan (see Section 3.3) - calculations of □□□□□□,□

(Equation 13) will then be calculated (as described above).

Fertilizer Application

Where nitrogen fertilizer is applied due to the project activity, nitrous oxide emissions are calculated as:

$PE_{fert,t} = PE_{Ndirect,t} + PE_{Nindirect,t}$ (**Equation 15**)

Where:

$PE_{fert,t}$ = *Project emissions from nitrogen fertilizer in year t (t CO2e)*

$PE_{Ndirect,t}$ = *Direct nitrous oxide emissions due to fertilizer use in the project scenario in year t (t CO2e)*

$PE_{Nindirect,t}$ = *Indirect nitrous oxide emissions due to fertilizer use in the project scenario in monitoring interval ending in year t (t CO2e)*

t = 1, 2, 3, …, t years elapsed since the project start date

$PE_{Ndirect,t} = (F_{wp,ON,t}) \times EF_{Ndirect} \times 44/28 \times GWP_g$ (**Equation 16**)

Where:

$PE_{Ndirect,t}$ = *Direct nitrous oxide emissions due to fertilizer use in the project scenario in year t (t CO2e)*

$F_{wp,ON,t}$ = *Organic N fertilizer applied in the project scenario in year t (t N)*

$EF_{Ndirect}$ = *Emission factor for nitrous oxide emissions from N additions due to synthetic fertilizers, organic amendments and crop residues (t N2O-N/t N applied)*

GWP_g = *Global warming potential for gas g (here, nitrous oxide) (dimensionless)*

44/28 = Ratio of molecular weight of N2O to molecular weight of N (applied to convert N2O-N emissions to N2O emissions) (unitless)

t = 1, 2, 3, …, t years elapsed since the project start date

Note: no synthetic fertilizer is used in this project, therefore $F_{wp,SN,t}$ *is omitt*ed from Equation 16.

$F_{wp,ON,t} = M_{wp,OF,t} \times NC_{wp,OF,t}$ (**Equation 18**)

Where:

$F_{wp,ON,t}$ = *Organic N fertilizer applied in the project scenario in year t (t N)*

$M_{wp,OF,t}$ = *Mass of N-containing organic fertilizer applied in the project scenario in the monitoring interval ending in year t (t fertilizer)*

$NC_{wp,OF,t}$ = *N content of organic fertilizer applied in the project scenario in year t (t N/t fertilizer)*

t = 1, 2, 3, …, t years elapsed since the project start date

$PE_{Nindirect,t} = N_{fertwp,volat,t} + N_{fertwp,leach,t}$ (**Equation 19**)

Where:

$PE_{Nindirect,t}$ = *Indirect nitrous oxide emissions due to fertilizer use in the project scenario in monitoring interval ending in year t (t CO2e)*

$N_{fertwp,volat,t}$ = *Indirect nitrous oxide emissions produced from atmospheric deposition of N volatilized due to nitrogen fertilizer use in year t (t CO2e)*

$N_{fertwp,leach,t}$ = *Indirect nitrous oxide emissions produced from leaching and runoff of N, in regions where leaching and runoff occurs, due to nitrogen fertilizer use in year t (t CO2e)*

$N_{fertwp,volat,t} = (F_{wp,ON,t} \times Frac_{GASM}) \times EF_{Nvolat} \times 44/28 \times GWP_g$ (**Equation 20**) Where:

$N_{fertwp,volat,t}$ = *Indirect nitrous oxide emissions produced from atmospheric deposition of N volatilized due to nitrogen fertilizer use in year t (t CO2e)*

$F_{wp,ON,t}$ = *Organic N fertilizer applied in the project scenario in year t (t N)*

$Frac_{GASM}$ = *Fraction of all organic N added to soils that volatilizes as NH3 and NOx (dimensionless)*

EF_{Nvolat} = Emission factor for nitrous oxide emissions from atmospheric deposition of N on soils and water surfaces (t N2O-N/(t NH_3-N + NO_x-N volatilized))

GWP_g = Global warming potential for gas g (here, nitrous oxide) (dimensionless)

44/28 = Ratio of molecular weight of N2O to molecular weight of N (applied to convert N2O-N emissions to N2O emissions) (unitless)

t = 1, 2, 3, …, t years elapsed since the project start date

Note: no synthetic fertilizer is used in this project, therefore Fwp,SN,t and FracGASF are omitted from Equation 20.

$Nfert_{wp,leach,t} = (F_{wp,ON,t}) \times Frac_{LEACH} \times EF_{Nleach} \times 44/28 \times GWPg$ (**Equation 21**)

Where:

$Nfert_{wp,leach,t}$ = Indirect nitrous oxide emissions produced from leaching and runoff of N, in regions where leaching and runoff occurs, due to nitrogen fertilizer use in year t (t CO2e)

$F_{wp,ON,t}$ = Organic N fertilizer applied in the project scenario in year t (t N)

$Frac_{LEACH}$ = Fraction of synthetic or organic N added to soils that is lost through leaching and runoff, in regions where leaching and runoff occurs (dimensionless)

EF_{Nleach} = Emission factor for nitrous oxide emissions from leaching and runoff (t N2O-N/t N leached and runoff)

GWPg = Global warming potential for gas g (here, nitrous oxide) (dimensionless)

44/28 = Ratio of molecular weight of N2O to molecular weight of N (applied to convert N2O-N emissions to N2O emissions) (unitless)

t = 1, 2, 3, …, t years elapsed since the project start date

Note: no synthetic fertilizer is used in this project, therefore Fwp,SN,t is omitted from Equation 21.

For ex-ante calculations used towards validation, □□□□□□,□ (Equation 15) is determined based on estimates of the amount of fertilizer applied over the first monitoring period. Fertilizer will only be applied to I1 and I2, with no fertilizer being used for I3. The fertilizer applied will be organic chicken manure (as described in Section 3.3.1, and in Table 57). Default

IPCC values were used for non-measured parameters in Equations 16, 18, 20, and 21 as described in Section 3.3.1. The significance of emissions due to fertilizers were calculated using the procedure in Appendix 2 of VM0047 v1.1 and were deemed deminimis as they (combined with all other emissions sources) represented less than 5% of the total amount of carbon removals expected from the project.

Towards verification, the amount of fertilizer applied will be monitored and measured in accordance with the monitoring plan (see Section 3.3.3 for details). Calculations of $PE_{fert,t}$ (**Equation 15**) will be conducted as described above for the ex-ante calculations.

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

The project does not consider emissions from the native grassland, therefore, the parameter is assumed as zero.

3.2.3.1 Activity shifting leakage

AAD only controls resource use within the Tanimbar Community Restoration Project's project area and cannot access other forest resources, so activity transfer leakage does not apply to Tanimbar Community Restoration Project. AAD has no other forestry companies under its umbrella. Therefore, there is zero leakage due to the transfer of activities, and the only type of leakage emissions calculated are the greenhouse gas emissions resulting from market effects when implementing project activities, as described below.

3.2.3.2 Market Leakage

Leakage due to market effects is calculated by multiplying the net emissions from planned timber harvesting activities in the baseline scenario by an appropriate leakage factor as follows.

Referring to VMD0045, market leakage is determined taking into account that national deforestation on Community/Village/Social Forest due to project implementation. The extent of leakage depends on the areas of the country's forest resources that may be displaced by other Community/Village/Social Forest activities. If deforestation is moved to forests where the biomass contains a smaller proportion of available materials compared to the project area, higher emissions are expected because more trees will need to be felled to achieve the same volume of stock. Conversely, if the forest being replaced contains a higher proportion of available biomass from commercial tree species than the project forest, a smaller area will need to be deforested, resulting in lower emissions.

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

UNCERTAINTY

Within the context of an ARR project, uncertainty may be associated with numerous sources, including change in carbon stocks, measurement error, emissions from project activities, the spatial boundaries of project activities, and the performance benchmark. Uncertainty (UNC_t) in carbon pools is quantified and deducted from gross emissions removals along with leakage (LK_t), emissions from project activities (biomass burning and/or fertilizer use), and in reference to the performance benchmark towards determining net emissions removals. For each intervention type in each annual cohort (instance), uncertainty within carbon pools is calculated by propagating errors associated with estimates of included pools as:

$$UNC_t = \text{MIN}\left(100\%, \text{MAX}\left(0, \left(T \times \frac{\sqrt{SE^2_{p,t=0} + SE^2_{p,t} - (2 \times \rho \times SE_{p,t=0} \times SE_{p,t})}}{\Delta C}\right) - 0.10\right) \times 100\right)$$

(**Equation 28**)

Where:

UNC_t = Uncertainty in cumulative removals through year t (percent)(%)

T = Critical value of a student's two-tailed t-distribution for significance level α = 0.1

$SE_{p,t=0}$ = Standard error of the mean carbon stock estimate at time t = 0 (t CO_2e)

$SE_{p,t}$ = Standard error of the mean carbon stock estimate at time t (t CO_2e)

p = Correlation coefficient (rho) between carbon stocks at t = 0 and t (used only for permanent plots; term is set to zero for independent

ΔC = Mean change in carbon stocks between t = 0 and t (t CO_2e)

For ex-ante calculations used towards validation, UNC_t (Equation 28), the minimum uncertainty deduction of 10% is applied.

Towards verification, uncertainty in pools derived from field measurements (i.e., the aboveground woody biomass and litter pools) with 90 percent confidence interval is calculated as the standard error of the averaged plot measurement multiplied by the T value for the 90 percent confidence level.

Beyond uncertainty within carbon pools, the uncertainty associated with measurement error is assessed through the QA/QC procedures described in the Climate Monitoring section (see Section 3.3). For emissions from project activities (i.e., biomass burning and / or use of nitrogen fertilizer): conservative parameters are applied and therefore uncertainty is set at 0. For the estimation of intervention-specific areas associated with annual cohorts (i.e., instances) wherein actual project activities occur, uncertainty is assumed to be 0 as represented by complete and accurate geospatial boundaries and carefully applying QA/QC procedures. Performance benchmark values are also assumed to have no (0) uncertainty.

NET EMISSIONS REMOVALS

In addition to the performance benchmark (i.e., crediting baseline), emissions from project activities (i.e., biomass burning and/or fertilizer application), the impact of leakage (LK_t), and uncertainty (UNC_t) are deducted from gross estimates to arrive at net emissions removals. For each intervention type in each annual cohort (instance), using the area-based quantification approach, net emissions removals are calculated with the following equation:

$$CR_t = \left(MIN\left(\Delta C_{WP,t}, \Delta C_{WP,t} \times (1 - PB_t)\right) \times (1 - UNC_t)\right) - PE_t - LK_t - \left(\left(MIN\left(\Delta C_{WP,t-x}, \Delta C_{WP,t-x} \times (1 - PB_{t-x})\right) \times (1 - UNC_{t-x})\right) - PE_{t-x} - LK_{t-x}\right)$$

(**Equation 32**)

Where:

CR_t = Carbon dioxide removals from the project activity in from year *t* to *t*-1 (t CO_2e)

$\Delta C_{WP,t}$ = Project carbon stock change through year *t* (t CO_2e)

PB_t = Performance benchmark for the monitoring interval ending in year *t* (percent)(%)

LK_t = Leakage through year *t* (t CO_2e)

PE_t = Project emissions from biomass burning and fertilizer in year *t* (t CO_2e)

UNC_t = Uncertainty in cumulative removals through year *t* (percent)(%)

During the first monitoring period, the extents in ha that have occurred and/or are planned for each intervention are shown in *Table 40* - these extents were used in ex-ante modeling and do not include any planned harvest.

Biomass Growth Assumptions and Mortality Strategy

To ensure the ex-ante quantification of GHG removals is robust and biologically defensible, the project applies a specific **Mortality and Self-Thinning Protocol** to the growth models for PAA 1, 2, and 3. Unlike commercial plantations that might assume theoretical maximums, the Tanimbar Community Forest Restoration Project accounts for forest dynamics on degraded mineral soils through a two-phase density management strategy:

1. **Establishment Phase (Years 1–3):** The project implements a "Beating Up" protocol. Any seedling mortality due to transplant shock or environmental stress during the first three years is immediately identified during monitoring and replaced using reserve stock from community nurseries. This maintains the target planting density during the critical establishment window.
2. **Maturation Phase (Years 4–30):** Following establishment, natural forest dynamics take over. The model applies a conservative annual mortality rate of **1.5%** to account for self-thinning (competition for light and nutrients) and minor disturbances.

Impact on Calculation:

This protocol results in a gradual, realistic reduction of stocking density over the project lifetime, ensuring that carbon removal claims are conservative and account for natural attrition.

Table 26. Rollout schedule per intervention per year for the first monitoring period (i.e., 2024 to 2028).

Year	Project Year	PAA 1 (ha)	PAA 2 (ha)	PAA3 3 (ha)	Total (ha)
2025	1	553	314	219.4	1,087
2026	2	1,590	959	1,632.70	4,181
2027	3	1,909	1,559	3,264.20	6,732
2028	4	1,909	1,559	4,080.90	7,549
2029	5	1,590	1,559	3,265.80	6,414
Total (ha)		7,551	5,949	12,463	25,963

Towards validation, CR_t (Equation 32) is projected ex-ante for each intervention separately based on the expected net emissions removals associated with planting and rewilding activities within the first monitoring period over the entire crediting period (i.e., 40 years: *the quantification for the final 10 years (01 October 2055 - 30 September 2065) is contingent upon the successful extension of the underlying Social Forestry permits and will be calculated and included in a future project description update or monitoring report prior to the respective verification*). Intervention-specific estimates are combined to determine total net CO_2e benefits - a summary of combined projected gross and net emissions removals are provided in *Table 45* with full details outlined in the supporting document: "*Forecast GHG Removals and VCU Issuances"*.

Towards verification, the actual net emissions removals of planting and rewilding activities across all existing annual cohorts (i.e., instances) will be monitored according to the Climate Monitoring Plan (see Section 3.3).

To calculate annualized carbon dioxide removals ($CR_{annualized}$),the total removals (CR_t) in the monitoring interval are divided by the length of the monitoring interval (x):

$$CR_{annualized} = \frac{CR_t}{x}$$ (**Equation 34**)

Where:

$CR_{annualized}$ = Annualized carbon dioxide removals (t CO_2e / year)

CR_t = Carbon dioxide removals from the project activity in from year *t* to *t*-1 (t CO_2e)

x = Length of the monitoring period (years)

Determining buffer account allocation

The allocation of GERs to the buffer account was determined following the AFOLU Non Permanence Risk Tool, version 4.2. As a result of the process, the percentage of GERs allocated in the buffer account is 17%.

Table 27. Risk Allocation

State the non-permanence risk rating (%)	17%
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 tCO_2e, the Long-term Average (LTA).	Not applicable as there is no harvesting in this project.
Has the LTA been updated based on monitored data, if applicable?	☐ Yes ☒ No Not applicable as there is no harvesting in this project.
State, in tCO_2e, the expected total GHG benefit to date.	0

Is the number of GHG credits issued below the LTA?	☐ Yes ☒ No Not applicable as there is no harvesting in this project.

Table 28. Estimated gross and net emissions removals and VCU issuance over the crediting period for all interventions combined. Estimated net removals calculated as gross removals minus uncertainty, leakage, project, and baseline emissions. Estimated VCU issuance calculated as estimated net removals minus buffer pool allocation.

Vintage period	Estimated baseline emissions (tCO_2e)	Estimated project emissions (tCO_2e)	Estimated gross project removals (tCO_2e)	Estimated uncertainty deduction (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net removals (tCO_2e)	Estimated net reductions (tCO_2e)
01-Oct-2025 to 31-Dec-2025	0	0	1,180	201	24	956	0
01-Jan-2026 to 31-Dec-2026	0	0	17,566	2,986	351	14,228	0
01-Jan-2027 to 31-Dec-2027	0	0	94,844	16,123	1,897	76,824	0
01-Jan-2028 to 31-Dec-2028	0	0	262,129	44,562	5,243	212,324	0
01-Jan-2029 to 31-Dec-2029	0	0	537,001	91,290	10,740	434,971	0
01-Jan-2030 to 31-Dec-2030	0	0	912,645	155,150	18,253	739,242	0
01-Jan-2031 to 31-Dec-2031	0	0	1,346,436	228,894	26,929	1,090,613	0
01-Jan-2032 to 31-Dec-2032	0	0	1,824,137	310,103	36,483	1,477,551	0
01-Jan-2033 to 31-Dec-2033	0	0	2,336,361	397,181	46,727	1,892,452	0
01-Jan-2034 to 31-Dec-2034	0	0	2,735,706	465,070	54,714	2,215,922	0

01-Jan-2035 to 31-Dec-2035	0	0	3,127,248	531,632	62,545	2,533,071	0
01-Jan-2036 to 31-Dec-2036	0	0	3,334,424	566,852	66,688	2,700,883	0
01-Jan-2037 to 31-Dec-2037	0	0	3,512,309	597,093	70,246	2,844,970	0
01-Jan-2038 to 31-Dec-2038	0	0	3,542,391	602,206	70,848	2,869,337	0
01-Jan-2039 to 31-Dec-2039	0	0	3,578,488	608,343	71,570	2,898,575	0
01-Jan-2040 to 31-Dec-2040	0	0	3,456,108	587,538	69,122	2,799,447	0
01-Jan-2041 to 31-Dec-2041	0	0	3,325,727	565,374	66,515	2,693,839	0
01-Jan-2042 to 31-Dec-2042	0	0	3,299,159	560,857	65,983	2,672,319	0
01-Jan-2043 to 31-Dec-2043	0	0	3,026,598	514,522	60,532	2,451,544	0
01-Jan-2044 to 31-Dec-2044	0	0	2,886,161	490,647	57,723	2,337,790	0
01-Jan-2045 to 31-Dec-2045	0	0	2,718,148	462,085	54,363	2,201,700	0
01-Jan-2046 to 31-Dec-2046	0	0	2,563,011	435,712	51,260	2,076,039	0
01-Jan-2047 to 31-Dec-2047	0	0	2,453,120	417,030	49,062	1,987,027	0
01-Jan-2048 to 31-Dec-2048	0	0	2,374,332	403,636	47,487	1,923,209	0
01-Jan-2049 to 31-Dec-2049	0	0	2,288,655	389,071	45,773	1,853,811	0
01-Jan-2050 to 31-Dec-2050	0	0	2,077,668	353,204	41,553	1,682,911	0

01-Jan-2051 to 31-Dec-2051	0	0	1,972,323	335,295	39,446	1,597,582	0
01-Jan-2052 to 31-Dec-2052	0	0	1,862,386	316,606	37,248	1,508,533	0
01-Jan-2053 to 31-Dec-2053	0	0	1,767,281	300,438	35,346	1,431,498	0
01-Jan-2054 to 31-Dec-2054	0	0	1,776,324	301,975	35,526	1,438,822	0
01-Jan-2055 to 31-Dec-2055	0	0	297,423	50,562	5,948	240,913	0
Total	0	0	65,307,289	11,102,239	1,306,146	52,898,904	0
Average	0	0	2,176,910	370,075	43,538	1,763,297	0

Note: *This ex-ante quantification table covers the initial 30 years of the project's 40-year crediting period. The quantification for the final 10 years (01 October 2055 - 30 September 2065) is contingent upon the successful extension of the underlying Social Forestry permits and will be calculated and included in a future project description update or monitoring report prior to the respective verification.*

3.3 Monitoring

3.3.1 Data and Parameters Available at Validation (VCS, 3.16)

Table 29. Data and Parameters of Validation

Data / parameter	*A*
Data unit	Ha
Description	Project area
Source of data	Calculated from field measurements and GIS data
Value applied	Total Project Area: 54,976.47 ha Eligible Project Area: 25,962.52 ha
Justification of choice of data or description of measurement methods and procedures applied	The project areas were delineated,The methods and procedures differ based on project interventions, for details, please refer to section 3.1.3.

Purpose of data	Calculation of project emissions using the area-based quantification approach
Comments	While available at validation for the first instance, this parameter will also be monitored and updated with each new annual cohort (i.e., instance) in the grouped project. Note that all estimated emissions removals listed in this document are based on the rollout schedule provided in *Table 40*, and not based only on the area already planted and/or rewilded.

Data / parameter	*R*
Data unit	Dimensionless
Description	Root to shoot ratio (i.e., ratio of belowground (root) biomass to aboveground biomass, per unit area or per stem)
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	*BGB* = 0.37 x *AGB*
Justification of choice of data or description of measurement methods and procedures applied	IPCC default value for Tropical rainforest
Purpose of data	Calculation of baselin and project emissions using the area-based and census-based quantification approaches
Comments	

Data / parameter	*CF*
Data unit	t C/t.d.m.
Description	Carbon fraction of dry biomass
Source of data	*IPCC 2006 Guidelines for National Greenhouse Gas Inventories*

Value applied	0.47
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS
Purpose of data	Calculation of project emissions using the area-based and census-based quantification approaches
Comments	N/A

Data / parameter	$Frac_{GASM}$
Data unit	Dimensionless
Description	Fraction of all organic N added to soils that volatilizes as NH_3 and NO_x
Source of data	Table 11.3, Chapter 11 in Volume 4 of the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*
Value applied	0.21
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	EF_{Nvolat}
Data unit	t N_2O-N/(t NH_3-N + NO_x-N volatilized)
Description	Emission factor for nitrous oxide emissions from atmospheric deposition of N on soils and water surfaces

Source of data	Table 11.3, Chapter 11 in Volume 4 of the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*
Value applied	0.01
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	$Frac_{LEACH}$
Data unit	Dimensionless
Description	Fraction of synthetic or organic N added to soils that is lost through leaching and runoff
Source of data	Table 11.3, Chapter 11 in Volume 4 of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied	0.24
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	

Data / parameter	EF_{Nleach}

Data unit	t N_2O-N/t N leached and runoff

Description	Emission factor for nitrous oxide emissions from leaching and runoff
Source of data	Table 11.3, Chapter 11 in Volume 4 of the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*
Value applied	0.011
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	*COMF*
Data unit	Dimensionless
Description	Combustion factor
Source of data	Default mean values in Table 2.6 of IPCC *2019 Refinement to the 2006 Guidelines for National Greenhouse Gas Inventories*
Value applied	Default mean value of 0.74 (Tropical/sub-tropical grassland, early dry season) taken from Table 2.6, Chapter 2 in Volume 4 of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS. Areas burned fall into the Savanna and grassland category.
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	$EF_{g=1}$
Data unit	kg/t d.m. burned
Description	Emission factor for gas *g=1* (i.e., methane)
Source of data	Table 2.5, Chapter 2, Volume 4 of the *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* (see Appendix 2: Emission factors for various types of burning for CH_4 and N_2O)
Value applied	Default mean value of 2.3 (Savanna and grassland) taken from Table 2.5, Chapter 2 in Volume 4 of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS. Areas burned fall into the Savanna and grassland category.
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	$EF_{g=2}$
Data unit	kg/t d.m. burned
Description	Emission factor for gas *g=2* (i.e., Nitrous oxide)
Source of data	Table 2.5, Chapter 2, Volume 4 of the *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* (see Appendix 2: Emission factors for various types of burning for CH_4 and N_2O)
Value applied	Default mean value of 0.21 (Savanna and grassland) taken from Table 2.5, Chapter 2 in Volume 4 of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Justification of choice of data or description of measurement	IPCC is a reputable source approved under the VCS. Areas burned fall into the Savanna and grassland category.

methods and procedures applied	
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	$GWP_{g=1}$
Data unit	Dimensionless
Description	Global warming potential for gas *g=1* (i.e., methane)
Source of data	Value for Methane (100-year GWP) applied, taken from Table 8.A.1 in the IPCC Fifth Assessment Report (AR5). IPCC. 2013. Fifth Assessment Report. https://www.ipcc.ch/report/ar5/wg1/
Value applied	28
Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	$GWP_{g=2}$
Data unit	Dimensionless
Description	Global warming potential for gas *g=2* (i.e., Nitrous oxide)
Source of data	Value for Nitrous oxide (100-year GWP) applied, taken from Table 8.A.1 in the IPCC Fifth Assessment Report (AR5). IPCC. 2013. Fifth Assessment Report. https://www.ipcc.ch/report/ar5/wg1/
Value applied	265

Justification of choice of data or description of measurement methods and procedures applied	IPCC is a reputable source approved under the VCS
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Comments	N/A

Data / parameter	$p_{j,h}$
Data unit	Unit of production, varies by commodity
Description	Production in the project area for commodity j in year h of the historical reference period
Source of data	FAOSTAT
Value applied	N/A.
Justification of choice of data or description of measurement methods and procedures applied	No agroforestry production in PAAs.
Purpose of data	Calculation of foregone production
Comments	N/A

Data / parameter	H
Data unit	Years
Description	Number of years within historical reference period used to determine baseline production within the project area

Source of data	N/A
Value applied	N/A
Justification of choice of data or description of measurement methods and procedures applied	There is no crop production the PAAs.
Purpose of data	Calculation of foregone production
Comments	N/A

Data / parameter	$op_{j,h}$
Data unit	Unit of production, varies by commodity
Description	Production units of commodity j in the leakage mitigation area in year h of the historical reference period.
Source of data	N/A
Value applied	N/A
Justification of choice of data or description of measurement methods and procedures applied	No leakage mitigation activities have taken place due to the crop production in PAAs.
Purpose of data	Calculation of leakage mitigation for foregone production
Comments	N/A

Data / parameter	*Mortality Rate (M_rate)*
Data unit	% (Percentage of trees lost per year)
Description	The assumed rate of tree mortality due to natural competition (self-thinning), environmental stress, and transplant shock during the crediting period.

Source of data	Expert judgment based on standard forestry practices for intensive reforestation on mineral soils and project SOPs for replanting.
Value applied	Years 1-3: 0% Net Mortality (Due to 100% "Beating Up" / Replanting protocol)| Years 4-30: 1.5% Annual Mortality (Natural thinning)
Justification of choice of data or description of measurement methods and procedures applied	To ensure conservative ex-ante estimation as required by VM0047, the project assumes a transition from active establishment to natural forest dynamics. 1. Years 1-3: The project budget includes provisions for "Beating Up" (replanting dead seedlings) to maintain the target density.. >2. Years 4+: Once established, replanting ceases, and a conservative natural mortality rate of 1% is applied to simulate competition and self-thinning.
Purpose of data	Calculation of Gross Project Removals (Input for determining Trees per Hectare in Equation 4).
Comments	N/A

3.3.2 Data and Parameters Monitored (VCS, 3.16)

Table 30. Data and Parameters Monitored

Data / parameter	$C_{WP\text{-}woody\text{-}AB,t}$
Data unit	t C/ha
Description	Average aboveground woody biomass stocks in the project scenario in year *t* (area-based quantification)
Source of data	Field measurement

Description of measurement methods and procedures to be applied	Measured via plot-based sampling at the Permanent Sample Plots (PSPs). **Plot Summary** PSPs measure 30x30m, with 3 subplots of 10x10m in two corners and the center of the main plot (*Figure 19*). **Measurement Summary** All trees with dbh > 10.0cm will be measured in the main plot. Trees (saplings) with dbh from 2m to 10m will be measured in the three subplots. Stepwise measurement procedure is as in Section #: **Allometric Equation(s) Applied** Trees ≥ 1.3m tall: calculated using the Chave et al. (2014)[109] pan-tropical allometric equation: ● $AG = 0.0673 \times (pD^2H)^{0.976}$ ○ p = wood density of tree species ○ D = diameter at breast height (cm) ○ H = height (m) Trees < 1.3m tall: calculated using the Adu-Bredu et al. 2021[110] allometric equation: ● $AG = 2.5102 \times (phd^2)^{0.3398}$ ● Where wood density is unavailable: $AG = 1.9574 \times (hd^2)^{0.3626}$ Selecting these equations involved careful inventory, comparison, and consideration of all available options by a panel of Ghanaian experts with decades of hands-on experience measuring trees across a variety of forest types and applying allometric equations based on field measurements. Given that no specific equations are currently available for the target species associated with interventions, these selections can easily be justified as widely tested and used, conservative, and best available among options.

[109] Chave et al. (2014). Improved allometric models to estimate the aboveground biomass of tropical trees. Global Change Biology, 20(10): pgs. 3177-3190. Retrieved from: https://www.researchgate.net/publication/262197290_Improved_allometric_models_to_estimate_the_aboveground_biomass_of_tropical_trees

Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	• Waterproof sheets • GPS • Markers • Compass • PVC pipes • Tapes (DBH tape, linear tapes, carpenter's tape) • Calipers • Laser clinometer • Height poles • Aluminum number tags and nails
QA/QC procedures to be applied	To ensure the collection of reliable field data, the following measures shall be taken: 1. The Team members will be taken through field inventory training prior to collection of plot data. 2. All field measurements shall be checked by a qualified person (the Field Team Leader) in cooperation with the field team to correct any errors in techniques.
Purpose of data	Calculation of project emissions using the area-based quantification approach
Calculation method	Calculated as the average of sample measurements
Comments	A full description of the Permanent Sampling Plots and parameters measured is provided in section 3.3.3.

[110] Adu-Bredu et al. (2021). Influence of Site Condition and Soil Properties on Carbon Stocks in the Savannah Agro-Ecological Zone of Ghana. Ghana J. Forestry, (30): pgs. 47-66. Retrieved from:

https://www.academia.edu/106336231/Influence_of_site_condition_and_soil_properties_on_carbon_stocks_in_Ghana

Data / parameter	$U_{p,t}$
Data unit	Percent
Description	Percentage uncertainty (expressed as 90 percent confidence interval as a percentage of the mean) in carbon stock estimate of pool *p* in the project scenario in year *t*
Source of data	Calculations from sampled field measurements
Description of measurement methods and procedures to be applied	Uncertainty in pools derived from field measurements with 90 percent confidence interval calculated as the standard error of the averaged plot measurement multiplied by the t value for the 90 percent confidence level
Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Calculation method	Confidence interval calculated by applying unbiased estimators appropriate to sample design.
Comments	Pools *p* include woody biomass and litter.

Data / parameter	$A_{burn,t}$

Data unit	Ha
Description	Area burned in the monitoring interval ending in year *t*
Source of data	Field measurements and GIS analysis
Description of measurement methods and procedures to be applied	For each monitoring year, all annual cohorts will be regularly monitored using freely available landscape-level products (e.g., Global Forest Watch Fire Alert System to monitor potential fires) derived from satellite imagery. Any loss alerts issued within the boundaries of established instances (i.e., within specific annual cohorts wherein interventions have already begun) will be further investigated referring to finer spatial resolution satellite imagery (i.e., viewable through Google Earth Pro) and (as needed) investigated on the ground by field teams – CREMA M&E farm plots, biodiversity plots, and dronescapes will further be used to monitor reversals. If and when actual losses within the boundaries of established instances are confirmed, the extent of impact will be delineated through a combination of satellite imagery and ground reconnaissance. Following validation, monitoring of the project area for disturbance events will occur annually, with annual disturbance maps published on the DMP.
Frequency of monitoring/recording	Annually
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	GIS and GPS
QA/QC procedures to be applied	Any loss alerts issued within the boundaries of established instances (i.e., within specific annual cohorts wherein interventions have already begun) will be further investigated referring to finer spatial resolution satellite imagery (i.e., viewable through Google Earth Pro) and (as needed) investigated on the ground by field teams.
Purpose of data	Calculation of project emissions using the area-based quantification approach
Calculation method	Calculated from field measurements and GIS data
Comments	N/A

Data / parameter	$M_{wp,OF,t}$

Data unit	t fertilizer
Description	Mass of N-containing organic fertilizer applied in the project scenario in the monitoring interval ending in year *t*
Source of data	Field measurement
Description of measurement methods and procedures to be applied	Weight of organic chicken manure will be taken before being applied to the nursery plants and seedlings.
Frequency of monitoring/recording	Annually
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	Scale
QA/QC procedures to be applied	All use of fertilizer to be documented with key information such as date and location applied.
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches.
Calculation method	Direct weighing
Comments	N/A

Data / parameter	$NC_{wp,OF,t}$
Data unit	t N/t fertilizer
Description	N content of organic fertilizer applied in the project in year *t*
Source of data	Value taken from Indonesia reference
Description of measurement methods and procedures to be applied	Value taken from published literature in Indonisia.

Frequency of monitoring/recording	Annually
Value applied	0.0189 (i.e., 1.89%)
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of data	Calculation of project emissions using the census-based and/or area-based quantification approaches
Calculation method	N/A
Comments	N/A

Data / parameter	$DM_{WP\text{-}LI,t}$
Data unit	t d.m./ha
Description	Average litter dry mass per hectare in the project scenario in year *t*

Source of data	Field measurements
Description of measurement methods and procedures to be applied	Litter is measured in the five (5) quadrants within the main PSPs. All ground floor litter <2cm diameter is measured. Parameters measured are: ● **In the field:** ○ Total Fresh mass (TF_m) - see the Total Fresh mass table below for a detailed description of measuring Total Fresh mass. ○ Sample Fresh mass (SF_m) - see the Sample Fresh mass table below for a detailed description of measuring Sample Fresh mass. ● **In the lab:** ○ Dried mass (SD_m) - see the Dried mass table below for a detailed description of measuring Dried mass. Stepwise details of measurements are as follows: **In the field:** 1. Start with the quadrat in the SW corner 2. Collect all ground floor litter <2cm diameter within the first subplot (SW corner) a. Ensure no soil is included 3. Measure and record the Total fresh mass (TF_m) to one decimal point in gramme using the scale 4. Collect a 100g sample of the fresh mass, place in sample container and label as PLOTNAME-QUADRATNAME a. E.g., IV1-2024-01-SW 5. Repeat steps 2-4 for each subplot, moving in a clockwise direction (i.e., SW → NW → NE → SE → C) **In the lab:** 1. Oven dry the samples at 70°C to constant weight to arrive at dried mass (m_d). Biomass of the litter is calculated as (Adu-Bredu et al., 2021; Amankwah et al., 2024) $L_b = \frac{1}{□}\sum_{i=1}^{□} \frac{□}{□F_□} \times □F \times \frac{10000}{□} \times \frac{□F□}{A_□}$ Where: L_b (Mg C ha^{-1}) = Litter biomass; n = number of quadrats; A_q = Size of quadrat (m^2); CFr = Carbon Fraction.
Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across

	years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	• Waterproof sheets • GPS • Markers • Compass • PVC pipes • 50x50cm quadrants • Electric scale • Plastic container • Hand gloves
QA/QC procedures to be applied	To ensure the collection of reliable field data, the following measures shall be taken: The Team members will be taken through field inventory training prior to collection of plot data. All field measurements shall be checked by a qualified person (the Field Team Leader) in cooperation with the field team to correct any errors in techniques. To ensure reliable lab work, the following measures shall be taken: Should make sure that soil is excluded from the samples. Only litter within the quadrant should be considered. The oven-dried samples should be immediately placed in a desiccator to cool down before weighing. This is to prevent resorption of moisture. All lab work shall be checked by a qualified person (the LabTeam Leader) in cooperation with the lab team to correct any errors in techniques.
Purpose of data	Calculation of project emissions using the area-based quantification approach
Calculation method	Calculated as the average of sample measurements
Comments	N/A

Data / parameter	*dbh*
Data unit	centimeters (cm)

Description	Diameter at breast height
Source of data	Field measurement
Description of measurement methods and procedures to be applied	Dbh is measured using a diameter tape and recorded to one decimal point. If a trunk is malformed at breast height or there is a buttress, the measurement is carried at 30 cm above the end of the deformation. In such situations, the point of measurement (POM) must be indicated in the POM column of the field recording form. If a tree is forked below breast height of 1.3m, then each fork is recorded and measured as an individual tree.
Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	Diameter Tape
QA/QC procedures to be applied	The following measures shall be taken: 1. Should make sure that the diameter tape does not slant; 2. Measurement should not be made over bumps on the stem; 3. Measurement should be made slightly below the bumps. 4. Diameter is measured at a fixed height of 1.3 m above the ground level. If the ground level cannot be defined, the breast height is determined as 1.3 m from the seeding point.
Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / parameter	*h*
Data unit	Meters (m)
Description	Tree height
Source of data	Field measurement
Description of measurement methods and procedures to be applied	The height shall be measured using height measuring tools in meters and recorded to one decimal point. Total tree height refers to the vertical distance from ground to the tip of the tree. Bole height is also measured as height to the base of the living crown. The crown base refers to the lowest living branch. To overcome errors in the measurement of the height of leaning trees, horizontal distance from the centre of the tree stump to the ground projected tip of the tree is also measured (base length). This will be used to deduce the actual tree height.
Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	Hypsometer and height measuring rod.
QA/QC procedures to be applied	The height measuring personnel should be well trained with the use of the hypsometer. Only one person should be made to take the height measurement. A second person should be trained to provide assistance.
Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / parameter	TF_m
Data unit	Grams (g)
Description	Fresh mass of litter
Source of data	Field measurement
Description of measurement methods and procedures to be applied	Calculated as samples multiplied by the total area.
Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	N/A
QA/QC procedures to be applied	Should make sure that soil is excluded from the samples. Only litter within the quadrant should be considered.
Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / parameter	SF_m
Data unit	Grams (g)
Description	Sampled fresh mass of litter

Source of data	Field measurement
Description of measurement methods and procedures to be applied	Five quadrats of size 0.25 m2 (0.5m x 0.5m) are laid close to the four corners and the center of the sample plot. The litter in the quadrats are collected at the appropriate time and weighed. The litter is composed of dead leaves, seed, flowers and twigs of size less than 2.0cm diameter.
Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	Digital weighing balance (scale)
QA/QC procedures to be applied	Should make sure that soil is excluded from the samples. Only litter within the quadrant should be considered.
Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / parameter	SD_m
Data unit	Grams (g)
Description	Dried mass of litter
Source of data	Field measurement
Description of measurement methods and	The fresh samples are taken to the laboratory for oven drying. The samples are oven dried at 70 oC for 48 hours to constant weight.

procedures to be applied	
Frequency of monitoring/recording	At least every five (5) years and at most every one (1) year after the start of a particular annual cohort. The Tanimbar Community Restoration Project will endeavor to establish and remeasure PSPs every two (2) years; however, the exact revisit time will reflect logistical constraints and resources and conform with monitoring period lengths (i.e. ensuring that the most recent measurements occur as close to the end of monitoring periods as possible while still allowing staggered PSP measurement/remeasurement to spread effort/resources across years). Measurement will occur approximately at the same time of year during each year measured.
Value applied	N/A (to be measured during the monitoring period)
Monitoring equipment	Drying oven, desiccators and digital scale (weighing balance)
QA/QC procedures to be applied	The oven-dried samples should be immediately placed in a desiccator to cool down before weighing. This is to prevent resorption of moisture.
Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / parameter	$SI_{control,t}$ and $SI_{wp,t}$
Data unit	t/ha
Description	Stocking index in scenario (remote control plot *j* or remote project plot *i*) at time *t*
Source of data	The dataset used for the Stocking Index is the Above-ground biomass stock data product from Chloris Geospatial (https://www.chloris.earth/data/#top). This product provides annual estimates of dry biomass stock and change in live woody vegetation, starting from the year 2000. The dataset is updated annually, with the most recent year of data available being 2024. The dataset is spatially explicit and wall-to-wall, with quantified uncertainty at the pixel- and site-level. It is designed to measure biomass losses (carbon emissions) from deforestation and

	degradation, and biomass gains (carbon removals) from vegetation growth, at 30m resolution.
Description of measurement methods and procedures to be applied	N/A
Frequency of monitoring/recording	Annually
Value applied	Various
Monitoring equipment	GIS software (i.e., QGIS)
QA/QC procedures to be applied	The dataset applied is significantly correlated with aboveground biomass (i.e., it is an estimate of aboveground biomass), as demonstrated in Baccini et al. 2012[111] and Baccini et al. 2017.[112] Additionally, the dataset has been validated with direct measurements from the project region (collected from within the project ecoregion; ecoregion defined at the biome level following Olson et al. 2001).[113]
Purpose of data	Selection of remote control plots and derivation of performance benchmark for the area-based approach
Calculation method	The methods used by Chloris Geospatial to calculate their Above-ground biomass stock product are available in Baccini et al. 2012[31] and Baccini et al. 2017[32].
Comments	Should a more accurate remote sensing metric become available over the project area over time, the remote sensing metric used for

[31] A. Baccini, S. J. Goetz,W. S.Walker, N. T. Laporte, M. Sun, D. Sulla-Menashe, J. Hackler, P. S. A. Beck, R. Dubayah, M. A. Friedl, S.

Samanta and R. A. Houghton (2012). Estimated carbon dioxide emissions from tropical deforestation improved by carbon-density maps. *Nature Climate Change 2*. DOI: 10.1038/NCLIMATE1354. Retrieved from: https://www.nature.com/articles/nclimate1354

[32] Baccini, A., Walker, W., Carvalho, L., Farina, M., Sulla-Menashe, D., Houghton, R.A. (2017). Tropical forests are a net carbon source based on aboveground measurements of gain and loss. *Science*. DOI: 10.1126/science.aam5962. Retrieved from: https://www.science.org/doi/10.1126/science.aam5962

[33] Olson, D.M., Dinerstein, E., Wikramanayake, E.D., Burgess, N.D., Powell, G.V.N., Underwood, E.C., D'amico, J.A., Itoua, I., Strand, H.E., Morrison, J.C., Loucks, C.J., Allnutt, T.F., Ricketts, T.H., Kura, Y., Lamoreux, J.F., Wettengel, W.W., Hedao, P. and Kassem, K.R. (2001). Terrestrial Ecoregions of the World: A New Map of Life on Earth: A new global map of terrestrial ecoregions provides an innovative tool for conserving biodiversity. *BioScience* 51(11): 933–938. https://doi.org/10.1641/0006-3568(2001)051[0933:TEOTWA]2.0.CO;2

	monit oring SI ex-post may be changed, ensuring that the following apply: he new metric offers equivalent or better accuracy (in terms of correlation with terrestrial carbon stocks) he new metric can be harmonized with the previous metric, applying procedures from peer-reviewed literature to ensure data continuity and remove sources of misalignment (e.g., geometric, radiometric, and/or spectral artifacts) introduced by the new metric; and he procedure to harmonize the new metric incorporates temporally coincident observations of both (previous and new) remote sensing metrics from the project and control plots from

Data / parameter	*IS*
Data unit	Percent

Description	Share of leakage resulting in increased supply outside the project area
Source of data	VMD0054 v1.0
Description of measurement methods and procedures	Default value of 0.75 (75 percent) for agricultural commodities or 1.00 (100 percent) for fuelwood. Where the default value is not applied, evidence justifying the use of a different value must be provided. Such evidence may include government-approved or peer-reviewed studies relevant to the agricultural commodity and region in which the project is located.
Frequency of monitoring/recording	At each monitoring event
QA/QC procedures to be applied	N/A
Purpose of data	Estimation of area of new land brought into production
Calculation method	N/A
Comments	N/A

Data / parameter	$\Delta C_{biomass}$
Data unit	t C/ha
Description	The change in forest biomass carbon stocks equal to the regional average stock where the project is located.
Source of data	Published studies with data from the country in which the project is located where such data are available, or derived from Table 3A.1.4 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPCC 2003) where such data are not available.

Description of measurement methods and procedures	ΔC□□□□□a□□ must reference the following data sources as available in the order listed, (e.g., if two data sources are available the data source nearest the top of the list must be used): • mean carbon stocks in forest biomass in the region; or • mean carbon stocks in forest biomass in the country where the project is located and must be obtained from published studies or official government statistics; or • mean carbon stocks in forest biomass derived from above-ground biomass estimates in Table 3A.1.4 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPCC 2003) if such information is not available.

	Determined based on data available at the time of the assessment and reflecting area-weighted mean stocks in above- and belowground biomass, dead wood and litter pools at the nearest date to the assessment date. If biomass is presente d in tonnes of dry biomass per hectare, then carbon stocks should be determined using a carbon fraction default value of 0.47. If only aboveground biomass stocks are reported, then belowground biomass stocks should be estimated using allometric equations contained in Table 4.A.4 of IPCC (2003), unless verifiable information is provided to justify a different value. Similarly, if data presented include tree biomass only, then the carbon stocks in deadwood and litter must be estimated by multiplying the sum of aboveground and belowground biomass stocks by a factor of 1.1.
Frequency of monitoring/recording	At each monitoring event
QA/QC procedures to be applied	All data will be collected from appropriate and reliable sources, any analysis/processing/calculations of data will be conducted by a qualified team member and reviewed by their superior. All sources of error/uncertainty will be noted and accounted for.
Purpose of data	Calculation of leakage emissions
Calculation method	N/A
Comments	N/A

Data / parameter	SOC_{REF}
Data unit	t C/ha
Description	Soil organic carbon (SOC) stock corresponding to the reference condition in native ecosystems by climate region and soil type applicable to the land receiving the displaced activity
Source of data	Table 2.3 of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Description of measurement methods and procedures	Where soils vary across the region of production, a weighted average (based on relative commodity production) or the highest, most conservative value may be used.

Frequency of monitoring/recording	At each monitoring event

QA/QC procedures to be applied	All data will be collected from appropriate and reliable sources, any analysis/processing/calculations of data will be conducted by a qualified team member and reviewed by their superior. All sources of error/uncertainty will be noted and accounted for.
Purpose of data	To calculate change in carbon stocks on new lands brought into production
Calculation method	N/A
Comments	N/A

Data / parameter	f_{LU} , f_{MG}, f_{IN}
Data unit	Dimensionless
Description	Relative SOC stock change factors applicable to the displaced production over 20 years for land use, management practices and inputs respectively
Source of data	Table 5.5 (displaced crops, referencing tree crops in the case of fuelwood) and Table 6.2 (displaced grazing) of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Description of measurement methods and procedures	N/A
Frequency of monitoring/recording	At each monitoring event
QA/QC procedures to be applied	N/A
Purpose of data	Calculation of leakage emissions
Calculation method	N/A
Comments	N/A

3.3.3 Monitoring Plan (VCS, 3.16, 3.20)

3.3.3.1 Monitoring Methods

The objective of the monitoring plan as set out in this climate part of Project Description is to quantify the emissions reductions achieved by the project during each monitoring period, and consists of three main components: forest patrols and observations, plot measurements, and identification of disturbances.

These core monitoring components will be able to help the project technical team to accurately assess the project's effectiveness and VCU generation during each monitoring period. The details of the monitoring plan are laid out in the sections below. As for the community monitoring part please see section 4.4. The biodiversity monitoring part please see section 5.4,

As new project activities are carried out within the project area, their specific monitoring methods will be added to the Tanimbar Community Restoration Project monitoring plan. If any project activities or monitoring activities are to be phased out or incorporated at a later date due to adaptive management, the monitoring and implementation plans for the Tanimbar Community Restoration Project ARR project will be updated accordingly. These activities, and their frequency are shown in Table 16.

Table 31: 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	Monthly	Patrol team inspects perimeter of Project Accounting Area on the ground and via helicopter
Plot Measurements	Bi-annually	Sampling teams visit a portion of plots in project and proxy areas
Identification of significant disturbance	At least annually	Periodic inspection of aerial imagery or videography, with ground inspection when necessary

Descriptions of these monitoring activities are described in Annex 3 – 'Forest Land Carbon Stock Measurement and Sample Plot Monitoring Manual v1.3 '. 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 Accounting Area, and outreaches to the communities. These additional monitoring activities will serve to identify many instances

of encroachment or tree harvesting that may occur in the Project Accounting 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.

3.3.3.2 Monitoring Team Organizational Structure

The teams responsible for carrying out monitoring activities and the roles within each team are as follows:

Field Patrol Team

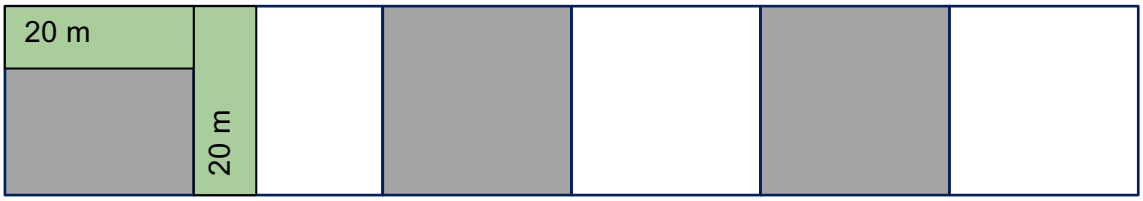
- Forestry Department Ranger Lead – responsible for carrying out patrol, noting all relevant patrol data and observations in field patrol forms, and conducting ground-truthing of any identified areas with disturbances
- Watch Post Supports – community support personnel that can contribute to patrol logs or can act as in-field support for lead
- Carbon Inventory Field Team
- Forestry Department Sample Plot Manager – responsible for training team members, conducting quality control checks, data recording and transcription, and conducting ground-truthing of any identified areas with disturbances
- Forestry Department Sample Plot Technicians – responsible for taking measurements in the field based on training and inventory protocol, support manager in data collection and transcription
- Technical Team
- AAD Technical Manager – responsible for overseeing technical work to methodological and standard requirements, conducting quality control checks
- AAD Technical Analyst – responsible for conducting technical analyses related to remote sensing and carbon stock quantification, quality control checks.

3.3.3.3 Measurement of carbon stocks changes by Sample Plots

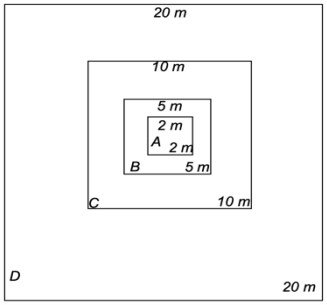
VM0047 Summary of sampling procedures for the project accounting areas, with a copy of a sampling protocol used to carry out measurements.

To accurately estimate the biomass in the Project Accounting Area, a *stratification analysis* is done based on the different land cover types present. Random sample plots are generated for and placed within each of the strata to account for variance within each stratum. The number of sample plots needed to meet the uncertainty and error requirements of the VM0047 are determined using equation [B.2]. The UTM coordinates associated with the plots are generated using a geo-referenced map and then distributed to the field crews. Extra plots are often generated for each stratum in the event that some of the original plots are not accessible due to slope, terrain, rivers, landslides, ravines and other such environmental issues.

Sampling procedures are described in detail in the document 'Forest Land Carbon Stock Measurement and Sample Plot Monitoring Manual v1.3.pdf', provided as Annex 3 with this document. While this document has been provided to the auditor for review, it is not publicly available due to the proprietary knowledge within. A summary of the procedures is provided as follows:



Plot size



Plot sizes for each stage of vegetation growth are as follows:

a. Seedling with a minimum area of 4 m^2. Height <1M

b. Sapling with a minimum area of 25 m^2. 5M>Height>=1M

c. Pole with a minimum area of 100 m^2. DBH< 10cm, Height >=5M

d. Trees with a minimum area of 400 m^2. DBH >=10cm.

Figure 16. Indonesia MoEF standard Forest Field Plot dimension protocol

A nested square sample plot design was used for the Tanimbar Community Restoration Project. The larger square has a length and width of 20 M x 20M to measure the Tree DBH >= 10cm. A 10M x 10M square counts the Pole number with DBH < 10 cm but the height >= 5M. A 5M x 5M counts the Sapling number with 5M> Height >=1M. The center square of 2Mx2M counts the Seedling number with height<1M. are measured in the larger plot and shrubs in the smaller. The minimum diameter for considering an individual plant as a tree for the Tanimbar Community Restoration Project is 10 cm diameter measured at 1.3 m above the ground (DBH). All smaller woody plants are considered shrubs.

The SOP provides a checklist for plot sample teams to ensure full preparedness before initiating any work. Sample teams then navigate to the coordinates of the plot center using a GPS device. When establishing a new sample plot, a hidden mark should be set up. It can be an un-noticeable landmark/monument or other un-noticeable mark to the out sider. So it will be un-noticeable to the trespasser. Sample plot teams must navigate to the original plot center coordinates as provided by project management, there are only a few instances for team safety or other reasons in which a team may move a plot center or abandon a plot location,

Due to environmental constraints on tree morphology, the DBH location may be moved up or down on the tree bole. Standing dead trees are included in the measurement, but lying dead trees are not. All trees' measurements are recorded on site on the data collection sheet. The team leader is responsible for quality assurance of trees' measurements and data recording and must monitor and check the work of the team as needed.

100% of the Biomass plots must be re-measured every five years. Biomass plot locations are depicted below in Figure 16. The procedures used for locating and sampling biomass sample plots can be found in Annex 3– 'Forest Land Carbon Stock Measurement and Sample Plot Monitoring Manual v1.3'. Changes in project carbon stocks are calculated as the difference in project stocks in each stratum between the current and prior monitoring periods, as determined from in-situ measurement of biomass plots:

Carbon stocks that are lost to burning, wood products, and leakage are accounted for using the procedures and equations in section 3.2.2 Project Emissions.

To reduce the standard deviation of the measure. There are two approaches.

1. To use the stratified sampling with equal interval as illustrated in the above Figure 16. The additional 2 stratified sampling plots with equal 20M apart can be implemented with the same protocol which will reduce the traveling cost of sample plot. But the measurement efforts will be triple.
2. Using Terrestrial LiDAR to implementing the stratified sampling with equal interval. It will capture the point cloud of the tree, pole, sapling and seedling measurement, recording and calculation.

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

The Project Proponent will have the climate monitoring plan available for public review at the Project Office. The full results of the initial climate monitoring are included in this project document, which is being made publicly available in the Project Accounting Area. Additionally, a project document summary has been written and provided to communities throughout the Project Accounting Area in English and Indonesian. This project document and the project document summary have additionally been posted to AAD's webpage and on the CCB website (http://www.vcsprojectdatabase.org) for public review and comment.

3.4 Optional Criterion: Climate Change Adaptation Benefits

N/A

4 COMMUNITY

4.1 Without-Project Community Scenario

4.1.1 Descriptions of Communities at Project Start (CCB, CM1.1)

The project zone encompasses **23 distinct villages** and their associated Social Forestry institutions, with a total population of **38,933 people**. The population is indigenous to the Tanimbar Islands, with a shared cultural heritage and deep ancestral ties to the land.

The communities are characterized by a strong social fabric built on kinship systems and the tradition of mutual cooperation known as *gotong royong*. Village life and governance are a blend of the formal, state-recognized village administration (*Desa Dinas*) and the influential, pre-existing customary governance system known as *adat*. This *adat* system, led by respected traditional leaders (*Tuan Tanah*), plays a central role in managing social norms, land access, and resource use.

Socioeconomic Conditions

The pre-project socioeconomic condition of the communities is one of significant economic vulnerability and heavy reliance on subsistence livelihoods.

- **Livelihoods:** The economy is overwhelmingly agrarian. The official KPHP "Area Description" confirms that **98.86% of households are farmers**, primarily engaged in small-scale, rain-fed shifting cultivation of staple crops like sago, cassava, and sweet potatoes. This is supplemented by coastal fishing and the collection of Non-Timber Forest Products (NTFPs) for household use and minor trade.
- **Poverty and Market Access:** The communities face high levels of poverty, driven by a lack of diverse income opportunities and severe isolation from formal markets. The continued practice of **bartering** highlights the limited cash economy. This economic isolation, coupled with a lack of access to financial services, creates a systemic barrier to development and investment in more sustainable land-use practices.

Access to Essential Services

A defining characteristic of the pre-project baseline is the critical lack of access to essential public services, a key indicator of underdevelopment. The quantitative baseline assessment of the 23 communities reveals:

- **Health:** For a population of nearly 39,000, there is only **one Community Health Center (Puskesmas)** and **one Auxiliary Health Post (Pustu)**, both located in the same village. The vast majority of the population has no direct access to formal healthcare.
- **Water:** Access to clean and reliable drinking water is a major challenge, with most communities relying on untreated wells, surface water, or rainwater, which are vulnerable to contamination and seasonal scarcity.

Baseline Trajectory: A Cycle of Degradation and Stagnation
In the absence of the project, the most likely scenario is the continuation of these conditions. The combination of population pressure, a lack of economic alternatives, and ongoing land degradation from unsustainable subsistence practices creates a cycle of poverty and environmental decline. There are no other existing or planned large-scale interventions—either from the government or other third parties—that would alter this trajectory. The communities, despite holding legal tenure to the land through their Social Forestry licenses, lack the financial and technical capacity to break this cycle on their own.

The Tanimbar Islands Community Forest Restoration Project is therefore intervening at a critical juncture. It is designed not only to restore the degraded landscape but also to directly address these baseline socioeconomic challenges by creating sustainable economic alternatives and providing a mechanism (the Community Development Fund) to improve access to the essential services that are currently lacking.

4.1.2 Interactions between Communities and Community Groups (VCS, 3.19; CCB, CM1.1)

The social landscape of the Tanimbar Islands is shaped by a history of maritime trade, strong cultural traditions, and a shared reliance on the region's natural resources.

Historical Context and Social Cohesion
The Tanimbar Islands are part of the Maluku province, historically known as the "Spice Islands." This legacy created a history of trade interactions that have shaped the social and economic life of the coastal communities. However, unlike other parts of Maluku that experienced intense periods of inter-communal conflict, the Tanimbar Islands have largely maintained a high degree of social cohesion and peaceful coexistence.

The communities within the project zone are predominantly indigenous Tanimbarese, sharing a common cultural heritage and a strong social fabric built on the principles of mutual cooperation (*gotong royong*) and customary law (*adat*). This shared identity has contributed to a stable social environment, which is a significant asset for the implementation of a large-scale, community-based project.

Interactions and Community Dynamics
Interactions between the 23 Social Forestry Areas in the project zone are governed by kinship ties, customary traditions, and shared economic activities. While each village and its associated Social Forestry institution is a distinct entity, they are interconnected through marriage, trade, and shared access to marine and terrestrial resources.

While there is potential for inter-community conflict over resource boundaries, the primary mechanism for resolving such disputes is the *adat* system, led by traditional leaders. The project's design, which requires close collaboration between neighboring Social Forestry groups for activities like fire management and monitoring, is intended to strengthen these cooperative relationships.

Interactions with External Actors and Economic Pressures
While the internal social dynamics are relatively stable, the communities interact with external actors in ways that create economic pressures and drive the baseline scenario of degradation.

- **Market Intermediaries:** In the absence of direct market access, community members often rely on middlemen to sell surplus agricultural goods or NTFPs. These interactions are often extractive, with the communities receiving only a small fraction of the final market value for their products, which perpetuates the cycle of poverty and the need for unsustainable levels of resource extraction.
- **Lack of Government Services:** As documented in the `UMUM_Analysis.md`, the interaction with government service providers (e.g., healthcare, education, agricultural extension) is minimal due to the remoteness of the islands and a lack of institutional capacity. This leaves communities isolated and without access to the support needed to develop more sustainable livelihoods.

The project is designed to fundamentally change these interactions. By building community capacity and creating direct market linkages for sustainable products like Agarwood and other NTFPs, the project aims to shift the economic dynamic from an extractive one to an empowering one. By funding essential services through the Community Development Fund, the project fills a critical gap left by the lack of government presence, thereby strengthening the community's overall resilience.

4.1.3 High Conservation Values (CCB, CM1.2)

Table 32. High Conservation Values

An evaluation was conducted to determine if the project zone includes any of the High Conservation Values (HCVs) related to fundamental community needs and cultural identity. The project area contains significant values for both critical ecosystem services (HCV 5) and cultural identity (HCV 6).

High Conservation Value	Qualifying Attribute & Justification	Focal Area
a) HCV 5: Areas fundamental to meeting basic needs of local communities.	**Critical Ecosystem Services (Water Security):** The project area encompasses the upper catchment areas of **72 distinct watersheds (** that are the primary source of fresh water for the 23 downstream communities. In the degraded baseline condition, the hydrological function of these watersheds is impaired, leading to high runoff, erosion, and reduced water availability during the dry season. The health of these forested catchments is therefore fundamental for providing the critical ecosystem service of a reliable, clean water supply for the **38,933 people** in the project zone. The project's restoration activities are designed to directly enhance this critical HCV.	The focal areas are the upper catchment portions of the 72 watersheds located within the **25,962.9 ha** eligible project area. Project activities in these areas will directly improve water quality and regulate flow for all downstream communities.

b) HCV 5: Areas fundamental to meeting basic needs of local communities.	**Subsistence and Livelihood Resources:** The degraded forest and shrubland areas provide essential resources that are fundamental for the subsistence livelihoods of the local communities.These areas are used for: - **Shifting cultivation (** for food production. - **Collection of Non-Timber Forest Products (NTFPs)** such as rattan, bamboo, candlenut (*kemiri*), and medicinal plants. These resources form a critical safety net and are essential for the communities' food security and basic economic needs. The project is designed to enhance, not diminish, this value by transitioning from unsustainable extraction to sustainable agroforestry and NTFP management.	The focal areas are the designated agroforestry zones and community-managed NTFP collection areas that will be established within the project's eligible lands.

c) HCV 6: Areas critical to communities' traditional cultural identity.	**Sacred Sites (** The project landscape is interwoven with sites of deep spiritual and cultural importance to the indigenous Tanimbarese people.These sacred sites, known locally as ***tahatan***, include ancestral graves, ceremonial grounds, and sacred groves. These areas are not just important; they are considered the physical manifestation of the communities' connection to their ancestors and their cultural identity. Their protection is of paramount importance to the community.	The focal areas are the specific locations of all *tahatan* that have been identified through a participatory mapping process with community elders and traditional leaders (*Tuan Tanah*). These sites, along with a culturally appropriate buffer zone, are designated as strict protection zones and are **explicitly excluded from all project restoration activities**.

4.1.4 Without-Project Scenario: Community (CCB, CM1.3)

During the stakeholder engagement, the working group had identified and prioritized the Focal Issues, they then analyzed them further to establish the causal logic leading to the problems and produced a Problem Flow Diagram (also termed Conceptual Model) for each of the Focal Issues (Figure 19). A Problem Flow Diagram (PFD) is a situation analysis of the issue that represents stakeholders' understanding of what drives the existence of the focal issue; it identifies economic, political, institutional, social and/or cultural factors that contribute to existence of the issue.

a) Forest destruction and land encroachment

b) Wildlife poaching and HCV Restoration

c) Poor community livelihoods

Table 33: Future without-project projections of the key contributing factors to the Focal Issues identified during the Tanimbar Community Restoration Project SBIA community workshops

a. Forest destruction and land encroachment

Focal issue aspect	5-10 years	What will drive the change
Forest land grabbing	Worsen	• High cost of land: due to increase in number of newcomers/land speculators to the area, demand in land will increase and people will sell land at higher price. • High rate of unemployment: people with no permanent job will encroach further inside the forest either for slash and burnt agriculture or for land grabbing for sale or for both. • Rich and powerful land speculators: speculators hire poor unemployed villagers to clear forest and grab land and sell the land to them at low price. Land speculators never have to face the laws since they are not the ones who clear the forest but the poor. Land speculators make a lot of money from re-selling land. • Blur forest boundaries delineated: local people just cut as much forest and they can then plant on the land with short-term crops then falsely claim working on the land for longer than 5 years, the length that required for legal land ownership recognition. • Low capacity of land management agencies: due to lack of equipment and capacity, most local land management agencies are not able to recognize if an encroached forest land is an old plantation or land is inside protected area or in community area. Thus, they cannot build case against illegal forest land grabbers.
Illegal logging	Worsen	• Increased demand in timber: Both local and other islands of Indonesia. Population and Real Estate development continue to grow in the country thus demand in timber will be in continuous increase. • Logging become more lucrative: since the demand in timber is higher, loggers can sell timber at good price and make big money out of illegal logging business. • Insufficient man power and action taken by authorities and other stakeholders to stop illegal logging or illegal transport

		of timber. • Loggers build good roads inside protected area so they can cut more trees deeper inside forest where they can find further good timber to cut

b. Wildlife poaching and HCV Restoration

Focal issue aspect	5-10 years	What will drive the change
High demand in wildlife bush-meat and exotic birds	Worsen	• High demand in wildlife, parts and bush-meat by local communities: There are some chicken/goat/cattle raising in on the island but are not in substantial quantities. The local communities sometimes rely on bush-meat thus motivate poachers to work harder and catch and kill many more wildlife as possible • High demand in Exotic birds catching for cash. • Demand in Exotic birds for export • New poachers come from elsewhere to poach in the Tanimbar Island • Growing poacher-middlemen-trader networking: when the business of wildlife poaching/trading is going well, more people will involve and get benefit from it thus networks will be formed, get bigger and become better in many ways, physically, financially, tactically and logistically
Illegal easy un-controlled access into protected area forest	Worsen	• Forest destruction: the cutting and burning of forest makes the forest become less dense, and make it more easily accessible by people, especially by poachers • Trails inside the forest: trails make poachers get inside the forest easier than going across naturally dense forest • More snares brought in the forest: the more passages make across forest, forest will become more damaged and become more open and easier to put snares
Lack of wildlife habitat	Worsen	• Forest land encroachment: as forest land is cleared and grab, forest is converted into agriculture, residential land or other type of land use thus wildlife has smaller habitat to live inside • Forest fires for hunting: poachers burn forest for hunting purposes. When wildlife come to a cleared area where forest is all burnt out, they become more visible which is easier for poachers to spot and kill/catch them.

		Furthermore, some wildlife is attracted by the smell of forest's freshly burnt ashes. • Weak law enforcement: rangers of limited working capacity, not sufficiently well equipped and well-motivated with limited financial support cannot provide effective protection to the forest.

c. Poor community livelihoods

Focal issue aspect	5-10 years	What will drive the change
High living cost and Food Insecurity	**Worsen**	• No nearby functioning health post: so people need to seek health care services at distant bigger towns thus need to spend money on travelling, food and accommodation. • Lack of teachers in communes: so children have to go far-away schools so parents have to cover big expense to send children to school. • Lack of water purification/supply system: Villagers don't have safe and readily available water for drinking, domestic use and food production. • The Tanimbar Islands rely heavily on sea transport for staple goods (rice, fuel). As fuel prices rise and weather patterns become more extreme due to climate change (rougher seas disrupting shipping), the cost of importing food will increase. • In the absence of the project, local "middlemen" control food imports, keeping prices artificially high and creating food insecurity during the monsoon season. This economic pressure forces communities into illegal extraction (logging/poaching) to generate quick cash to buy expensive food.
Low income	Remain unchanged	• Lack of education and skill – with no education, villagers do not have ability to take better paid jobs or to create family/small business • Lack of agriculture technique – without proper technique, people's crop become less productive with mediocre quality thus less competitive in markets • Population growth – when number of people increase and resources remain the same, resources become scarce

4.2 Net Positive Community Impacts

4.2.1 Expected Community Impacts (CCB, CM2.1)

The major project activities can be grouped into the following 68 areas (see details in Section 8). All the community-focused activities which the project plans to implement were identified during stakeholder engagement community workshops described earlier (see Section 2.1.6). Most of these are designed to help create greater awareness, capacity and financial security in the communities through community development funds that strengthen:

1. Direct Employment and Training on Sustainable Income Generating Scheme (SIGS) through NTFP productions
2. Strengthening Community Organizations
3. Improve Health Facilities and Care
4. Improve safety and ready availability of drinking water
5. Micro-finance
6. Enhanced Security and Law Enforcement
7. Sensitization and Awareness Raising
8. Education

The major project activities are designed to build financial security and resilience. A key component of this strategy is the shift from high-risk livestock models to a **Food Security Logistics Framework**:

- **Subsidized Rice Logistics Program (Program Distribusi Beras Murah):** Recognizing that the Tanimbar Islands suffer from a "High-Cost Economy" due to logistical isolation, the project intervention focuses on **Access to Food** (SDG 2). The Project Proponent (AAD) utilizes its established logistics network to purchase high-quality staple rice in bulk. This rice is transported to the 23 Village Cooperatives and sold to community members at a subsidized, stable price.
    - **Impact:** This effectively increases real household income by lowering the cost of the most essential daily expenditure. It guarantees food security even during the rough monsoon season when commercial shipping is disrupted and market prices typically skyrocket. This removal of "survival anxiety" directly reduces the pressure to engage in illegal forest activities

for emergency cash.

Theory of Change Statements

Based on the extensive experience of the project proponent in working on biodiversity conservation and community projects in the Tanimbar Community Restoration Project landscape, a literature review, and from information obtained from the SBIA 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 of the three Focal Issues (see details in the Result Chains under Section 2.1.17).

The assumptions we make about the cause-and-effect relationships were made explicit in the Result Chain diagrams developed by community members during the SBIA 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 4.4) 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, IF there is safe and readily available water through water purification system, and IF there is improved food security from Sustainable Income Generation Scheme 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 Forest Protection Area (CFPA) 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 and HCV Restoration**: IF community-based eco-tourism is developed, IF the sensitization and awareness-raising is conducted among communities around the Project Accounting 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 Tanimbar Community Restoration Project.

Improved Livelihoods

Table 34. Anticipated impacts for specific stakeholder groups

Community group	Local Residents
Impact(s)	Enhanced ecosystem goods and services and improved livelihoods through better education, health and food security
Type of benefit/cost/risk	Predicted direct benefit
Change in well-being	Potentially major improvement in livelihoods including education, health and food security

Community group	Government & Local Authorities
Impact(s)	Better execution of their mandate, revenue collection and improved relations with the citizens
Type of benefit/cost/risk	Predicted direct benefit
Change in well-being	Potentially moderate gains in revenue but major gains in community relations

Community group	Local Residents-Youth and women
Impact(s)	Availability of jobs, alternative SIGS and education
Type of benefit/cost/risk	Predicted direct benefit
Change in well-being	Potentially major impact on youth and women groups

Community group	Local Residents-Poachers and illegal loggers
Impact(s)	Reduced income

Type of benefit/cost/risk	Predicted direct cost
Change in well-being	Potentially significant loss of livelihood sources

Community group	Local Residents-Immigrants
Impact(s)	Fewer opportunities to gain access to free or cheap land and natural resources
Type of benefit/cost/risk	Predicted indirect cost
Change in well-being	Potentially moderate impact on their well-being and ability to sustain themselves in the new areas

Community group	Local cooperative group
Impact(s)	Increase funds for training, lessons, and micro-finance
Type of benefit/cost/risk	Predicted direct benefit
Change in well-being	Potentially moderate gains in revenue but major gains in community relations

4.2.2 Negative Community Impact Mitigation (VCS, 3.19; CCB, CM2.2)

There are no negative community Impact for the local legal members. Although there some impact on poachers and illegal loggers, their benefit from poaching and logging is not legal and cannot be identified as “well-being” as per the requirement of CCB.

4.2.3 Net Positive Community Well-Being (VCS, 3.19; CCB, CM2.3, GL1.4)

The project *implements UN* 17 SDGs, *the net positive wellbeing is illustrated in section 2.1.18 in achieving the following* 12 SDGs. This includes No Poverty, Zero Hunger, Good Health and Well-Being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and clean energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Climate Action, Life on Land: and Partnerships for the Goals. *Out of the 12 SDGs, only Climate Action and Life on Land are not net positive community wellbeing.*

Also, as mentioned in Section 4.2.1, anticipated net well-being impacts of the project are shown as follow.

Table 35. Anticipated well-being impact

Community group	Anticipated well-being impact	Net impact
All communities in the project	Enhanced ecosystem goods and services and improved livelihoods through better education, health and food security	Positive
Government & Local Authorities	Better execution of their mandate, revenue collection and improved relations with the citizens	Positive
Youth and women	Availability of jobs, alternative SIGS and education	Positive
Poachers and illegal loggers	Reduced income	Positive
Immigrants	Fewer opportunities to gain access to free or cheap land and natural resources	Positive
Local cooperative group	Increase funds for training, lessons, and micro-finance	Positive

4.2.4 High Conservation Values Protected (CCB, CM2.4)

- **HCV on provision of critical ecosystem services:** HCVs under this category include forests and communities critical to water catchment. The Tanimbar Community Restoration Project is building clean water wells with filtering systems and reservoirs or repairing existing water-sheds in villages around the 23 Social Forestry Area. The community will also protect the source of watershed including the surrounding forest conservation. These water catchment services and forest conservation are the main priority of the Tanimbar Community Restoration Project, and activities are designed for the community to ensure greater protection of their water source ecosystem. This inherently provides positive effects on these high conservation values, and no negative effects are anticipated because of the project.
- **HCV on Areas that are critical for the traditional cultural identity of communities:** Part of the project area has been identified to be a critical area to preserve the local culture of Agarwood plantation and restoration. Agarwood is high value and becoming critical to the local community because of illegal poaching**.** This inherently provides positive effects on these high conservation values, and no negative effects are anticipated because of the project.

The project will monitor for any negative impacts on HCVs.

4.3 Other Stakeholder Impacts

4.3.1 Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.1)

The project activities are unlikely to have any long-term impacts on the well-being of other stakeholders, though there are other stakeholder groups who are predicted to suffer potential costs of illegal activities from implementation of project activities.

- **Poachers and illegal loggers**: although these are illegal activities for the large part, those genuinely undertaking them for basic livelihood support will not be offered or considered for direct employment when job opportunities arise e.g., as eco-guards. Nonetheless, they will also enjoy the other general community benefits like access to community educational grants schemes, improved health access and agricultural training to help move them away from illegal activities.
- **Traders, middlemen and employers**: while this group might see diminished profits from illegal trade in the short term, we believe they will enjoy greater stability in the long-term from conducting legitimate business, reduced run-ins with the law, employees and community, and overall greater social capital and license to operate in the area.
- **Immigrants**: similar to the traders above, this group might suffer some costs in the short term through increased scrutiny and fewer chances for accessing 'free' land and jobs, but will also gain from greater stability by being recognized and accepted as legitimate members in the community once they come in through legal avenues.

4.3.2 Mitigation of Negative Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.2)

There is no legal and formal mitigation on the negative impacts on other stakeholders, and therefore no mitigations are required.

4.3.3 Net Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.3)

There are no negative impacts on other stakeholders.

4.4 Community Impact Monitoring

4.4.1 Community Monitoring Plan (CCB, CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

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 (see Section 2.1.17) provided us with a good basis for selecting indicators that factor in attribution. We selected a total of 43 indicators for monitoring the social impacts of the Tanimbar Community Restoration Project, including 20 Output, 13 Outcome and 10 Impact indicators (Table 18).

We then decided on the best sampling methods to use to collect the data, keeping in mind the need to achieve acceptable levels of accuracy, precision and cost effectiveness whilst retaining transparency and simplicity. From this, a monitoring plan was designed to collect information on the identified indicators. The Tanimbar Community Restoration Project shall use two major data sources for the selected indicators: Internal reporting systems and Household-level surveys. The executor to generate these indicators is listed in the Table 18 below. In addition, Focal Group Discussions during SBIA workshops will be used to validate findings and obtain any further information/clarification, while Government Institutions will be visited for secondary data and general community statistics. In-house reporting will mainly collect input and output indicators (and some outcome too), while the other methods will mainly assess outcome and impact indicators.

4.4.2 Monitoring Plan Dissemination (CCB, CM4.3)

The Tanimbar Community Restoration Project will disseminate the monitoring plan and the results of the monitoring within 12 months of validation. These documents will be made publicly available on the internet on CCB and VCS websites and linked to AAD website too. They will also be communicated to the communities and other stakeholders (including the Government and Local Authorities) using diverse media including presentations, reports, brochures and orally during community awareness and sensitization meetings, and continuous SBIA workshops.

4.5 Optional Criterion: Exceptional Community Benefits

The Tanimbar Islands Community Forest Restoration Project is specifically designed to generate exceptional and transformative benefits for the local communities, meeting the Gold Level criteria by actively empowering marginalized communities and alleviating poverty. The project goes beyond simple benefit sharing to build lasting social, economic, and institutional resilience for the **38,933 people** in the **23 participating Social Forestry Areas**.

Empowerment of Local Communities

The project's entire operational model is an act of empowerment. By operating exclusively through the **23 community-held Social Forestry (PS) licenses**, the project legally and practically reinforces the communities' tenure rights and places them at the center of project governance and implementation.

- **Strengthening Local Institutions:** The project builds the management, financial, and technical capacity of the community PS institutions (LPHDs, LDs, KTHs). These institutions are not just passive recipients of benefits; they are the primary partners, responsible for hiring local people, managing on-the-ground activities, and participating in the governance of the Community Development Fund. This builds lasting local capacity for self-determination and sustainable resource management long after the project's crediting period ends.
- **Inclusive Decision-Making:** Through a robust Free, Prior, and Informed Consent (FPIC) process and ongoing participatory monitoring through the grievance redress system, the project ensures that all community members, including women, youth, and other marginalized groups, have a voice in shaping the project and its outcomes.

Poverty Alleviation and Livelihood Enhancement

The project directly addresses the root causes of poverty in the region by creating new, sustainable economic opportunities that are more resilient than the baseline of subsistence agriculture.

- **Creation of a Local Green Economy:** The project will create hundreds of new "green jobs" within the communities for activities such as nursery management, planting, and forest monitoring. This provides a crucial source of cash income in a largely non-cash economy.
- **Sustainable Livelihood Diversification:** The project will establish **climate-resilient agroforestry systems** and support the development of **value chains for Non-Timber Forest Products (NTFPs)**. This strategy diversifies household income away from climate-vulnerable subsistence farming and creates sustainable, forest-based enterprises that provide long-term economic benefits.

Addressing Critical Needs and Improving Well-being
The project utilizes a dedicated mechanism to translate carbon revenue into tangible improvements in community well-being.

- **The Community Development Fund:** A significant portion of the project's revenue will be channeled into a transparently managed fund, co-governed by community representatives and project proponents. This fund will be used to address the severe, documented gaps in essential services. These funds can be directed by the communities to priorities such as:
    - **Improving Health Access (SDG 3):** Supporting the establishment or staffing of desperately needed **auxiliary health posts (** in the 22 villages that currently have no health facilities.
    - **Enhancing Educational Opportunities (SDG 4):** Providing **scholarships** for children to attend the single senior high school in the region or investing in local primary school facilities.
    - **Ensuring Water Security (SDG 6):** Funding the construction of **protected wells, rainwater harvesting systems, or water filtration units** to provide safe and reliable drinking water.

By combining genuine empowerment through the Social Forestry framework, targeted poverty alleviation via a new green economy, and direct investment in community-identified needs, the project is designed to deliver transformative and lasting positive impacts that far exceed standard benefit-sharing models, thereby qualifying for Exceptional Community Benefits.

5 BIODIVERSITY

5.1 Without-Project Biodiversity Scenario

5.1.1 Existing Conditions (VCS, 3.19; CCB, B1.1)

Global and Regional Significance

The Tanimbar Islands Community Forest Restoration Project is located in a region of immense global biodiversity importance. The project zone is situated within the **Wallacea Biodiversity Hotspot**, one of the planet's most biologically rich and threatened terrestrial ecoregions. Specifically, it falls within the **Banda Sea Islands moist deciduous forests** ecoregion, which is renowned for its extraordinary levels of species endemism.

This global significance is formally recognized through several key designations:

- **Key Biodiversity Area (KBA):** The Tanimbar Islands are designated as a KBA, identifying them as critical to the persistence of global biodiversity.
- **Endemic Bird Area (EBA):** BirdLife International recognizes the Tanimbar Islands as an EBA, hosting at least **26 bird species found nowhere else on Earth**.

Baseline Biodiversity Conditions in the Project Area

In the "without-project" scenario, the biodiversity within the project's eligible lands is in a severely degraded state, directly reflecting the condition of the landscape.

- **Degraded Habitat:** The pre-project landscape is a mosaic of non-forest land (shrubland, grassland) and degraded or unmanaged forest patches. This landscape offers poor-quality habitat for the region's native, forest-dependent species. The lack of a complex forest structure, limited food sources, and fragmented nature of the remnant vegetation patches can only support generalist species, not the rich assemblage of endemic specialists for which the region is known.
- **Threats to Species:** The primary driver of biodiversity loss in the Tanimbar Islands is **habitat loss and degradation** from the historical land-use patterns described in Section 1.14. In the baseline scenario, these threats persist, and the degraded habitat continues to be unsuitable for the recovery of threatened species populations.

Key Species of Conservation Concern

The project area is the known or potential habitat for numerous endemic and globally threatened species. The baseline condition poses a direct threat to the long-term viability of these populations.

Key species identified in the government reports[38] and through IUCN data that are negatively impacted by the baseline scenario include:

Species	IUCN Status	Relevance to Project Zone
Fauna		
Tanimbar Corella (	**Near Threatened**	Endemic to the Tanimbar Islands. This iconic species is directly threatened by the loss of its forest habitat for nesting and foraging. The baseline of continued degradation prevents habitat recovery.
Fawn-breasted Thrush (*Zoothera machiki*)	**Near Threatened**	A forest-dependent species endemic to the southern Banda Sea islands, including Tanimbar. Its population is directly threatened by ongoing habitat loss and fragmentation.
Blue-streaked Lory (*Eos reticulata*)	Least Concern	Endemic to the Tanimbar Islands. While currently of Least Concern, its population is dependent on healthy forest habitat and is vulnerable to degradation.

[38] KPHP Unit XVIII Maluku Tenggara. Area Description (Chapter II) Long-Term Forest Management Plan for Forest Management Unit XVIII, Maluku Tenggara Regency. Provincial Forestry Service, Maluku Province, Indonesia

Other Endemic Birds	(Various)	The project area is critical habitat for numerous other endemic species such as the Tanimbar Megapode (*Megapodius tenimbarensis*) and Tanimbar Starling (*Aplonis crassa*), all of which are impacted by the lack of quality forest cover in the baseline.
Flora		
Larat Orchid (*Dendrobium phalaenopsis*)	Not Assessed (but a recognized endemic flagship)	An endemic and culturally significant orchid. Its habitat is threatened by the degradation of its host forest ecosystem.
Agarwood (*Aquilaria spp. & Gyrinops spp.*)	Vulnerable to Critically Endangered	While not the focus of the baseline, the potential for unsustainable harvesting of any remaining wild trees is high in an unmanaged landscape, and the degraded conditions prevent natural regeneration.
Shorea spp.	(Various, including threatened	Key canopy species of the native forest. The degraded baseline prevents the regeneration of these vital structural components of the ecosystem.

specie
s)

In the without-project scenario, these species face a future of continued habitat decline, fragmentation, and increased pressure, with no mechanism in place to facilitate recovery.

Table 36. Restoration of critical endangered species

Critically Endangered *Aquilaria malaccensis*, Vulnerable *Aquilaria hirta, Aquilaria cumingiana, Aquilaria filaria, Gyrinops versteegii* and Endangered *Gyrinops decipiens, Gyrinops salicifolia, Gyrinops moluccana* ***Across the Maluku Province***	The Tanimbar Community Restoration Project 's core of ARR will protect the forest in Tanimbar Island and ARR by setting up sites of Agarwood Plantation Restoration on bare land to increase forestation and prevent deforestation and forest degradation by SIGS. Not only will this not adversely impact the habitats of these species and original other non-endangered species, it will also improve the appreciation and nature of these species by reducing encroachment and for future eco-tourism. The Objectives and Benefits of Tanimbar Community Restoration Project is not only to protect the forest but also to establish the world class Agarwood Sanctuary. In Project Areas Agarwood encroachment is monitored through the AAD patrol team and community watch-post. The natural Agarwood habitats will also be tagged with GPS and put into the protection location list.
***Shorea selanica* (Critically Endangered)** ***Shorea montigena* (Critically Endangered)** **At Tanimbar Island**	The Tanimbar Community Restoration Project 's core of ARR will protect the forest in Tanimbar Island and ARR by setting up 1,008 Ha of Agarwood Plantation Restoration on bare land to increase forestation and prevent deforestation and forest degradation by SIGS. The Shorea species currently identified in Tanimbar Island will be marked and protected. Its seeds will be also planted inside the Agarwood Plantation Restoration. Not only will this not adversely impact the habitats of these species and original other non-endangered species, it will also improve the appreciation and nature of these species by reducing encroachment and for future eco-tourism. In PAA1, PAA2 and area, Shorea selanica and Shorea montigena are monitored through the AAD patrol team and community watch-post. Their natural habitats will also be tagged with GPS and put into the protection location list.

Cacatua moluccensis (VU) ***Lorius domicella (EN)*** ***Lorius domicella (EN)*** ***Pteropus chrysoproctus (VU)*** ***Across the Tanimbar Island area***	The Tanimbar Community Restoration Project 's core of ARR will protect the forest in Tanimbar Island and ARR by setting up Agarwood Plantation on 23 Community/Village/Social Forest to increase Biodiversity and PAA1, PAA2 and PAA3, to Prevent deforestation and forest degradation by SIGS. Not only will this not have an adverse impact on the habitats of these species, it will also improve the appreciation and nature of these species by reducing encroachment and for future eco-tourism.

5.1.2 High Conservation Values (CCB, B1.2)

Table 37. High Conservation Value Focal Area

High conservation value	HCV 1.2 Critically Endangered Species HCV 1.3 Areas that Contain Habitat for Viable Populations of Endangered, Restricted Range or Protected Species
Qualifying attribute	lobally Threatened and Endemic Fauna: The project zone is critical habitat for globally significant and endemic species. The IUCN data confirm the presence of at least two IUCN Near Threatened species: the Tanimbar Corella (Cacatua goffiniana) and the Fawn-breasted Thrush (Zoothera machiki). The baseline of continued habitat degradation and fragmentation poses a direct and ongoing threat to the long-term viability of these species' populations. Globally Threatened Flora: The project will actively contribute to the in-situ conservation of globally threatened tree species by integrating them into the restoration planting mix. This includes IUCN Red Listed species such as: Agarwood (Aquilaria spp.) (species range from Vulnerable to Critically Endangered), and Key native dipterocarps like Shorea spp. (specific species to be confirmed, many are threatened). In the baseline scenario, these species are unable to regenerate on the degraded lands and are at risk from any remaining wild harvesting pressures. Critical Watershed Protection: The project area encompasses the upper catchment areas of 72 distinct watersheds (DAS). In their degraded baseline condition, these watersheds provide poor hydrological function, leading to erosion and unreliable water flow. The restoration of forest cover is critical for stabilizing these watersheds and ensuring a reliable supply of clean water for downstream communities and ecosystems.
Focal area	The focal area for this HCV is the entire 25,962.9 ha eligible project area. The project's core activity—large-scale habitat restoration across PAA1, PAA2, and PAA3—will directly enhance

habitat quality, increase food sources, and improve landscape connectivity for these and other endemic species.

The focal area will be specific restoration sites within PAA1 (Afforestation) and PAA2 (Reforestation) where these species will be integrated into the planting design. The project will establish dedicated plots for the cultivation and conservation of Agarwood, creating a community-managed genetic reserve and a future source of sustainable income. These plantings will be intercropped with nitrogen-fixing legume trees (e.g., Sesbania sesban) to improve soil fertility and eliminate the need for chemical fertilizers.

The focal areas are the upper catchment portions of the watersheds located within the **25,962.9 ha** eligible project area. Project activities in these areas will directly restore the critical ecosystem service of water regulation and quality protection.

Table 38. IUCN Endangered status of species in the Tanimbar Community Restoration Project Project zone

Birds		
Cacatua moluccensis	VU	Global
Lorius domicella	EN	Global
Lorius domicella	EN	Global
Pteropus chrysoproctus	VU	Regional
Monarcha boanensis	CR	Global
Plants		
Shorea selanica	CR	Global
Shorea montigena	CR	Global
Aquilaria malaccensis,	CR	Global
Aquilaria hirta	VU	Global
Aquilaria cumingiana	VU	Global
Aquilaria filaria	VU	Global
Gyrinops decipiens	EN	Global
Gyrinops salicifolia	EN	Global
Gyrinops moluccana	EN	Global
Gyrinops versteegii	VU	Global

5.1.3 Without-project Scenario: Biodiversity (CCB, B1.3)

Focal issues without project

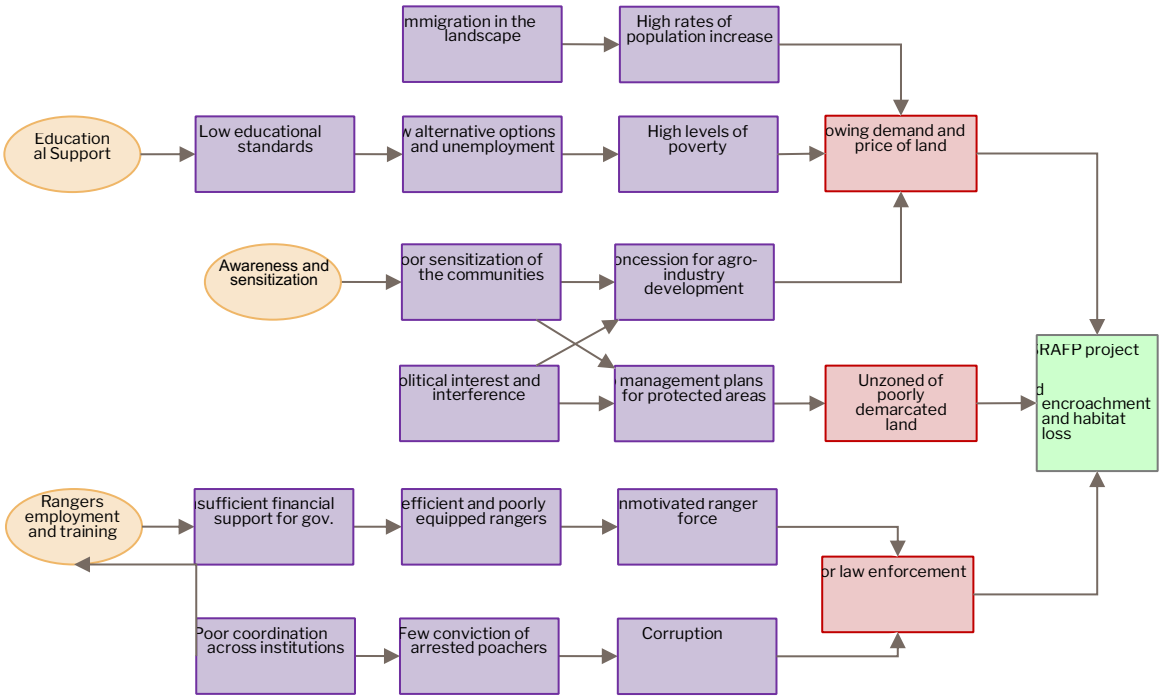
The FPIC/Stakeholder Engagement workshops identify the most important biodiversity and key threats as **Focal Issues**. as followings:

1. *Land encroachment and habitat loss*: Protected area and forested land is illegally converted to other land uses due to land-grabbing by outside migrant, often through persuading poor local people through payment to clear forest for them.
2. *Wildlife poaching and trade*: Low rates of detection, capture, and prosecution of poachers, and high price of wildlife meat due to high demand from consumers, combined with low awareness and lack of alternative livelihoods for local people, leads to high reward with minimal risk for poaching
3. *Illegal logging*: Population growth and poverty with limited alternative livelihoods mean people are motivated to obtain income from illegal logging and timber trade, abetted by poor law enforcement and high timber value due to high demand.

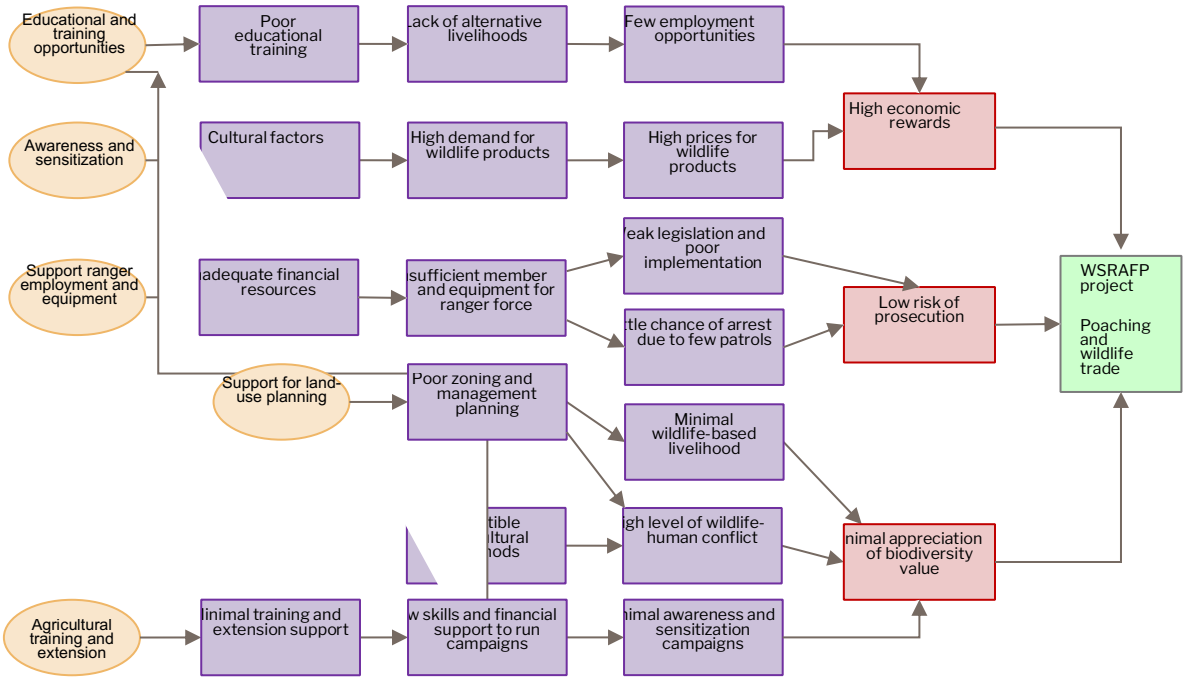
Problem Flow Diagrams

After establishing the fundamental issues that the project should focus on to achieve the overarching ARR goals, the workshop then delved deeper into these Focal Issues to establish the causal logic leading to the problems, and produced a Problem Flow Diagram (also termed Conceptual Model) for each of the Focal Issues (Figure 21). A Problem Flow Diagram (PFD) is a situation analysis of the issue that represents stakeholders' understanding of what drives the existence of the focal issue; it identifies economic, political, institutional, social and/or cultural factors that contribute to existence of the issue.

a) Land encroachment



b) Wildlife poaching and trade



c) Illegal logging

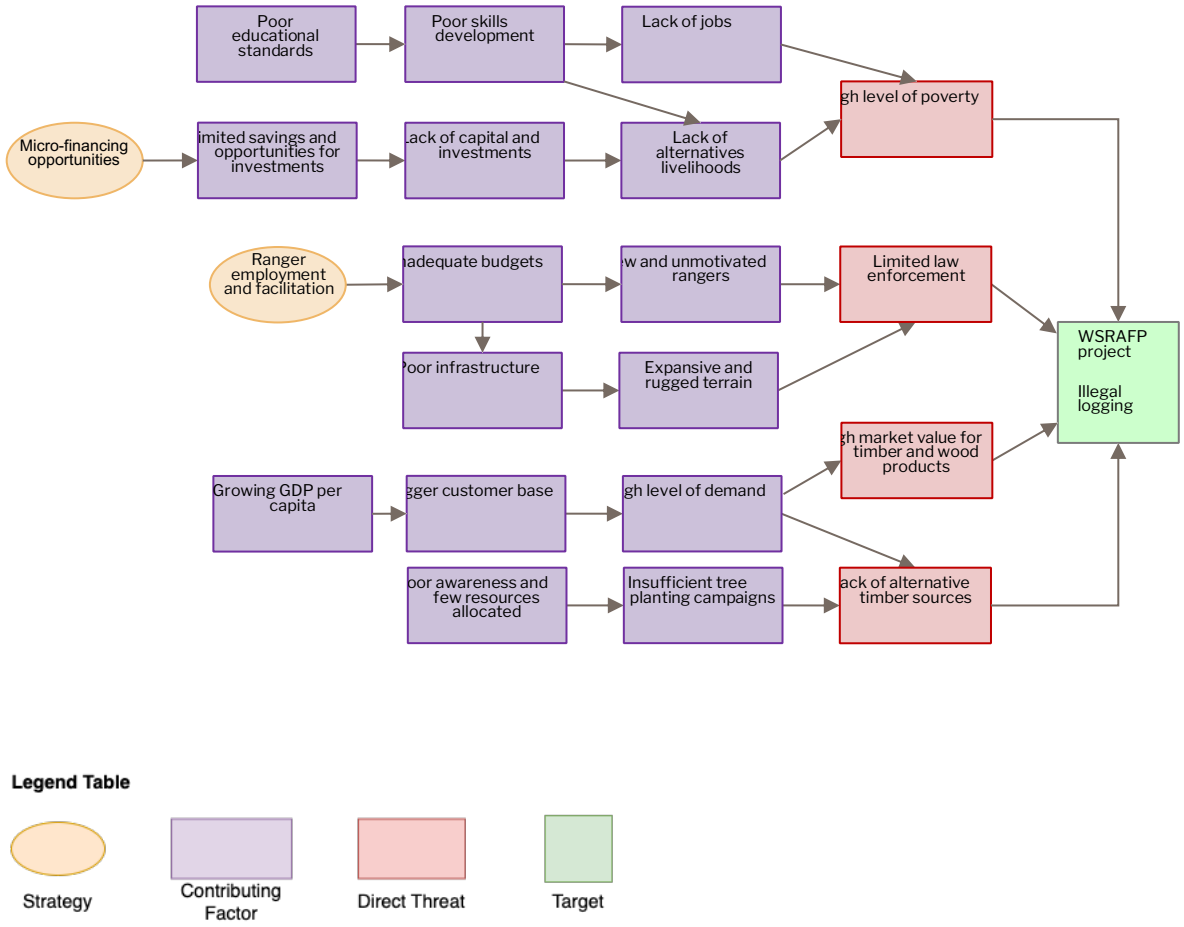


Figure 21: Problem Flow diagrams produced for the Focal Issues during the SBIA/PRA workshop for the Tanimbar Community Restoration Project

Without-project projections

The major direct threats identified for each Focal Issue in the short-to-medium term (5-10 yrs.) in the absence of the ARR project (Table 20).

Table 39: Future without-project projections of the key contributing factors to the Focal Issues identified during the Tanimbar Community Restoration Project workshop

a. Land encroachment and habitat loss

Direct Factor	In 5-10 years, will condition improve, worsen, or remain unchanged?	What will drive the change?

Poor law enforcement	Worsen	• Fewer rangers on patrol – fewer patrols conducted • Less budget for law enforcement implementation • Lack of capacity for implementing effective law enforcement • Less trust from international communities • Increased gray area of Government
No Zoning or Protected Area Demarcation	Worsen	Increase pressures due to population growth and other drivers of deforestation and limited government budget support.
Demand for land and increasing land price	Worsen	• Population growth • Need for land for Industrial agriculture product • Economic Development

b. Wildlife poaching and trade

Direct Factor	In 5-10 years, will condition improve, worsen, or remain unchanged?	What will drive the change?
High economic rewards for poaching	Worsen	• Increasing demand from increasing number of consumers • Lack of alternative livelihoods
Low risk of being prosecuted	Worsen	• Fewer poachers are detected and arrested due to poor law enforcement • Increased gray area of Government
Lack of awareness of biodiversity value	Worsen	• Lack of consistent and informative awareness and sensitization campaigns delivered by Government or NGOs

c. Illegal logging

Direct Factor	In 5-10 years, will condition improve, worsen, or remain unchanged?	What will drive the change?

Poor law enforcement	Worsen	• Fewer rangers on patrol – fewer patrols conducted • Less budget for law enforcement implementation • Lack of capacity for implementing effective law enforcement • Less trust from international communities Increased corruption
Poverty	Worsen	• Population increase • Poor agriculture techniques • Unemployment and lack of alternative livelihoods
High demand for timber and Agarwood (both local and international)	Worsen	• Population growth leading increase in demand • Income of people increase lead to demand timber • High price of timber • High price of Agarwood

5.2 Net Positive Biodiversity Impacts

5.2.1 Expected Biodiversity Changes (VCS, 3.19; CCB, B2.1)

In the without-project scenario, the biodiversity of the project area is on a trajectory of continued decline due to ongoing habitat degradation and fragmentation. The project's activities are designed to reverse this trend and generate significant, net positive biodiversity impacts.

The primary change is the **large-scale restoration of 25,962.9 hectares of degraded land**. This is not simply planting trees; it is the active re-establishment of a functioning native ecosystem where one has been lost. This fundamental change will drive a cascade of positive biodiversity outcomes that would not occur in the baseline.

The table below summarizes the key expected changes to biodiversity as a result of the project.

Table 40. Biodiversity Changes

Biodiversity element	Avoid Deforestation and Forest Degradation to save the habitat of biodiversity of endangered flora and fauna.
Estimated change	The biodiversity restoration plantation in Afforestation of project area will preserve the natural habitat of Agarwood

	Aquilaria malaccensis(CR), Aquilaria hirta (VU), Aquilaria cumingiana(VU), Aquilaria filaria (VU), and Gyrinops decipiens (EN), Gyrinops salicifolia (EN), Gyrinops moluccana (EN) and Gyrinops versteegii (VU) Shorea selanica (CR) and Shorea montigena (CR) by Tanimbar Community Restoration Project Forest protection Patrol and implementing community SIGS. Restoration Forestation of biodiversity restoration plantation of Agarwood species, Sesbania sesban, Samanea saman, Shorea selanica, Shorea montigena. in Project Zone. The nature Agarwood habitats will also be tagged with GPS and put into the protection location list. The Objectives and Benefits of Tanimbar Community Restoration Project are not only to protect the forest but also to establish the world class Agarwood Sanctuary.
Justification of change	The Tanimbar Community Restoration Project built a SIGS platform as described in section 2.1.18.

5.2.2 Mitigation Measures (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 on 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 conservation in this landscape, thus we the precautionary principle was not explicitly applied here.

5.2.3 Net Positive Biodiversity Impacts (CCB, B2.2, GL1.4)

Comparison of without-project and with-project scenarios

Based on the situation and without-project analyses (Section 5.1.3), most of the Direct Factors across the three Focal Issues were projected as being likely to worsen in the absence of the Tanimbar Community Restoration Project , including:

1. Limited law enforcement
2. Demand for land and increasing land conflicts.
3. High economic reward for poaching wildlife
4. Minimal risk of being prosecuted for poaching wildlife and Agarwood.
5. Lack of understanding or capacity to show appreciation for biodiversity value
6. High demand for timber and Agarwood (both local and international).

With-project the scenarios will substantially improve including:

7. More law enforcement.

8. Land conflicts reduced.
9. Poaching wildlife reduced and convert into HCV restoration.
10. Low prosecution for poaching wildlife and Agarwood.
11. Better understanding or capacity to show appreciation for biodiversity value
12. Convert the demand of timber and Agarwood to restoration and NTFP.

Thus, the project activities planned under Section 5.2.2 will result in clear biodiversity benefits compared to a without-project scenario where all these key factors get worse.

Gold Level for climate change adaptation benefits

The Global warming has significantly changed the sea temperature. At this stage, the rainfall pattern in Tanimbar Island has not greatly been affected. The evenly distributed rainfall has eased the possibility of forest fire by drought and paved the foundation for the HCV Tanimbar Community Restoration Project and livelihood of the communities. While modelling climate impacts is complex and difficult to do with any precision, it is clear that the climate in Indonesia will be increasingly variable and that the impacts of climate change will be evident primarily through extremes in the water resource sector. According to the 59, Asian Development Bank and Indonesian Ministry of the Environment and Forestry, the direct impacts of climate change will be reflected in changes to the natural rainfall pattern, higher temperatures and the rising sea level, which may result in flooding or drought which rarely happens at current state. The direct impacts of climate change – rising temperatures, changing rainfall patterns and sea level rise – generate secondary effects on ecosystems and natural resources. (59. The Climate Country Profile: Indonesia, World Bank Group 2021)

Indonesia's forests will also be affected by climate change impacts. The likely 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. 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 decreased income security for forest-dependent communities.

Additionally, the creation of Tanimbar Community Restoration Project plantation system spread around the villages not only provides the HCV Agarwood Forest (in addition to the ARR forest protection) but also the wildlife dependent on these forests which potentially would be adversely affected by these climate changes. Thus, the project directly helps the biodiversity by mitigating for these effects by reducing emissions through ARR, increased carbon capture/sequestration by Plantation, at the same time adapt to these anticipated changes by maintaining the plantations and all Project Accounting Area in good condition for these species, including bio diversified corridors that make it possible for the wide-ranging species to move in case of drastic changes.

5.2.4 High Conservation Values Protected (CCB, B2.4)

By protecting the Tanimbar Island Forest Landscape, the Tanimbar Community Restoration Project will be 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) will be much better in the 'With Project' versus 'Without Project' scenario for the reasons noted above. There is no negative effect on Tanimbar biodiversity.

5.2.5 Species Used (VCS, 3.19; CCB, B2.5, B2.6)

Table 41. Species Used

Species introduced	Classification	Justification for use	Adverse effects and mitigation
Aquilaria malaccensis	native	Restoration	None
Aquilaria hirta	native	Restoration	None
Aquilaria cumingiana	native	Restoration	None
Aquilaria filaria	native	Restoration	None
Gyrinops decipiens	native	Restoration	None
Gyrinops salicifolia	native	Restoration	None
Gyrinops moluccana	native	Restoration	None
Gyrinops versteegii	native	Restoration	None
Sesbania sesban	native	Companion Planting to eliminate chemical fertilizer	None
Samanea saman	native	Companion Planting to eliminate chemical fertilizer	None
Shorea selanica	native	Restoration	None
Shorea montigena	native	Restoration	None
Robinia pseudoacacia	Non-Native	Companion Planting to eliminate chemical fertilizer, Fire Resistant	None
Melaleuca leucadendra	native	Restoration, NTFP	None

Eucalyptus deglupta	native	Restoration	None

5.2.6 Invasive Species (VCS, 3.19; CCB, B2.5)

Table 42. Invasive Species Used

Existing invasive species	Mitigation measures to prevent spread or continued existence of invasive species
No Invasive Species	None

All Project Activities that include any planting or reforestation within the Project zone shall utilize native or naturalized tree/plant species that will be nurtured in nurseries on-site. No non-native species will be used in the Project Accounting Area. All agricultural areas in the landscape have been excised from the Project Accounting Area a priority.

5.2.7 GMO Exclusion (CCB, B2.7)

No GMOs will be used both within the Project Accounting Area and Project zone.

5.2.8 Inputs Justification (VCS, 3.19; CCB, B2.8)

Table 43. GMO Species Used

Name	No chemical fertilizers used
Justification of use	N/A
Potential adverse effect	None

5.2.9 Waste Products (VCS, 3.19; CCB, B2.9)

The main wastes anticipated from implementation of this project are from construction activities e.g., water reservoirs, pipelines, classrooms, health facilities and any other infrastructure. For any such activity, we will adhere to the national regulations and guidelines, as stipulated under the established Environmental and Social Impact Assessment process.

5.3 Offsite Biodiversity Impacts

5.3.1 Negative Offsite Biodiversity Impacts (CCB, B3.1) and Mitigation Measures (CCB, B3.2)

There is little chance of having significant negative biodiversity impacts outside the Project zone for two reasons. Firstly, the sources of threat to biodiversity are mainly local and they are unlikely to be transferred outside the Project zone (e.g. fuel wood collection and subsistence poaching) since neighbouring forests are either protected or under the jurisdiction of other communities. Secondly, commercial poaching threats related to wildlife trade or concessionary logging, which could be transferred further, are guided by existing Indonesian legislation and hence unlikely to be simply moved elsewhere solely because of

implementation of the Tanimbar Community Restoration Project. Thirdly, the complementary governmental patrol and community watch-post provide a positive safeguard to the forest and biodiversity preservation.

Table 44. Negative offsite impact

Negative offsite impact	Mitigation measure(s)
None	

5.3.2 Net Offsite Biodiversity Benefits (VCS, 3.19; CCB, B3.3)

As there are no anticipated negative offsite impacts to biodiversity. The positive offsite net biodiversity benefits include expanding conservation of endangered species restoration outside of the Project Accounting Area by local community, reducing general poaching of wildlife.

5.4 Biodiversity Impact Monitoring

5.4.1 Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

Indicators are important in impact assessment because 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). Same question applied to the Biodiversity Benefits. 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 (Richards & Panfil, 2011). Thus, we used our theory of change logic in the Result Chain diagrams (section 5.2.1) as the basis for selecting indicators that factor in attribution. We then decided on the best sampling methods to use to collect these data to acceptable levels of accuracy, precision and cost effectiveness whilst retaining transparency and simplicity. From this, a Monitoring Plan was developed to guide data collection.

Further, the indicators will be analyzed based on the Pressure-State-Response framework, which also relies on a causal-chain logic, where threats negatively impact the status/condition of biodiversity, while responses or project interventions reduce pressure. Most Response indicators can be grouped under: Habitat improvement; Security enhancement; and Improvement of community livelihoods efforts. Pressure indicators fall under: Human population size and dynamics; Human-wildlife conflict (HWC); and Incidences including poaching, grazing, encroachment, charcoal and firewood collection amongst others. Finally, State indicators are grouped into three categories: wildlife (including species presence, diversity, distribution and movement); vegetation and land-use (including changes in various vegetation/habitat types, encroachment and fire). Most of the response and pressure indicators correspond to the social indicators developed in the community monitoring plan (See section 4.4.1), and so data collection follows the protocols outlined therein. On top, we determined 9 indicators not part of the social indicator set, also classified

into three categories: Output 1; Outcome 5; and Impact 3 (Table 21). For these new indicators, two main strategies will be used to obtain the data: Internal reporting and AAD records. We envision three main aspects of state indicators to measure, each with a distinct set of monitoring protocols:

Wildlife: wildlife surveys and monitoring for all species – with a focus on HCVs – will be done using several methods: ranger and community watch-post patrols, school teacher and student watch-post daily observation and camera record, and information from any independent research projects in the area.

Vegetation and land-use: carbon plot monitoring plots and remote sensing (based on Tropical Moist Forest Database) and GIS techniques (see section 3.3.3).

Biodiversity Impact Assessment: Monitoring Plan

Table 45: Project biodiversity impact assessment for monitoring plan.

Focal Issue	Key results	SMART Objective	Indicator Code	Indicator	Indicator type	Data collection method	Who?	When?	Where?
Forest destruction and land encroachment	*Decrease in illegal logging*	*By 2027, reduce the number of illegal logging incidents by half in the Tanimbar Community Restoration Project*	**BIA001**	*Same as SIA001 to SIA010*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*
	Decrease in encroachment and land-grabbing	*By 2027, reduce the number of encroachment and land- grabbing by half in the Tanimbar Community Restoration Project*	**BIA002**	*Same as SIA011*	*Same as SIA*	*Same as SIA*	*Same as SIA s*	*Same as SIA*	*Same as SIA*
Wildlife and HCV Fauna/Flora poaching and conservation	*Decrease Wild Agarwood and other HCV fauna/Flora Poaching and trade*	*By 2027, reduce the number of wildlife poaching incidents by half in the Tanimbar Community Restoration Project*	**BIA003**	*Same as SIA012 to SIA014*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*
	Greater appreciation and awareness of wildlife benefits	*By 2027, 25% more community members demonstrate greater appreciation for wildlife and conservation*	**BIA006**	*Same as SIA025 to SIA028*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*
			BIA007	*# of awareness, sensitization training with special focus on HCV Fauna and Flora into school systems.*	Output	Internal report	AAD	Quarterly	School

	Greater Conservation/ Restoration of Agarwood and other HCV Fauna/Flora	*By 2026, setup native agarwood species conservation program*	**BIA008**	*Same as SIA015-SI023*	*Same as*	*Same as*	*Same as*	*Same as*	*Same as*
			BIA009	*# and species of wild agarwood and other HCV identified and protected in the PAAs*	Impact	Internal report	AAD, School	Quarterly	Project Accounting Area
			BIA010	*# of SIGS Agarwood HCV Flora restoration plantation established*	Impact	Internal report	AAD	Annually	Project Accounting Area
			BIA011	*# and species and Agarwood and Shorea trees planted*	Outcome	Internal report	AAD	Annually	Project Accounting Area
			BIA012	*# of Fauna species rescued and released*	Outcome	Internal report	AAD	Annually	Project Accounting Area
		By 2028, Agarwood and other NTFP Community Biodiversity Ecotourism Sites established and promoted	**BIA013**	*Same as SIA020-SIA022*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*
Improve community livelihoods	*Reduced cost of living*	*By 2027, 10% of community members with direct livelihood benefits from the Tanimbar Community Restoration Project*	**BIA014**	*Same as SIA029-SIA032*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*	*Same as SIA*
			BIA016	*# of Shorea dammar resin SIGGs formed*	Outcomet	Internal report	AAD/Cooperative	Annually	Project Accounting Area

SMART objective: Specific, Measurable, Achievable, Relevant and Time-bound.

5.4.2 Biodiversity Monitoring Plan Dissemination (CCB, B4.3)

The Tanimbar Community Restoration Project will disseminate the monitoring plan and the results of the monitoring within 12 months of validation. These documents will be made publicly available on the internet on CCB and VCS websites and linked to AAD's website too. They will also be communicated to the communities and other stakeholders (including the Government and Local Authorities) using diverse media including presentations, reports, brochures and orally during community awareness and sensitization meetings, and continuous SBIA/PRA workshops.

5.5 Optional Criterion: Exceptional Biodiversity Benefits

This project is seeking Exceptional Biodiversity Benefits based on the presence of IUCN Red Listed species and critical ecological functions.

5.5.1 High Biodiversity Conservation Priority Status (CCB, GL3.1)

THE Tanimbar Community Restoration Project meets the criteria for high conservation priority status. Please refer to Table 19 below for HCV fauna and flora species listing and their associated IUCN statuses.

5.5.2 Trigger Species Population Trends (CCB, GL3.2, GL3.3)

Table 46. Trigger Species Population

Trigger species	Shorea selanica IUCN 2023: T33146A125627493 and Shorea montigena IUCN 2023: T33146A125627493 https://www.iucnredlist.org/species/33146/125627493 https://www.iucnredlist.org/species/33426/125628716
Population trend at start of project	The Indonesian name of Shorea selanica is "Meranti Selan". This species is a tree endemic to the Maluku Islands and is classified as critically endangered due to habitat loss. It belongs to the family Dipterocarpaceae and plays a significant role in the local ecosystem, particularly in semi-evergreen lowland forests. Dammar resin can also be extracted from the Shorea tree. Not data on the species number, however, one sample plot has identified its existence.
Without-project scenario	Out of 90 sample plots, only one plot has identified its presence. Without the Tanimbar Community Restoration Project project, the Shorea population will continue to be threatened.
With-project scenario	With Tanimbar Community Restoration Project project, the current Shorea species will be marked and the nature habitat be protected. The seeds will be collected and will be planted together with Agarwood Plantation. Shorea species will be put on watch list for

	encroachment.

Trigger species	Critically Endangered Aquilaria malaccensis T32056A2810130, Vulnerable Aquilaria hirta T32056A2810130, Aquilaria cumingiana T38068A88301841, Aquilaria filaria T88305747A88305753, Gyrinops versteegii (Submitted to IUCN by CITES) and Endangered Gyrinops decipiens (Submitted to IUCN by CITES), Gyrinops salicifolia T88307237A88307241, Gyrinops moluccana (Submitted to IUCN by CITES). https://www.iucnredlist.org/species/32056/2810130 https://www.iucnredlist.org/species/34561/2853368 https://www.iucnredlist.org/species/38068/88301841 https://www.iucnredlist.org/species/88305747/88305753 https://www.iucnredlist.org/species/88307237/88307241
Population trend at start of project	These species have been found scattered in Maluku islands. Agarwood Encroachment has been reported but no specific species have been identified.
Without-project scenario	Out of 90 sample plots, only one plot has identified its presence. Without the Tanimbar Community Restoration Project project, the Agarwood population will continue to be threatened.
With-project scenario	With Tanimbar Community Restoration Project project, the current Agarwood species identified will be marked and the nature habitat be protected. The seeds will be collected and will be planted within the Agarwood Plantation. The Agarwood species will be put on watch list for encroachment. All 8 Agarwood species, if the seeds can be found from other Indonesia province, will be re- introduced into the Agarwood plantation to create the world class Agarwood Sanctury. This is the cord of Tanimbar Community Restoration Project .

APPENDIX 1: STAKEHOLDER DESCRIPTION TABLE

Use the table below to describe the commercially sensitive information included in the project description to be excluded in the public version.

Stakeholder	Rights, interest, and overall relevance to the project
Identify communities and any community groups within them, any cross-cutting community groups, and list other stakeholders.	Please refer to table a-c in section 2.3.2 for each stakeholder's rights, interest, and overall relevance to the project.
Amalatu County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Elpaputih County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Huamual County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Huamual Belakang County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Inamosol County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Kairatu County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Kairatu Barat County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project

Seram Barat County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Taniwel County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Taniwel Timur County	Communities included or adjacent to the Project Accounting Area for the Tanimbar Community Restoration Project
Community in general including both present and future generations	Stakeholders adverse affected by status quo
Government and Local authorities	Stakeholders adverse affected by status quo
Youth & Women	Stakeholders adverse affected by status quo
Borrowers/debtors	Stakeholders adverse affected by status quo
Poachers	Stakeholders benefiting from status quo
Immigrants	Stakeholders benefiting from status quo
Land speculators	Stakeholders benefiting from status quo
Loggers	Stakeholders benefiting from status quo
Timber traders	Stakeholders benefiting from status quo
Agarwood and other Non-timber forest product collectors	Stakeholders benefiting from status quo

Workers/job-seekers	Stakeholders benefiting from status quo
Wildlife traders and Middlemen	Stakeholders benefiting from status quo
Restaurant owners	Stakeholders benefiting from status quo
Wildlife consumers	Stakeholders benefiting from status quo
Microfinances and money lenders/creditors	Stakeholders benefiting from status quo
Employers	Stakeholders benefiting from status quo

APPENDIX 2: REFERENCE

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APPENDIX 4: EQUIPMENT LIST FOR MONITORING

To assist in the preparation of survey equipment and materials, the list of survey tools and materials is grouped according to the type of work as follows: Determining the location and making sample plot boundaries for the work of determining the location and making sample plot boundaries in the field, equipment and materials are needed as following:

1) Work map
2) GPS
3) Compass
4) Clinometer
5) Altimeter
6) Tape measure
7) Calculator or table for converting flat distance to pitch/slant distance
8) Benchmarks for 4 sample plot corners (pipe diameter 2 inches long 30 cm)
9) Plastic rope for making boundaries for recording units.
10) Plot nameplates.

To measure woody plants and dead wood, the following equipment is needed:

1) Tape measure (measurement of the radius of the sub-plot, measurement of seedlings, poles and stakes and length of dead wood)

2) Phi band / tree diameter measuring tape (measurement of tree DBH and dead wood diameter

3) Telescope Spiegel Relaskop (if available)

4) Tree label (for poles and trees)

5) Hammer and nail (attach tree tag)

6) Permanent marker (note tree number on tree label) Measurement of understory and litter and soil organic layer.

7) Scale.

Measuring undergrowth and litter on the same sub-plot requires:

1) Quadrants made of aluminum, measuring 0.5 m x 0.5 m
2) Knife or grass shears/cuttings
3) Hanging scale with a capacity of 10 kg with an accuracy of 10 g (to weigh the wet weight of the sample)
4) Digital scale with a capacity of 1 kg with an accuracy of 0.1 g (for weighing sub-samples
5) Porous sieve 2 mm (separating litter and organic soil)
6) 5 kg plastic bag
7) Permanent marker.

Measurement and sampling of mineral soils. Measuring and taking samples of mineral soil requires equipment and materials in the form of:

1) Metal box measuring 20 cm x 20 cm x 10 cm and or earthen ring with a diameter of 5 cm
2) Wood measuring 25 cm x 10 cm x 10 cm
3) Rubber mallet, to hit the iron box so that it sinks into the ground
4) Hoe/ Straight shovel
5) Earth knife
6) Hand shovel
7) Rubber band
8) Paper cement bag
9) 30 kg plastic bag
10) 5 kg plastic bag
11) Permanent marker.

For measurement of the Leakage in addition to the above equipments the following equipments is needed:

1) Densiometer
2) LiDAR