

VALIDATION OF NTAKATA MOUNTAINS REDD PROJECT

EPIC Sustainability

Document Prepared By EPIC Sustainability

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Summary:

Carbon Tanzania (CT, Ltd.) has appointed EPIC Sustainability Services Private Limited to perform the validation under VCS and CCB standards. The assessment covered the scope of the validation of the project design and sustainable benefits planned to be achieved for the project titled "Ntakata Mountains REDD Project"

The validation was based on the project description (PD), non-permanence risk analysis and other supporting documents submitted to the assessment team by the client. The assessment criteria was based on the requirements in VCS Standard v3.7, VCS AFOLU v3.6, the applied GHG methodology "VM0007: REDD Methodology Modules (REDD-MF)" and its associated modules as well as the VCS Non- Permanence Risk, the VT0001 "Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" v3 and the CCB Standard v3.1 are the criteria used to validate the Project.

The project activity is a REDD+ project, eligible under the Agriculture, Forestry and Other Land Use Scope in VCS, located in the Tanganyika District in the United Republic of Tanzania. The project aims to engage and support local communities in the protection of their village forest reserves in order to contribute to the conservation of important wildlife habitat such as chimpanzees and to mitigate climate change. The Ntakata REDD+ project is estimated to generate approximately 572,754 tCO₂e in GHG emissions reductions on an average annual basis.

The scope of this assessment is defined as a independent review and assessment by EPIC, of the proposed design based on VCS and CCBA monitoring plan during at the project start date, and consisted of the following three phases

- a) Desk review of the project documents and supporting evidences;
- b) Physical site inspection and follow-up interviews with project stakeholders;
- c) Resolution of outstanding issues and the issuance of the final report

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using EPIC's internal procedures. The assessment team identified, through the assessment process, Corrective Action Requests (CARs) and Clarification and Information Requests (CRs). A total of 09 CLs, 04 CARs, 01 FAR and 01 IR were identified in the current assessment. The client has taken actions and submitted to EPIC the revised reports and supporting evidence. The assessment team, through the validation process, confirmed that the project applies the applicable methodology by meeting the requirements of the monitoring aspects of the methodology and by means of the project design and monitoring plan can achieve the stated measurable emission reductions and sustainable benefits. The estimated emission reductions based on the project design are correctly calculated based on the Project Description, Version 3.0, dated 29th May 2020.

On the basis of the physical site inspection of the project activities and review of the documents submitted by the project participant, the assessment team confirms with a reasonable degree of assurance that the project design and monitoring plan conforms with VCS and CCB requirements and both the GHG reductions and the CCB indicators can be effectively monitored. In conclusion, it is EPIC's opinion that the VCS and CCB project description Version 3.0, dated 29th May 2020 for The Ntakata Mountains REDD Project meets all relevant requirements established by the VCS Standard, applicable Methodology, associated tools and modules.

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INTRODUCTION

Objective

EPIC Sustainability Services Private Limited (EPIC) has been contracted by Carbon Tanzania to undertake the VCS + CCB validation of the project titled “Ntakata Mountains REDD Project”:

- To validate that the project design and procedures described in the PD are in compliance with the applicable methodology and VCS and CCB requirements;
- To validate that the monitoring system and procedures described in the PD are in compliance with the applicable methodology and VCS and CCB requirements;
- To assess whether the identification and monitoring of the social, economic and environmental impacts are in accordance to the CCBA indicators;
- To verify that the data reported / estimated was accurate, complete, consistent, transparent and free of material error or omission by checking the supporting documents and the emissions reduction calculation; and
- To provide a reasonable level of assurance that the project design meets the stated criteria as per VCS Standard ver 3.7 and CCB Standard ver 3.1

Scope and Criteria

The scope of the validation was the independent and objective review and assessment of the project design of “Ntakata Mountains REDD Project”. The validation was based on the project description (PD), non-permanence risk analysis and other supporting documents submitted to the assessment team by the client. The assessment criteria was based on the requirements in VCS Standard v3.7, VCS AFOLU v3.6, the applied GHG methodology “VM0007: REDD Methodology Modules (REDD-MF) version 1.5” and its associated modules as well as the VCS Non- Permanence Risk, the VT0001 “Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities” v3 and the CCB Standard v3.1 are the criteria used to validate the Project. The scope of this assessment is defined as a periodic independent review and assessment by EPIC, of the proposed VCS project design and CCBA monitoring plan during at the project start date, and consisted of the following three phases

- a) Desk review of the project documents and supporting evidences;*
- b) Physical site inspection and follow-up interviews with project stakeholders;*
- c) Resolution of outstanding issues and the issuance of the final report*

The CCB Standard for this project activity being complimentary to the VCS, does not in itself set the criteria regarding the project type, location, and size, crediting period or baseline and monitoring methodologies; it covers only criteria of climate community and biodiversity impact of the project, but not for emission reductions themselves.

The validation is not meant to provide any consulting towards the client. However, stated request for clarifications and/or corrective actions may provide input for improvement of the project design

Summary Description of the Project

The project activity is a REDD+ project, eligible under the Agriculture, Forestry and Other Land Use Scope in VCS, located in the Tanganyika District in the United Republic of Tanzania. The project aims to engage and support local communities in the protection of their village forest reserves in order to contribute to the conservation of important wildlife habitat and to mitigate climate change. The Ntakata REDD project is estimated to generate approximately 572,754 tCO₂e in GHG emissions reductions on an average annual basis.

VALIDATION PROCESS

Audit Team Composition (*Rules 4.3.1*)

The following team members from EPIC were involved in the assessment:

Name	Role	Components reviewed
Dr G Vishnu	Lead Auditor	Completeness check, desk review, onsite inspection, Interview with project representatives, issuance of findings, report preparation.
Mr Chikira Hassan	Host Country Expert	Interviews with community and forestry land use patterns, desk review
Mr A. Prabu Das	Technical Review	Checking and verifying of information related to draft final report.

The summary of the audit team is provided as below:

Dr. G. Vishnu holds a Master's and Doctorate in Environmental Science. He has around 8 years of experience in the field of research and consultancy related to water, wastewater, solid waste management systems, ecological impact assessments, implementation of new, Cleaner Production technologies and biomass assessment studies. He has more than 10 years' experience in validation verification of more than forty CDM, GS and VCS projects and has undergone extensive training on GHG validation and verification and has been qualified as Lead Auditor for various technical areas. He is also an ISO 26000 lead auditor certified by Professional Evaluation and Certification Board (PECB). He is a Certified Sustainability Assurance Practitioner (CSAP) from AccountAbility, UK. He has successfully completed the e-course on Carbon Monitoring in CDM Afforestation and Reforestation projects conducted by World Bank Institute. He has participated as lead auditor and technical reviewer for forestry projects across various regimes and has undergone training in methodologies and processes related to forestry auditing. He has experience in auditing of community forestry projects under VCS, CCB and Plan Vivo in African region.

Mr. A Prabu Das, holds a M. Tech Degree in Energy Conservation and Management and B. Tech Degree in Petro-chemical Technology. He is a certified Energy Auditor by Bureau of Energy Efficiency (BEE), Government of India. He has around 13 years of work experience in Design of biomass Power plants, preparing Techno Economic Feasibility Reports (TEFR), carrying out energy audits, of which last eight years have been in CDM consultancy and validation services. He has more than 10 years' experience in validation verification of more than forty CDM, GS and VCS projects and has undergone extensive training on GHG validation and verification and has been qualified as Lead Auditor for various technical areas. He is also an ISO 26000 lead auditor certified by Professional Evaluation and Certification Board (PECB). He is a Certified Sustainability Assurance Practitioner (CSAP) from AccountAbility, UK. He has successfully completed the e-course on Carbon Monitoring in CDM

Afforestation and Reforestation projects conducted by World Bank Institute. He has participated as lead auditor and technical reviewer for forestry projects across various regimes and has undergone training in methodologies and processes related to forestry auditing. He has experience in auditing of community forestry projects under VCS, CCB and Plan Vivo in African region.

Mr Hassan Chikira holds a Bachelors and Masters degree in Forestry Science. His work experience in the forestry sector includes more than twenty years of expertise as district forest manager and senior project officer. He has worked for organisations at both the national and international levels such as Tanzania Forestry Services, Forest conservations groups and Frankfurt zoological society. Based on his expertise and experience he is qualified as a host country and technician expert for the project under EPICs qualification procedures.

Method and Criteria

The verification and sampling plan methodology was based on VCS guidance documents and ISO 14064-3. Based on inventory information, a total of 39 plots were measured across the single identified strata – miombo woodland.

The sample design was a simple random sample employing clusters of four fixed 10m-radius plots. Within the project area, the validation team visited randomly sampled plots that were used to determine the carbon stock within the project area. In each plot, the assessment team observed the PP inventory team implementing the Standard Operating Procedure for the Forest Inventory. The plots were consequently re-measured either completely or partly and findings compared with the original inventory date of the respective plots.

The objective of the field assessment was to assess the project's ability to re-identify both plots and trees originally subjected to the inventory, whose data were entered in the carbon model and to assess the quality of the work performed within the field during the data collection. In addition to the site visit, whereby the assessment team assessed the performance of the inventory practices, the team performed an office audit during which it examined the data processing, quality controls and carbon modelling. This was to determine the correctness of the assumptions that the PD provided on the project eligibility criteria in relation to Methodology, as well as the project's ability to implement the project design over the duration of the project crediting period. During the site visits, both in the Reference Area and Project Area, the assessment team performed interviews with the aim of obtaining information about agricultural practices within the project area. A risk-based approach was used to select the samples, allowing for a review of target members representing a wide geographic range of sites that reflect the different PAA strata. This was done to obtain the necessary sample size and to meet a reasonable level of assurance.

Document Review

The validation was performed based on the review of the PD, as well as the supporting documentation. This process included:

- 1. a review of data and information presented to verify their completeness*
- 2. a review of the project design monitoring plan, and the QA/QC procedures, and*
- 3. an evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of ERs.*
- 4. An evaluation of the sustainable development matrix and the context of their influence on meeting the CCB requirements*

The documents submitted were initially reviewed and EPIC requested that the PP present supporting evidence. Additional background information and documents related to project performance were also reviewed by EPIC. Through the process of the validation, the revised project document and the

supporting documents were evaluated to confirm the actions taken by the PP in response to the CARs and CRs issued by EPIC. The documents reviewed by EPIC are listed in References section of this report. EPIC reviewed the final version of the documents, such as the VCS-CCB PD, to confirm that all changes agreed had been incorporated. The entire list of documents reviewed is summarized in Appendix 3.

Interviews

Interviews were conducted during the site visit inspection from July 15th to 27th, 2019. Both the Carbon Tanzania team and Terra Carbon LLC team were interviewed at the head office in Arusha and respective field offices during the site visits.

Name Designation	Company	Interview Topics
Mr. Marc Baker	Carbon Tanzania	Project design, Project implementation Monitoring plan and Procedures, Training details, field measurement
Mr David Soch Mr Ben Rifkin	Terra Carbon LLC	Monitoring plan and Procedures, Training details, field measurements
Mr David Soch Mr Ben Rifkin	Terra Carbon LLC	Field measurements, Species identification, data entry, Carbon measurement practices
Mr. Marc Baker	Carbon Tanzania	Procedures and policies of Tanzanian government for forestry conservation and community forestry.
The Nature Conservancy Team, Mpanda office	The Nature Conservancy	Benefit sharing mechanisms, implementation plan for CCB indicators
- Mpanda – meeting with natural resource officer - Katuma – meeting with village council and villagers - Lugonesi - meeting with village council and villagers	Villages visited to review CCB indicators	Farming practices followed, Meeting with village council and VGS, benefit sharing mechanisms, village boundary visit for buffer zone verification.

Site Inspections

An onsite visit was conducted during the period July 15th to 27th, 2019. The sampling criteria were based on strata classified as described in section 2.2. The on-site assessment which was conducted as a part of the activity involved:

- 1) An assessment of the design of the VCS and CCB project activity as per the registered PD;
- 2) A review of information flows for generating, aggregating and reporting of the monitoring parameters;

- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the Monitoring Plan;
- 4) A cross-check between information provided in the PD, and data from other sources;
- 5) Observations of monitoring practices against the requirements of the PD and the applied methodology; confirmation of same from the host country expert
- 6) Interviews with local stakeholders to confirm that the project meets the sustainability benefits criteria as defined by CCB; confirmation of same from the host country expert
- 7) A review of calculations and assumptions made in determining the GHG data and ERs, and
- 8) An identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the estimated monitoring parameters.

Public Comments (Rules 4.6)

The Ntakata Mountains REDD Project was open for public comment from 14/06/2019 to 14/07/2019 as confirmed from the VERRA public registry. No comments have been received during this period as per the information in the VERRA registry <https://registry.verra.org/app/projectDetail/VCS/1897>.

Resolution of Findings

The objective of the validation was to resolve the corrective action requests and clarifications and any other outstanding issues which needed to be clarified prior to EPIC's positive conclusion on the validation. During the audit process, 09 CLs, 04 CARs, 01 FAR and 01 IR was raised. Also 1 FAR (FAR 1) was raised during this validation, which was acknowledged by CT. All the CARs and CRs were resolved during this phase. In order to ensure the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 1 of this report and documented in more detail. All the corrective actions and responses have been incorporated into the revised VCS-CCB PD.

Forward Action Requests

Also 1 FAR (FAR 1) were raised during the validation, which was acknowledged by CT. In order to ensure the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 1 of this report and documented in more detail

VALIDATION FINDINGS

Summary of Project Benefits

The validation team has assessed Section 1.1 and 1.2 of the PD which describes the project benefits – both unique and standard benefit metrics. The unique benefits are described as the development of the village land use plans and Protection of habitat suitable for Chimpanzees. The sustainable development metrics are based on the PD template and provide estimated benefits that are included and benefits that will not be monitored and/or are not applicable are labeled accordingly. Supporting documents have been verified by the audit team to verify that all achievements reported are substantiated with information provided. The reference sections list the documents reviewed by the audit team.

General

Summary Description of the Project (G1.2)

The validation team has undertaken the following steps to assess the description of the project information as provided in the PD and by site visit observations.

The project is located in Tanganyika District, in Western Tanzania.

The Ntakata REDD project start date is 19th May 2017 based on activities outlined in section 2.1.11 and 2.1.13. of the PD. This date is based on the completion of the final participatory land use plans in April 2017, the completion of the training of village game scouts in May 2017 and the date on which Carbon Tanzania, The Nature Conservancy and Pathfinder signed a Memorandum of Understanding. The documents submitted by the PP for the start date have been reviewed by the validation team and are found appropriate with the events listed.

It has been verified by the project by review of information in the PD and site visit observations that threats to the forest habitats which is the scenario existing prior to the implementation of the project are slash and burn agriculture undertaken by a steady influx of migrants from all parts of Tanzania as well as from across the country's Western border. In addition the other relevant factors include, grazing by pastoralists, mining, and the development of new infrastructure (e.g. roads). It is the opinion of the validation team that the factors identified are relevant in the context of the implementation of the REDD project.

As per the project design, Carbon Tanzania, has partnered with the District Government, and has identified 8 villages to collaborate in the REDD project implementation. The Village Land Use Plans (VLUPs) of these villages form the basis for identifying the forest landscapes to be protected under the project.

The objectives of the Ntakata REDD as verified from the information in the PD are:

- a) Ensure availability of carbon finance to support patrolling and other activities to enhance sustainability of the resources.
- b) Work in partnership with local communities in order to have positive impacts on their livelihoods. Carbon Tanzania works with the Village Governments as the primary interface, thus utilizing existing governance structures.
- c) Training and compensation to Village Game Scouts (VGS) to conduct regular patrols of the forest.
- d) Other livelihood-related interventions include training and demonstration of climate smart agriculture techniques and reproductive health services..
- e) As part of the biodiversity plan for chimpanzee conservation, the sufficient forest habitat and corridors to facilitate movement throughout the landscape are to be maintained by means of the conservancy measures adopted.

The audit team confirms that the PD Section 2.2 defines the project's climate, community and biodiversity objectives, and that they are specific, measurable, and distinct, per the CCB requirements.

As a result of the implementation of a range of project activities, the Ntakata REDD project is estimated to generate approximately 572,754 tCO₂e in GHG emissions reductions on an average annual basis and qualifies as a large project under VCS requirements.

The overall aim of the project is to engage and support local communities in the protection of their village forest reserves in order to contribute to the conservation of important wildlife habitat and to mitigate

climate change which is described in the VCS-CCB PD. In summary, the audit team concludes that the description in the PD is accurate, complete, and provides an understanding of the nature of the project.

Physical Parameters (G1.3)

The validation team during the site visit has taken the steps as summarized below to validate the summary description of basic physical parameters of the project. The details of documentation assessed and observations made during the site visit for each parameter are as below:.

Parameters	Validation by audit team
Geology	The audit team based on document review and site visit verified that the project area is located between S05.55' - 06.30' and E30.10'' - 30.50' with an altitude range from 800m-2000m.
Topography	The project area is bordered by Mahale Mountain National Park (MMNP) to the west along Lake Tanganyika as verified from the maps provided. The topography of the region is characterized by broad but steep hills of miombo woodland broken up by thin strips of gallery forest, typically in valleys. The Greater Mahale Ecosystem is framed by Lake Tanganyika in the west and by major rivers – Malagarasi in the north, Ugalla in the east – as well as smaller riverine systems that flow into Lake Tanganyika.
Soil	The audit team based on document review and site visit verified that the project area soil is predominantly Eluvial, Laterised (depleted of soluble substances) red and is predominantly sandy clay loam (ultisols) with good drainage
Climate and Precipitation	There are two clear seasons across the region, with a wet season from November to April, and a dry season from May to October. Average rainfall is 1800mm/year with temperatures ranging from 18 C to 32 C depending on altitude and time of year. The information was verified from public documents.
Vegetation and forest type	Habitat is typical of the Zambezian (miombo) Woodland Ecoregion characterised by <i>Brachystegia</i> and <i>Julbernardia</i> spp. It was verified from the visit to the sample plots
Wildlife	chimpanzees, savanna elephants and zebras were spotted during the site visit which verified the existence of the species

Social Parameters (G1.3)

The validation team during the site visit has taken the steps as summarized below to validate the summary description of basic social parameters of the project. The details of documentation assessed and observations made during the site visit for each parameter are as below:

Parameters	Validation by audit team
Ethnicity and Language	The audit team based on document review and site visit verified that a diversity of ethnicities resides in the area, including people of the following tribes: Bende, Fipa, Sukuma, etc. While these are distinct tribes with their own languages and cultural traditions, these groups are all Bantu (a general label for ethnic groups that speak Bantu languages) and speak Swahili as a common and unifying language.
Primary livelihood activities	Farming and animal husbandry were identified as the primary livelihood activities. Additional income may be supplemented by small businesses, beekeeping, and charcoal production. Most people in the communities claim to own their own land; however, formal land titles are very uncommon/non-existent. While individual parcel boundaries are generally well accepted, some villages are faced with numerous issues of conflict over agricultural and grazing land between neighbours and with new migrants. Cattle raising is practiced primarily by the Sukuma ethnic group. The audit team verified these aspects by means of interviews with villagers during site visit.
Education	As verified during the site visit each village has its own primary school and both boys and girls commonly attend; however, there are only two secondary schools in the area. Higher education requires traveling out of the village to live elsewhere and therefore few students are able to continue their education. The literacy rates in the village are quite high (71%).
Food insecurity	While villagers generally have access to land and resources, there is significant food insecurity in the area, with villagers claiming that 5 – 10% of the population does not have adequate food to eat throughout the year. The most vulnerable tend to be the elderly, disabled, and women-headed households. Each village has gone through a process to identify the poorest households and these are subsequently eligible for government assistance through the Tanzania Social Action Fund (TASAF).
Gender issues	Review of project surveys and interview of villagers revealed gender bias to some extent. In some villages however women hold high level jobs.

Project Zone Map (G1.4-7, G1.13, CM1.2, B1.2)

The project zone map in the PD demarcates the project boundary, roads, national parks and forest reserves apart from the chimpanzee habitat. The GPS points taken by the audit team at the various zones matched accurately with the map provided.

Stakeholder Identification (G1.5)

The process of stakeholder identification was assessed by the validation team based on the information available in the PD and site observations. The summary of information assessed as being accurate is as below:

- a) Carbon Tanzania has started the process of stakeholder identification by consulting the district governments of both Mpanda and Tanganyika.
- b) These district governments in turn, provided an introduction for Carbon Tanzania to other relevant stakeholders including the ward offices, village committees in the eight villages, and the district forestry office and district land office.

The project focuses on the implementation of Village land use plans which have resulted from a participatory process involving a wide range of stakeholders at the local level, including vulnerable and marginalized groups.

- c) With the full support of the district, Carbon Tanzania conducted introductory meetings to the project with all of the village governing committees in February and June 2017. The elected members of these committees represent the entire village through the system of sub-villages.
- d) As a result of the positive response from all the village committees, project preparations were initiated.

The above sequence of events and information was verified by the audit team during interviews with stakeholders and it is the opinion of the audit team that the information provided in the PD is in line with the actual implemented status.

Stakeholder Descriptions (G1.6, G1.13)

Within the village communities, the different community groups were defined through an analysis of the socio-economic baseline data. A focus was put on identifying the most vulnerable or marginalized community groups, being those with less rights and wealth, or access to benefits derived from the project activities.

Identified stakeholders	Audit team validation
Tanganyika District Government	As verified from the document review and site observations the district comprises of the Higher level decision-making authority in the district, including the right to decide whether or not to host the project. It Provides higher level support to the project villages for forest law enforcement when required. Liaises with national government.
Mpanda District Government	As verified from document review and site observations, the district forest officer and district land officer are assigned to support the project.
Bujombe Village (+5 sub-villages)	As verified from document review of the VLUP the Land use plan designates an area of 13,380 ha of forest reserve in the project area.
Kagunga Village (+4 sub-village)	As verified from document review of the VLUP the Land use plan designates an area of 6,089 ha of forest protection in the project area.
Kapanga Village (+ 3 sub-villages)	As verified from document review of the VLUP the Land use plan designates an area 5,923 ha of forest reserve in the project area, and 2,336 ha of grazing reserve.
Katuma Village	As verified from document review of the VLUP the Land use

(+4 sub-villages)	plan designates an area of 909 ha of forest reserve in the project area.
Lugonesi Village (+7 sub-villages)	As verified from document review of the VLUP the Land use plan designates an area of 38,324 ha of forest reserve in the project area, and 5,981 ha grazing reserve.
Lwega Village (+6 sub-villages)	As verified from document review of the VLUP the Land use plan designates an area of 30,426 ha of forest reserve in the project area, and 11,018 ha of grazing reserve.
Mpembe Village (+6 sub-villages)	As verified from document review of the VLUP the Land use plan designates an area of 19,401ha of forest protection in the project area.
Mwese Village (+5 sub-villages)	As verified from document review of the VLUP the Land use plan designates an area of 112 ha of forest reserve in the project area.
Village Women & Women's Groups	As verified from the document review and site observations the the project has implemented strategies to ensure that women participate and also benefit from the project.

By means of interviews of the villagers, the audit team verified the self-determination and governance, including enforcement of local land use plans and forest regulations, consent (or withholding of such) to the project. Potential for improved livelihoods, employment, training and capacity development, health and education benefits, ecosystem services from forests also exists. Gender imbalance is also addressed to some extent.

Sectoral Scope and Project Type

The validation team has assessed the the sectoral scope(s), project type, technologies and measures implemented and eligibility of the project as per information in the PD and verified the information as below

- Project Sector and Scope: Sector 14 - Agriculture, Forest and other Land Use (AFOLU)
- Project Category: Reducing Emissions from Deforestation and Degradation (REDD)
- Type of Activity: Avoided Unplanned Deforestation (AUDD)
- Grouped project: No
- Scale : Large

This project based on the above validated information qualifies under the Verified Carbon Standard (VCS) and Climate, Community & Biodiversity Alliance (CCBA) Standard as a Reducing Emissions from Deforestation and Degradation (REDD) project.

Project Activities and Theory of Change (G1.8)

The audit team took the following steps to validate the causal relationships or theory of change that link the project activities to the project's predicted climate, community and biodiversity benefits.

- The audit team confirmed that the project uses the theory of change methodology and that the text in the PD is well supported by a series of flow diagrams which allow for assessment by the auditor and the public.
- While on site, the audit team interviewed local community members who confirmed that the assumptions in the model were are a result of the consultation process and are therefore clearly defensible.

- Furthermore, the focal issues used as indicators of change allowed the audit team to draw a clear comparison between the ‘with project’ and ‘without project’ scenarios. The PD includes a detailed breakdown of anticipated impacts by group and shows the result to be net positive for all groups, therefore meeting the requirements of this indicator.
- The increasing of anti-poaching and prevention of illegal grazing, benefits to vulnerable community, capacity building through training and awareness and strengthening governance were the main activities verified to be reasonably well aligned with meeting the projects objectives in short, medium and long term.
- While on site, the audit team heard from the village chief and other members of the project team, regarding how the focal issues were identified with stakeholders and community groups, as well as used to inform the project’s climate, community and biodiversity objectives.

Sustainable Development

The PD has identified how the project will contribute to sustainable development aims of Tanzania’s National Development Vision of 2025 that the national government has committed to attaining, which include economic growth and development, poverty and equity, education, sustainable forest and land use, climate change, and agriculture and food security. The audit team confirmed that the PD contains detailed information to justify how the project contributes to the seven themes. While on-site, the audit team confirmed through interviews and visual observation that the benefits are real contributions to be made from the project. In summary, the audit team concludes that the project’s sustainable development contributions as written in the PD are accurate, complete, and provide an understanding of how the project will contribute to sustainable development goals.

Implementation Schedule (G1.9)

These key dates and milestones are set out in section 2.1.13 of the PD in conformance with VCS requirements. The audit team has confirmed through observations, document review and interviews with project personnel that all listed milestones were implemented based on the timeline provided. The future implementation plan was also deemed accurate based on current progress.

The Ntakata REDD project start date is 19th May 2017 based on activities outlined in section 2.1.11 and 2.1.13. of this PD. This date is based on the completion of the final participatory land use plans in April 2017, the completion of the training of village game scouts in May 2017 and the date on which Carbon Tanzania, The Nature Conservancy and Pathfinder signed a Memorandum of Understanding. The signing of this MoU along with these activities all lead to the beginning of implementation of management and protection plans. The start date is in line with the VCS standard definition of start date of project and it has been verified that there are relevant events with community participation which are leading up to the actual start date.

Benefits Assessment and Crediting Period (G1.9)

The project crediting period (of 30 years) is equal in length to the assessment periods for climate change adaptive capacity and resilience, biodiversity and community well-being resulting from project activities , which is appropriate. The duration of the crediting period is from 19th May 2017 to 18th May 2047. The 30-year project crediting period is in full compliance with the requirements of Section 3.8.1 of the VCS Standard, as it falls between the 20 year minimum and 100 maximum for AFOLU projects. The audit team confirmed that, per Section 3.3.1 of the AFOLU Requirements, the project has a credible and robust plan for managing and implementing the project over the project crediting period, as follows:

- a) The audit team reviewed the relevant sections of the PD and confirmed that the project's monitoring plans will enable measuring progress towards desired project activity outcomes and impacts from slated project activities and strategies.
- b) Through on-site interviews with community members, governmental officials, and other project personnel, the audit team confirmed that the Community Monitoring Plan has selected variables that are directly linked to the project's community development objectives and impacts, and that the community variables were produced as a result of the consultation process and are anticipated to be positive over the project crediting period.
- c) Through on-site interviews with governmental officials, including the project's Biodiversity Specialist, community members (including VGS), and other project personnel, as well as through observations regarding threats to biodiversity and forest cover made on-site, the audit team confirmed that the Biodiversity Monitoring Plan is credible and robust and designed to generate stable or increasing levels of biodiversity and their associated indicators over the crediting period.

Risks to the Project (G1.10)

The audit team took the following steps to assess the accuracy of the likely natural and human-induced risks to the expected climate, community, and biodiversity benefits during the project lifetime identified by the project.

- Through on-site observations and interviews with project personnel, the audit team confirmed that the discussion of risks in Section 2.3.1 of the PD is comprehensive and also includes risk identified as part of the non-permanence risk analysis (see Section 3.3.10 below);
- The audit team concludes that measures proposed are effective to mitigate the risks as per the project description such as slash and burn agriculture, grazing infrastructure development and migrants.
- Through on-site observations and interviews with project personnel, the audit team confirmed that the mitigation measures are appropriate, in that they will directly target each potential risk to the extent appropriate.
- Project risks were also assessed in detail in the VCS Non-permanence Risk Report (version 2.0 dated 5th June 2020), which will be updated periodically as part of the VCS monitoring and verification process. The risk factor of 13% applying the VCS AFOLU Non-permanence Risk Tool relate to risks of reversals of climate benefits but equally to community and biodiversity benefits and is assessed to be a fair estimate of the overall risks.

Benefit Permanence (G1.11)

Two principal strategies to ensure the maintenance and enhancement of the project benefits beyond the project lifetime are described in the PDD.

- The first is capacity development. The project provides by means of awareness programs and training that the capacity development ensues for the lifetime of the project.

- The second strategy relates to land use and the planned use of pastoral lands in a sustainable way. While land use plans may be adjusted over time, the forest reserves are set aside for long term protection beyond the lifetime of the project.

Therefore, the protection measures adopted in the project accounting area during the project lifetime is forecast to set the stage for future protection beyond the project lifetime, leading to maintenance and enhancement of the climate and biodiversity benefits beyond the project lifetime. Hence the audit team concludes that the project activities designed to strengthen capacity development and improve community well-being should extend beyond the project lifetime.

Financial Sustainability (G1.12)

The audit team concludes the following regarding financial mechanisms adopted to provide an adequate actual and projected flow of funds for project implementation and to achieve the project's climate, community and biodiversity benefits. Through review of the 30-year budget and workplan, audit team confirmed the projected flow of funds is adequate to support implementation of the project activities.

Revenue assumptions (revenue from carbon) are all reasonable and/or conservative. Administrative and operational cost projections are sourced directly from the official budget of the project proponent, and can be assumed to be correct. Breakeven analysis demonstrates that cumulative cash flow becomes positive in the fourth year of the project and remains positive thereafter.

Evidence of actual and/or projected revenues from GHG emissions reductions and/or removals and/or other sources has been provided to the audit team

Grouped Projects

As per VCS reporting requirements, the following section is only required for grouped projects. If not applicable, indicate so and delete instruction and headings for section 3.2.14 below this text.

Eligibility Criteria for Grouped Projects (G1.14)

This section is not applicable, as the project is not a grouped project

Scalability Limits for the Grouped Projects (G1.15)

This section is not applicable, as the project is not a grouped project

Risk Mitigation Approach for Grouped Projects (G1.15)

This section is not applicable, as the project is not a grouped project

Land-Use Scenarios without the Project (G2.1)

The audit team has assessed the assumption in the PD on the range of potential land-use scenarios and the associated drivers of land use changes most likely to occur within the project zone in the absence of the project. Audit team is of the opinion that all "realistic and credible land-use scenarios that would have occurred on the land within the proposed project boundary in the absence of the AFOLU project activity under the VCS" have been identified in Section 4.6 of the PD, per the "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities"

Most-Likely Scenario Justification (G2.1)

The audit team took the following steps to validate the most-likely land use scenario.

- Audit team undertook steps described in Section 3.2.1.6 above to confirm that the scenario of “Continuation of the pre-project land use” is one in which deforestation would continue to occur throughout the project zone
- Based on on-site observations, interviews with Forestry Administration personnel and applicable of professional judgment, audit team concluded that there have been no significant changes in social, political or economic circumstances, relative to those existing in recent history, that would lead to a difference between the most likely land-use scenario within the Project Zone in the absence of the project and the scenario of “Continuation of the pre-project land use”
- Therefore, audit team concluded that the most likely land-use scenario within the Project Zone in the absence of the project (i.e., the baseline scenario) is equal to the scenario of “Continuation of the pre-project land use which is unsustainable agricultural practices and continued migration which reflects the ineffective implementation of VLUPs.

In summary, since the most-likely land-use scenario in absence of the project is readily defensible on the basis of historic deforestation patterns and current land conversion pressures, the audit team concludes that the most-likely land-use scenario in absence of the project, as described in the PD, is justified.

Community and Biodiversity Additionality (G2.2)

The validation team has taken the following steps to validate the project’s justification for the additionality of the project benefits.

Criteria	Audit team assessment
Existing laws, regulations, and governance arrangements, or lack of laws and arrangements that would likely affect land use in the absence of the project.	The audit team carried out interviews in the field to confirm that project benefits are additional
Significant financial, technological, institutional or capacity barriers under the without-project scenario that would have inhibited project activities.	The audit team was provided with financial information for the entities participating in the project funding, along with the anticipated budgets for carrying out the project activities.
Any distinct climate, community and biodiversity benefits intended to be used as an offset and specify how additionality is established for each benefit intended for this purpose.	Not Applicable

It was verified during the site visit that the the additional revenue from the REDD project will contribute significantly to ensuring that the VLUP is implemented and strengthened in the face of imminent external land pressures. In summary, the audit team concludes that the justification for the additionality of the

project activities, as provided in the PD, is appropriate and in conformance with requirements of the selected methodology.

Stakeholder Access to Project Documents (G3.1)

The audit team took the following steps to validate the project's stakeholder engagement plans and practices to fulfil the requirements of G3.1.

- The audit team carried out a detailed review information in the PD which contains information regarding steps made to communicate and publicize the PD and other project documentation, the project validation process, and the CCB public comment period.
- The audit team visited project communities as indicated in the audit plan, as well as project offices and sub-offices. In these locations, audit team observed that the project PD was available, as well as executive summaries of the PD, informing of the project (in English and local language).
- The audit team conducted interviews with community members and verified the stakeholder engagement practices.
- In summary, given the evidence of awareness of project information in most project communities, the audit team concludes that the project has made project documentation accessible to communities and other stakeholders.

Community Costs, Risks and Benefits (G3.2)

The audit team took the following steps to validate project proponent's plan/practices to explain the project's potential costs, risks and benefits to communities.

- While on site, the audit team held interviews with community members across the project zone and heard first-hand accounts regarding the project personnel's communication and engagement with the project communities regarding the project. During the interviews, the audit team confirmed that the potential costs, risks and benefits were discussed with communities.
- The audit team discussed the content of meetings and workshops held with the project's partners responsible for the community outreach as well as other project personnel involved in the meetings, and confirmed that potential costs, risks and benefits of the project were discussed.
- The audit team reviewed meeting minutes, photographic evidence and attendance sheets confirming the level of outreach that was performed by the project; the audit team confirmed that potential project benefits and risks were discussed during meetings.

Given this information, the audit team concludes that the information was relevant to decision-making with respect to participation in the project, and was sufficiently adequate to inform such a decision. In addition, the audit team concludes that the information was provided in a form that could be understood by the communities. The audit team also is aware that the information was provided in a in a timely manner prior to any decision made to participate in the project.

Information to Stakeholders on Validation and Verification Process (G3.3)

The audit team took the following steps to validate the measures taken and communication methods used to inform communities and other stakeholders of the process for CCB validation.

- While on site, the audit team held interviews with community members across the project zone and confirmed that communities had been apprised of the CCB validation process.
- The audit team discussed the content of meetings and workshops held with the project's team responsible for community outreach, and confirmed that the CCB validation process was discussed with community members in a variety of forums and settings.
- The audit team reviewed meeting notes, photographic evidence and attendance sheets confirming the level of outreach performed by the project.

Site Visit Information and Opportunities to Communicate with Auditor (G3.3)

The audit team assessed the following regarding how communities and other stakeholders were informed of the auditor's site visit in a timely manner before the site visit occurred, and how direct and independent communication between communities and other stakeholders or their representatives and the auditor were facilitated.

- While on site, the audit team held interviews with community members across the project zone in a variety of settings and forums and confirmed that communities had been apprised of the auditor's site visit in a timely manner. The villagers were aware that the meetings would be held with the auditor, and that direct and independent communication with the auditor team was encouraged.
- The audit team held group meetings with the local stakeholders which indicated that they were aware of the upcoming auditor's visit and of ways to communicate with the team.

Stakeholder Consultations (G3.4)

The audit team took the following steps to validate the project's method(s) for conducting effective consultation to fulfil the requirements of G3.4.

- The audit team confirmed that the PD includes a detailed description of the stakeholder consultation process.
- While onsite, the audit team interviewed project personnel involved in community outreach who confirmed that the consultation process was implemented as described in the PD.
- Moreover, the audit team reviewed meeting minutes, photographic evidence and attendance sheets confirming the level of outreach that was performed by the project personnel.

Finally, interviews with community chiefs confirmed that the consultation process is ongoing with representatives from all participating communities being represented in order to learn from project successes and failures in order to ensure the project is being implemented using an adaptive management framework. It was verified as per information in the PD that one of the partners - Tuungane, will play the role of informing continued review, and advising adjustment of the project activities to better deliver the intended outcomes. In summary, given the evidence collected, the audit team concludes that the project's method(s) for conducting effective stakeholder consultations, as described in the PD, fully satisfy the requirements of G3.4.

Stakeholder Consultation Channels (G3.5)

The audit team concludes the following regarding the stakeholder consultation channels used by the project proponent to fulfil G3.5, considering especially the project proponent's justification that adequate levels of information sharing occurred.

- While onsite, the audit team interviewed project personnel involved in community outreach (e.g. Bi-Annual meetings) who attested that the consultation process was undertaken directly with communities and other stakeholders, or their legitimate representatives.
- Moreover, the audit team reviewed meeting minutes, photographic evidence and sign in sheets confirming that outreach was conducted directly with community members through various multi level channels.
- Tuungane also provides a separate and independent consultation channel available to the community at all levels.
- A large number of community meetings and workshops occurred during the project development process, as is documented in Section 2.7.2 of the PD and was confirmed onsite. The audit team concludes that adequate levels of information sharing occurred.

Stakeholder Participation in Decision-Making and Implementation (G3.6)

The audit team has assessed the information in the PD by means of site observations to verify that the project has been effectively communicated with all communities, including disadvantaged groups, and that they have been given an opportunity to participate .

- The audit team confirmed that the project design process has been implemented in a collaborative manner ensuring that all potentially affected stakeholders are included throughout the project design process.
- The audit team interviewed community members across the project zone and confirmed that meetings were held in the relevant local language.
- The audit team confirmed through interviews that invitations were extended to community leaders, leaders of community forests, and commune leaders within a meaningful timeframe and in such a manner that each stakeholder could respond

Anti-Discrimination Assurance (G3.7)

The audit team has taken the following steps to assess the measures needed and designed to ensure that all entities involved in project design and implementation are not involved in, or complicit in, any form of discrimination or sexual harassment.

- The audit team confirmed that the PD contains detailed description of measures designed to ensure that all entities involved in project design and implementation are not involved in any form of discrimination or sexual harassment.
- While onsite, the audit team interviewed project personnel involved in community outreach who attested that entities involved in project design were not involved or complicit in discrimination or sexual harassment.
- The audit team confirmed that the project has established formal grievance redressal system.

Feedback and Grievance Redress Procedure (G3.8)

The audit team has assessed the following regarding the project's feedback and grievance redress procedure. The audit team agrees that the project's formalized process is consistent with requirements of the CCB Standards

- reviewed the submitted formal Grievance and Redress Mechanism document and agreed that it outlines a procedure for receiving, hearing, responding to and attempting to resolve grievances within a reasonable time period.
- While on site, the audit team interviewed project partners, government officials (of the WMA) and members of local communities. It was confirmed that the grievance process described in the PD is consistent with their understanding.
- As the project is in design phase, no grievances have been raised as of this point.

In summary, the audit team concludes that the feedback and grievance redressal procedure described in the PD fully satisfies the requirements of G3.8.

Worker Training (G3.9)

The audit team concludes the following regarding the measures needed and designed to provide orientation and training for those employed through project activities and relevant people from the communities. The audit team took the following steps to validate that the orientation and training meet the requirements of G3.9.

The audit team has assessed by means of the following steps, the measures needed and designed to provide orientation and training for those employed through project activities and relevant people from the communities.

- confirmed that the PD contains a detailed description of employee induction, training and capacity building measures that are either occurring or planned related to project activities.
- While onsite, the audit team interviewed community members who confirmed that training, orientation and capacity building is ongoing. Example – the VGS training.
- As the project has started implementation, some of the training has been initiated. The audit team interviewed field staff who verified the plans to train local community members to conduct monitoring and data collection, for biodiversity and climate monitoring activities.

The audit team concludes that employee orientation, training and capacity building for those employed through project activities meet the relevant CCB requirements.

Community Employment Opportunities (G3.10)

The audit team concludes that the project provides equal employment in line with the requirements of the CCB Standard indicator G3.10. The audit team confirmed that the PD contains a detailed description of the project's equal opportunity policy and how employment will be available to all groups including ethnic minority, women, and different socio-economic groups, if the job requirements are met.

Relevant Laws and Regulations Related to Worker's Rights (G3.11)

The audit team concludes the following regarding the project's adherence to all relevant laws and regulations covering worker's rights and the measures needed and designed to inform workers about their rights.

- verified that the PD contains a detailed description of Tanzania's worker rights laws and regulations. (Employment and Labor Relations Act, Act No. 6 of 2004 ("the Employment Act") and the Labor Institutions Act, Act No. 7 of 2004 ("Labor Institutions Act"). Employment and Labor Relations (Code of Good Practice) Rules, G.N. No. 42 of 2007.)
- In addition, the audit team reviewed publically available information on employee rights in Tanzania and confirmed that no laws or regulations have been omitted from the PD.
- The audit team conducted interviews with project personnel and confirmed that the project's worker's laws are in line with applicable laws and/or regulations covering worker rights.
- The audit team reviewed the project's Health and Safety Policy, which contains information about relevant laws and regulations related to worker's rights.

Occupational Safety Assessment (G3.12)

The audit team has assessed by means of the following steps the project's occupational safety assessment and the measures designed to minimize risk which was sufficient to meet the CCB requirements.

- The audit team verified that the PD described ways that the project ensures worker's health and safety protections, including an outline of risks and how to mitigate them.
- The audit team reviewed the Health and Safety Policy, and confirmed that it informs workers of risks and explains how to minimize such risks. The Policy is comprehensive and details project staff safety procedures for different types of fieldwork and indoor work, and how to report incidents of worker injuries.

Project Governance Structures (G4.1)

The audit team has taken steps to assess the following regarding the project's governance structures, and roles and responsibilities of all entities involved in project design and implementation.

- The audit team reviewed the PD and confirmed that it identifies the project's governance structure as well as roles and responsibilities of all who will be involved in the project development and implementation.
- The audit team held interviews with the project proponent (Carbon Tanzania), the project consultants (Terra Carbon LLC) and other partners (Tuungane), to confirm that the PD description of the project governance structure is accurate.
- The project team also held interviews with the management of the Makame WMA to verify the implementation of the local governance structure meets the description in the PD.

Required Technical Skills (G4.2)

The audit team has made an independent assessment on information regarding the key technical skills required to implement the project successfully, including community engagement, biodiversity assessment and carbon measurement and monitoring skills.

- reviewed the PD and confirmed that it identifies the required technical skills needed to implement the project successfully. The experience of the entities identified match with the technical skills identified.
- verified the information in the PD through interviews with project personnel including the project proponent, the project consultant and partners.
- The audit team confirmed that the key technical skills covered included those needed for community engagement, biodiversity assessment, carbon measurement, and monitoring skills.

Management Team Experience (G4.2)

The audit team has made an independent assessment on information on the management team's expertise and prior experience implementing land management and carbon projects at the scale of this project.

- Through prior validation and verification engagements, audit team can confirm that the project proponent (CT) currently holds the role of project proponent with respect to the other two REDD+ projects (1 registered plan vivo project and one VCS+CCB project in pipeline) in Tanzania, both of which were at a scale similar to this project.
- Through discussions with the management team, audit team can confirm that this entity has adequate experience in development and maintenance of REDD+ projects at a scale similar to this project.

Project Management Partnerships/Team Development (G4.2)

This is not applicable as no gaps in relevant team experience and expertise was observed based on site visit observations.

Financial Health of Implementing Organization(s) (G4.3)

The audit team has made the following assessment on the financial health of the implementing organization(s) to ensure adequate financial support over the project lifetime.

- The audit team has reviewed the financial budgets for the project (financial calculations excel sheets), and confirmed that the financial mechanisms adopted, including projected revenues from emissions reductions, are likely to provide an adequate flow of funds for project implementation and to achieve the anticipated climate, community and biodiversity benefits.
- The audit team reviewed the audited financial statements of Carbon Tanzania to verify that sufficient sound financial background exists.
- The audit team verified Project has secured around 37% (i.e. 15% to less than 40%) of funding, in the form of ERPA, which is needed to cover the total cash out before the project reaches breakeven.

Avoidance of Corruption and Other Unethical Behavior (G4.3)

The audit team has made an independent assessment to validate the assurances provided that the project proponent and any of the other entities involved in project design and implementation are not involved in or are not complicit in any form of corruption.

- The audit team conducted on-site interviews with members of communities, community forests, with project proponent staff, project partner staff, and other implementing entity staff. The validation team is of the opinion that at the period of validation there was no evidence of any entities involved in project design and implementation being involved or complicit in any form of corruption.
- The audit team interviewed the project personnel and heard attested that the project proponent is committed to ensuring transparency of funds disbursed by the project and has a strict company policy against bribery.
- The Feedback and Grievance Mechanism also provides a platform for bringing forth and addressing any concerns regarding issues including corruption that are made within the context of the project.

In summary, the audit team concludes that all necessary measures have been taken to adequately support assurances made in the PD that the project is not involved or complicit in any form of corruption.

Commercially Sensitive Information (Rules 3.5.13 – 3.5.14)

No information categorised as commercially sensitive information has been withheld from the PD.

Statutory and Customary Property Rights (G5.1)

To verify the requirements under this section the audit team reviewed official land use designation VLUP maps (contained within official community forest agreements) to validate the boundaries of community forests contained within the project zone . . . The validation team has review from available documents that there is currently no law or policy that specifically mentions the ownership of carbon rights within Tanzania. However the project and its partner agencies recognize the strengthening of the land and property rights as one of the objectives of the project which is in line with the National Framework and Strategy for REDD.

Recognition of Property Rights (G5.1)

The audit team reviewed the PD and confirmed that it contains detailed descriptions of statutory and customary rights as relates to land, territory and resources in the project. The land tenure framework which is based upon the various Land Acts, in combination with Tanzania's local government structures, provides for the rights and responsibilities of the village councils and village assemblies. The audit team conducted interviews with community members across the project zone to confirm that customary and statutory rights were not infringed upon by the project. In summary, given these actions, the audit team concludes that all property rights are recognized, respected and supported in the project design as described in the PD.

Free, Prior and Informed Consent (G5.2)

The assessment of FPIC was done by the audit team based on a series of informational consultation meetings with the District Government and village representatives by Carbon Tanzania in February 2016, followed by an educational program to all villages in February 2017.. Several meetings were held on carbon baseline and more detailed introductions were provided on the project activities potential risks and benefits. Finally the project contracts with each of the eight villages were signed in October 2018. Information related to these meetings were reviewed and cross check was done by interviewing the villages. It is the overall conclusion of the validation team that project is respecting the property rights of the communities and is line with CCB requirements.

Property Rights Protection (G5.3)

It has been validated by the audit team during site visit interviews that the project activities do not involve any involuntary removal or relocation of property rights holders from their lands. The project follows the effective implementation of the VLUPs and there is no such case of involuntary removal or relocation of property rights holders in the project area.

Illegal Activity Identification (G5.4)

The audit team has conducted the assessment regarding any illegal activities that could affect the project's impacts and the measures needed and designed to reduce these activities so that project benefits are not derived from illegal activities.

- Audit team confirmed, through on-site observations and interviews, that illegal activities such as slash and burn agriculture and invasion of lands by migrants are accurately described in the PD.
- Audit team agrees that the measures and activities in the project should help to reduce such activities and that, in any case, overall there is no risk of project benefits being derived from illegal activities.

Ongoing Disputes (G5.5)

The audit team concludes there are no ongoing disputes or unresolved conflicts are occurring over rights to lands, territories and resources. The audit team concludes there are no disputes that were resolved during the last twenty years where such records exist, or at least during the last ten years.

National and Local Laws (G5.6)

The audit team took the following steps to validate that the project is complying with said laws and regulations.

- Review of relevant laws including those listed in Section 3.1.2 of the PD
- Interviews with project personnel regarding compliance and enforcement
- Benefit sharing mechanisms and guidelines

The audit team concludes the following regarding all national and local laws and regulations in the host country that are relevant to the project activities.

Approvals (G5.7)

Through interviews with government representatives the audit team confirmed that the project has been granted approval from the appropriate officials. This was also verified from the MoU and contracts signed. During interviews with community leaders, the audit team confirmed that the project has also been granted approval from appropriate community leaders.

The validation team is of the opinion that sufficient compliance to requirements regarding the project's approval from appropriate authorities, including established formal and/or traditional authorities customarily required by the communities.

Project Ownership (G5.8)

It has been verified by the audit team that Carbon Tanzania is the owner of the project based on the contracts and MOUs reviewed in section 2.5.8. In Tanzania, there is currently no specific legislation governing carbon rights.

Management of Double Counting Risk (G5.9)

It has been verified from a declaration by the PP that The project does not seek to generate any other form of environmental or social credit nor does it intend to do so.

Emissions Trading Programs and Other Binding Limits

The audit team concludes that the project is not currently participating in any emission trading or other binding limit program or mechanism, as confirmed from understanding that no such emissions trading program exists within Tanzania. Also review of other GHG trading mechanisms such as Gold Standard, Plan Vivo and CDM was done to confirm the same.

Other Forms of Environmental Credit

It has been verified from a declaration by the PP that there are no plans to generate other forms of GHG-related environmental credits.

Participation under Other GHG Programs

It has been verified from a declaration by the PP that there are no plans to participate under other GHG programs.

Projects Rejected by Other GHG Programs

This section is not applicable as the project is under validation for first time as verified from the VERRA listing registry.

Double Counting (G5.9)

As Tanzania is not currently participating in any national REDD+ markets where a compliance mechanism, or formal jurisdictional reporting framework in operation there are less chances that could lead to double counting. Also the project does not plan to participate under other GHG mechanisms. Hence the risk of double counting is very less.

Climate

Title and Reference

The validation team has assessed that the project Ntakata REDD Project uses the applicable methodology, "VM0007: REDD Methodology Modules (REDD-MF) version 1.5". Further the use of the modules and tools below have been verified to be valid during validation.

Criteria	Title of modules
Carbon Pool Modules:	CP-AB, "VMD0001 Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools," Version 1.1 CP-D, "VMD0002 Estimation of carbon stocks in the dead-wood pool," Version 1.0 CP-W, "VMD0005 Estimation of carbon stocks in the long-term wood products pool," Version 1.1
Baseline Modules	BL-UP, "VMD0007 Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation," Version 3.2
Leakage Modules:	LK-ASU, "VMD0010 Estimation of emissions from activity shifting for avoided unplanned deforestation," Version 1.1 LK-ME, "VMD0011 Estimation of emissions from market effects" Version 1.0
Monitoring Module:	M-MON, "VMD0015 Methods for monitoring of greenhouse gas emissions and removals," Version 2.1,
Miscellaneous Modules:	X –STR, "VMD0016 Methods for stratification of the project area," Version 1.1 X-UNC, "VMD0017 Estimation of uncertainty for REDD project activities," Version 2.1
Tools:	T-SIG, CDM tool "Tool for testing significance of GHG emissions in A/R CDM project

	activities,” Version 1.0 T-ADD, “VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities,” Version 3.0 T-BAR, “Tool for AFOLU non-permanence risk analysis and buffer determination,” Version 3.3
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Applicability

The validation team has assessed the applicability of the methodology for each of the applied methodology’s applicability conditions, and verified the steps taken to assess compliance of the project with the applicability condition.

Applicability Conditions and Demonstration for the REDD Methodology Framework Module and VMD0007 Module as applicable for the project activity have been assessed by the validation team as below:

Applicability condition	Validation team assessment
Land in the project area has qualified as forest at least 10 years before the project start date.	The assessment of the project area for the year 2007 was verified based on the imagery classification used for development of the baseline and found to meet the requirements
If land within the project area is peatland and emissions from the soil carbon pool are deemed significant, the relevant WRC modules (see Table 1) must be applied alongside other relevant modules.	From the land classification records it was verified that no lands within the project area is classified as a peatland.
Baseline deforestation and baseline forest degradation in the project area fall within one or more of the following categories: • Unplanned deforestation (VCS category AUDD); • Planned deforestation (VCS category APD); • Degradation through extraction of wood for fuel (fuelwood and charcoal production) (VCS category AUDD).	From the site visit observations it was verified that the baseline deforestation in the project area falls within the unplanned deforestation category (AUD), as the agents of deforestation are small scale farmers who do not have permission to convert forest in the project area to cropland.
Leakage avoidance activities must not include: • Agricultural lands that are flooded to increase production (e.g., paddy rice); • Intensifying livestock production through use of feed-lots⁶ and/or manure lagoons.	From the site visit observations it was verified that the Leakage avoidance activities do not include flooding agricultural land or creating feed-lots or manure lagoons.
All land areas registered under the CDM or	From the declaration by PP it was confirmed

under any other carbon trading scheme (both voluntary and compliance-orientated) must be transparently reported and excluded from the project area. The exclusion of land in the project area from any other carbon trading scheme shall be monitored over time and reported in the monitoring reports.	that the Ntakata REDD project is not registered in any carbon trading scheme or program. Further the registries of other relevant GHG programs was verified by the audit team.
Baseline agents of deforestation shall: (i) clear the land for settlements, crop production (agriculturalist) or ranching, where such clearing for crop production or ranching does not amount to large scale industrial agriculture activities; (ii) have no documented and uncontested legal right to deforest the land for these purposes; and (iii) are either resident in the reference region or immigrants. Under any other condition this framework shall not be used.	From the site visit observations it was verified that the: The baseline agents of deforestation clear the land for cropland. These small-scale farmers have no legal right to use or deforest the land. These agents of deforestation are from nearby communities and in some cases immigrant actors looking for land to convert for agricultural uses.
Where, pre-project, unsustainable fuelwood collection is occurring within the project boundaries modules BL-DFW and LK-DFW shall be used to determine potential leakage.	From the site visit observations it was verified that there is no shortage of fuelwood in the area surrounding the project area.
Emissions from logging may be omitted if it can be demonstrated the emissions are de minimis using T-SIG.	From GHG calculations it was verified that Logging emissions have been omitted as no commercial timber harvest occurs in the baseline or with project case.
If emissions from logging are not omitted as de minimis, logging may only take place within forest management areas that possess and maintain a Forest Stewardship Council (FSC) certificate for the years when the selective logging occurs.	Not applicable
Logging operations may only conduct selective logging that maintains a land cover that meets the definition of forest within the project boundary.	Not applicable
All trees cut for timber extraction during logging operations must have a DBH greater than 30 cm.	Not applicable
During logging operations, only the bole/log of the felled tree may be removed. The top/crown of the tree must remain within the forested area.	Not applicable
The logging practices cannot include the piling and/or burning of logging slash	Not applicable
Volume of timber harvested must be measured and monitored.	Not applicable

Hence it is the opinion of the audit team that overall applicability requirements of the methodology have been met satisfactorily.

Project Boundary

The audit team concludes, overall, that the project boundary is appropriately specified, and the selected sources, sinks and reservoirs appropriately justified for the project, following the guidance of the methodology or, where relevant, the established baseline.

The geographic boundaries of the project area are delineated as per Section 3.10.1(3) of the VCS Standard, and a shapefile has been provided, which delineates the same boundary, as confirmed by the audit team through spatial checks. The maps of the project area, delineate project area, leakage belt, RRD and RRL.

While on-site, the audit team performed field validation activities, included re-measurement of carbon plots and ground truthing strata and project area boundaries and confirmed that the geographic and physical boundaries depicted in the PD maps are accurate.

The only greenhouse gas included in the project boundary (in both the baseline and project scenarios) is carbon dioxide.

The GHG reservoirs (i.e., carbon pools) identified in Table 3.5 of the PD are in line with the three pools of carbon and the applicable modules include: CP-AB “VMD0001 Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools” and CP-D, “VMD0002 Estimation of carbon stocks in the dead-wood pool”.

Baseline Scenario

The audit team has done an independent assessment of verification data used in identification of the baseline scenario. An overall assessment is provided regarding whether the identified baseline scenario is justified.

Steps for baseline scenario	Validation team assessment
Step 1. Identification of alternative land use scenarios to the proposed VCS AFOLU project activity	The steps described are in accordance with the “Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities”, ver. 3.0.
Sub-step 1a. Identify credible alternative land use scenarios to the proposed VCS AFOLU project activity Alternative 1: The without-project scenario involves lack of development and implementation of the Village Land Use Plans (VLUPs). With tenure, boundaries and land-use continuing to be poorly-defined in the baseline without-project scenario, project area lands continue to be at risk of intrusion by outsiders and conversion of forest to agriculture. Note this is equivalent to continuation of the pre-project land-use.	The observations and document review of the audit team are in line with the correct identification of alternative 1 which is assessed as per methodology requirements.

Alternative 2: The VLUPs or equivalent are developed and implemented, and village land tenure and resource rights are established and maintained, land use coordinated and forest cover effectively conserved, without the activity being registered as a VCS AFOLU project.	The observations and document review of the audit team are in line with the correct identification of alternative 2 which is assessed as per methodology requirements.
Sub-step 1b. Consistency of credible land use scenarios with enforced mandatory applicable laws and regulations. The scenarios outlined above are consistent with enforced mandatory applicable laws and regulations. VLUPs were implemented with approval of the Mpanda District Council in accordance with the Village Land Act No. 5 of 1999, the Land Use Planning Act No. 7 of 2007, and the National Environment Management Act No. 20 of 2004.	The observations and document review of the audit team are in line with the assessment that the VLUPs are in line with mandatory laws and regulations of Tanzania.
Sub-step 1c. Selection of the baseline scenario As per the VCS Additionality tool (VT0001), the baseline scenario is selected and justified applying the methodology, module BL-UP, detailed in Section 3.1.4, and corresponds to Alternative 1 above	The observations and document review of the audit team are in line with the correct identification of alternative 1 as baseline scenario using the BL-UP which is assessed as per methodology requirements.

Hence it is the opinion of the audit team that overall baseline scenario of the project has been justified adequately.

Additionality

The validation team has performed an independent assessment to Identify the appropriateness of the method used by the project as per the applied methodology to demonstrate additionality as summarized below:

- The assessment on the Adherence to regulatory surplus requirements,
- The appropriateness of data and parameters used in financial calculations and sensitivity analyses, including those taken from feasibility study reports.
- The suitability of the simple cost analysis approach used.
- The credibility of each barrier identified in the barrier analysis.
- The appropriateness of the geographical region used in the common practice analysis. Information regarding similar projects identified in the common practice analysis,

including essential distinctions between similar projects and the proposed project and the reasonableness of assumptions made in the demonstration of additionality.

Steps for additionality demonstration	Validation team assessment
Adherence to regulatory surplus requirements.	Not applicable
The appropriateness of data and parameters used in financial calculations and sensitivity analyses, including those taken from feasibility study reports.	Audit team information provided to “Document the costs associated with the VCS AFOLU project” per Step 2 of the additionality tool and confirmed it was appropriate for this purpose Not applicable; as simple cost analysis was used, a benchmark was not used for investment analysis.
The suitability of the benchmark used for investment analysis	Not applicable; as simple cost analysis was used, a benchmark was not used for investment analysis
The credibility of each barrier identified in the barrier analysis.	Not applicable; as simple cost analysis was used, a benchmark was not used for investment analysis.
The appropriateness of the geographical region used in the common practice analysis.	It was verified from site observations and current practice that the financing and effective implementation of VLUPs is not a common practice in Tanzania. The project aims to mitigate this aspect.
Information regarding similar projects identified in the common practice analysis, including essential distinctions between similar projects and the proposed project.	As per the supporting documents reviewed the information in the PD that only 1,731 of 12,545 villages had VLUPs in place, accounting for only 13 percent of the nation’s villages is sufficient for demonstration of common practice.
The reasonableness of assumptions made in	Review of the following assumptions made in

the demonstration of additionality.	the demonstration of additionality; confirmation that all assumptions are evidently reasonable: • Assumption that the baseline scenario would represent continuation of the pre-project land use • Assumption that the enforcement difficulties that have led to deforestation of vast swaths of land in and around the project area would also lead to deforestation within the project accounting area in the absence of crediting • Assumption that the project activities will have expenditures associated with them • Assumption that the project activities will not generate financial or economic benefits other than VCS-related income derived from the sale of carbon credits
Sub step 1 a: The identified land use scenarios identified in Section 4.6 of the project description include those scenarios required by the additionality tool. Note that, in the judgment of the audit team, only scenario i is credible (scenarios ii and iii have been included merely to satisfy the requirements of the additionality tool).	Audit team agrees, based on on-site inspections, review of remotely sensed imagery and interviews with project personnel, that the most likely alternative land-use scenario is continuation of the pre-project land-use Audit team agrees, based on on-site inspections, interviews with project personnel and community members, that the likelihood of the project activities being implemented in the absence of VCS-related income is low .
Subs step 1 b: The audit team reviewed the information	The audit team agrees, based on examination

provided in Sub-step 1b of Section 4.6 of the PD and confirmed that it provides a detailed description of the credibility of the baseline land-use scenarios with respect to enforced mandatory applicable laws in regulation.	of current practices in the region and the country, that the applicable laws related to forest protection are not being enforced and that the non-compliance is widespread, i.e. prevalent on at least 30% of the area of the smallest administrative unit that encompasses the project area.
The audit team confirmed that the operational costs associated with the project activities are duly documented in the 30-year budget and workplan.	The audit team agrees that none of the project activities documented in Section 2.2 of the PD accrue financial benefits to the project proponent (while the “income-generating activities” are expected to result in financial benefits, these financial benefits would accrue to the participating communities as opposed to the project proponent and, as such, are understood by the audit team to not be relevant for purposes of this analysis). Therefore, the audit team agrees that simple cost analysis is required by the additionality tool.
Step 3	This step is not applicable, as one proceeds directly to step 4 when simple cost analysis is undertaken
Step 4	All requirements of this section are satisfied in the analysis in Section 4.6 of the PD. The analysis distinguishes between the proposed project activity and the other activities.

Methodology Deviations

The following methodology deviations are valid, based on guidance provided by VERRA based on review of responses /18/ provided by VERRA to the PP during the validation. It has been verified by the validation team that the final version of the PD includes the guidance provided.

Deviations requested	Guidance by VERRA
The similarities of the reference regions (RRD) and leakage belts to project areas were assessed using population density rather than settlement density. This methodological deviation is warranted due to inconsistencies in the available data on the location of settlements within Tanzania. Use of population density data still meets the intent of the	The intent appears to be an accurate reflection of the level of pressure associated with settlement populations. On that basis, using population density data in place of settlement density seems reasonable within the BL-UP module.

methodology as both population and settlement density reflect the relative density of resident populations (and level of pressures associated with those populations).	
The calculation of leakage outside the leakage belt, parameter TOTFOR has not been "limited to forest areas within 5km of roads and rivers suitable for conversion to agriculture / livestock" as specified in the methodology, for lack of relevant data on suitability. As the resulting TOTFOR value is greater, the AVFOR value is also greater. The PROPLB parameter is therefore smaller thus resulting in more leakage outside the leakage belt and hence a conservative estimate. This deviation results in conservative accounting of leakage outside the leakage belt.	The intent appears to be a conservative calculation of leakage outside of the leakage belt. On that basis, using a less limited definition for TOTFOR, which triggers a greater AVFOR value and a smaller PROPLB value, which results in more leakage outside the leakage belt, and that best practice is to account for it conservatively, seems reasonable within the LK-ASU module
The parameter COLB has not been "limited to areas demonstrated to be suitable for agriculture or livestock ranching" as specified in the methodology, for lack of relevant data on suitability	Regarding the parameter COLB, please advise on the which equation and in which module so we can review it
Parameter UP,SS,i,pool# will be monitored at least once every 10 years, on re-measurement of forest carbon stocks. While module X-UNC requires that monitoring of this parameter occur every < 5 years, this requirement is inconsistent with the VM0007 pools modules, which specify that stock estimates (from which uncertainty is calculated) are assumed valid for 10 years. Therefore, a deviation to module X-UNC is applied to permit parameter UP,SS,i,pool# to be monitored every 10 years, putting it into alignment with modules CP-AB and CP-D.	The intent appears to be a methodological alignment amongst X-UNC, CP-AB and CP-D modules and monitoring consistency with respect to monitoring parameter UP, SS,i,pool#. On that basis, the assertion that application of all three modules be subject to the same assumption (i.e., that forest carbon stock estimates are valid for 10 years) seems reasonable to have within the X-UNC module.
For ex ante estimation of leakage outside of the leakage belt, equation 6 of LK-ASU has been revised to $\Delta\text{CLK-ASU,OLB} = (\Delta\text{CP,LB} - \Delta\text{CBSL,LK,unplanned}) * \text{LKPROP}$ This corrects the order of the first two terms, ensuring that leakage is returned as a positive value (later subtracted in net emission reduction calculations). This correction has been previously validated on several other REDD projects using VM0007.	The intent appears to be a correction within an existing equation in order to promote greater accuracy regarding the ex-ante estimation of leakage outside of the leakage belt. On that basis, and because an independent validator validated the correction, changing the ordering of the first two terms in the ex ante estimation of leakage outside of the leakage belt equation seems reasonable within the LK-ASU module.

Two deviations are employed in the treatment of wood products to correct errors in the methodology and improve accuracy. In eq. 4 of CP-W, an additional term (incorporating volume-weighted specific gravity of commercial volumes) is applied to convert volume in m³/ha (from application of 1/BCEF) back to t CO₂e/ha (units of output parameter CXB). $= \text{CABtree} * (1 / \text{BCEF}) * \text{Pcom} * \text{Wood density} (0.598 \text{ g/cm}^3)$ Also, per current treatment in BL-UP, there is double counting of emissions from wood products because in eq. 24 the entirety of aboveground tree biomass is emitted at the time of deforestation, and in addition, the fraction of aboveground tree biomass entering the wood products pool is steadily emitted over 20 years. Eq. 24 of BL-UP was modified to subtract CWP (fraction of aboveground tree biomass extracted, not immediately emitted and entering wood product pool at time of harvest) from $\Delta \text{CABtree}$ to avoid double counting of emissions in the baseline. Note that these changes have been incorporated in a revision of VM0007 by Igino Emmer of Silvestrum, currently under validation.	The intent appears to be the correction of an error. On that basis, adding into an additional term into the equation for converting volume back into tCO₂e/ha seems reasonable within CP-W, as does the subtraction of CWP in order to avoid double counting of emissions in the baseline within the BL-UP module.
To calculate PROPCS for outside leakage belt leakage, mean live aboveground tree biomass t CO₂/ha was replaced with mean stem volume m³/ha. The available national data in the NAFORMA 2015 Report for Tanzania is inaccurate. The aboveground biomass in stem wood is overinflated when multiplied by the appropriate BCEF (selected from the IPCC 2006 Vol 4 Table 4.5), making it ineffective to compare mean live aboveground tree biomass within the project area from the inventory to the national data. Therefore, mean live stem volume was used in its place, dividing mean live aboveground stem volume within the project area by the area weighted average mean live aboveground stem volume in Tanzanian forests based on the provided volumes in the NAFORMA 2015 Report.	The intent appears to be the correction of a parameter within the equation for calculating outside leakage and leakage belts. On that basis, replacing mean live aboveground tree biomass tCO₂/ha with mean stem volume m³/ha seems reasonable within the LK-ASU module.
In the baseline modeling scenario, the landscape factor of slope steepness ratio is not included because it is evident that all slope classes are subject to agricultural conversion. Therefore, the ratio of slope steepness between the PA and the LB/RRD is not important to the determination of the RRD and LB areas. The table below (Table 3.5b in the PD) illustrates comparable amounts of agricultural activity across all steepness classes in	The intent appears to be greater accuracy of the baseline modeling scenario. On that basis, no longer using the landscape factor of slope steepness ratio seems reasonable within the BL-UP module.

both the PA, RRD, and LB.			
Table. Area deforested by slope class, showing presence of deforestation for agriculture on all slopes within the PA, RRD, and LB between 2007 and 2017.			
Slope Class (%)	Area Deforested (ag conversion)		
2007-2017 (km2)	Total Area (ha)		%
Area Deforested			
1 to 10	1,171,178.2	15,558,044.8	7.53%
11			to
20	86,741.5	1,213,882.2	7.15%
21			to
30	27,431.1	1,035,667.7	2.65%
31			to
40	13,104.8	215,682.7	6.08%
41 to 50	6,431.4	109,988.7	5.85%
51 to 60	2,950.8	47,413.1	6.22%
61 to 70	1,203.3	17,097.1	7.04%
71 and greater	583.3	7,108.6	8.21%

Quantification of GHG Emission Reductions and Removals

The audit team has assessed the quantification methods for GHG emission reductions and removals generated by the project. based on information provided in the PD and supporting documents. the assessment of the data and sources used is validated as per the summary provided below:

Spatial boundaries:

As observed from the project maps and site visit, the project area consists of one contiguous parcel of land in the Mpanda and Kigoma District boundaries in western Tanzania, which is under threat of deforestation. The project proponents are undertaking project activities in and around the project area to mitigate deforestation pressures and stop deforestation. The total project area is 204,807 ha and was 100% forested at the start of the project as verified from the historical GIS data.

Quantification of baseline emissions

The validation team has assessed that the project baseline emissions from unplanned deforestation, both rate and location, which was conducted in conformance with the VCS modular REDD methodology VM0007, specifically the BL-UP module is sufficiently justified. The project has used the simple historic approach. The simple historic approach is conservative in this case compared to the alternate population driver approach because the population in Tanzania is expanding rapidly, at a national rate of 3.0% per year, according to the population growth published by World Bank in 2019. Also this approach is conservative and acceptable as by applying the simple historic approach the baseline scenario will conservatively exclude the impact of a growing population on the rate of deforestation in the RRD.

Project Emissions

The PP has conducted the forest inventory of the project area from September to November 2017 and forest carbon stocks were directly measured. Verification of the Standard operating procedures for field measurements, sample design, analytical methods, including validation of the Mugasha et al. 2013 allometric equation for miombo woodland in Tanzania, and all results were done based on the document "Mahale Forest Inventory Feb2018" which can be found in the project database. The sample design was a simple random sample employing clusters of four fixed 10m-radius plots. Several approaches were tested to post-stratify the inventory, looking at slope, aspect, elevation, Enhanced Vegetation Index (EVI) and distance to nearest population center.

The results of the inventory as reviewed by the audit team indicated a biomass carbon of 162.7 t CO₂e/hectare in live trees estimated with a 95% confidence interval of 121.7 to 203.7 t CO₂e/hectare. Biomass carbon in standing dead wood was estimated as 1.1 t CO₂e/hectare with a 95% confidence interval of 0.1 to 2.1 t CO₂e/hectare. Total forest biomass carbon was estimated as the sum of the sampled pools live trees and standing dead wood, with average total forest biomass carbon of 163.8 t CO₂e/hectare. All supporting calculations were verified from the accompanying Excel file.

The validation team has performed an assessment on the Parameters and Values used to Calculate Annual the net project emissions which are summarized in Appendix 2.

The parameters for Equation 3 in module M-MON VMD0015 to calculate the net carbon stock change as a result of deforestation such as Net carbon stock change as a result of deforestation in the project case in the project area in stratum i at time t; t CO₂e, Area of recorded deforestation in the project area stratum i converted to land use u at time t; ha and Net carbon stock changes in all pools in the project case in land use u in stratum i at time t; t CO₂e ha⁻¹ were verified from the excel spreadsheet provided. Parameters used for Greenhouse gas emissions as a result of deforestation activities within the project area (GHGP,E,i,t) and leakage belt are calculated using Equation 30 in module M-MON VMD0015 were also verified.

Harvested Wood Products

Total carbon stocks entering and emitted from the harvested wood products pool over 100 years were calculated using the VCS module CP-W VMD0005. Actual harvest values are not readily available for the project; therefore Option 2 commercial inventory estimation was chosen as the method for estimating these stocks.

Leakage Emissions:

Activity shifting leakage due to displacement of unplanned deforestation was assessed using a baseline specific to the leakage belt developed following procedures detailed in the Module BL-UP. The baseline estimates for the leakage belt, against which with-project deforestation in the leakage belt will be measured were verified.

A preliminary leakage factor of 15% of baseline emissions in the project area displaced to the leakage belt was applied. Leakage was calculated as the difference between project and baseline carbon stock changes and greenhouse gas emissions in the leakage belt, as outlined in Equation 1 in LK-ASU VMD0010. Ex-ante estimates of the net CO₂ emissions due to unplanned deforestation displaced from the project area to the leakage belt are calculated for each year in the baseline period were verified from the excel spreadsheet provided.

Calculation of Net Emission Reductions

Estimates of GHG credits eligible for issuance as VCUs were calculated as per Table below;

The Estimated GHG emission reduction credits = Baseline emissions, fixed for 10 years at validation - Project emissions - Leakage

Non-permanence Risk Buffer withholding of 13 % (calculated as a percent of net change in carbon stocks prior to deduction of leakage, see “VCS-Non-Permanence-Risk-Report_Ntakata.docx” and “VCS-Risk-Report-Calculation-Tool-v3.1-Ntakata.xlsx”). was also verified to be calculated and applied correctly. The assessment if risk analysis is attached as Appendix 3 as part of the validation report.

Years	Estimated baseline emissions or removals (tCO ₂ e)	Estimated with-project emissions or removals (tCO ₂ e)	Estimated with-project emission reductions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Risk buffer (%)	Deductions for AFOLU pooled buffer account (tCO ₂ e)	NER REDD	Adjusted NER REDD
2017	998,236	271,993	726,243	125,489	13%	94,412	600,753	540,266
2018	1,295,464	342,579	952,885	164,169	13%	123,875	1,389,470	1,597,890
2019	1,243,898	315,428	928,471	159,342	13%	120,701	2,158,599	2,482,388
2020	1,123,355	270,520	852,834	145,713	13%	110,868	2,865,720	3,295,578
2021	783,117	167,470	615,647	104,249	13%	80,034	3,377,118	3,883,686
2022	852,963	180,097	672,866	113,838	13%	87,473	3,936,146	4,526,568
2023	659,244	120,426	538,818	90,356	13%	70,046	4,384,608	5,042,299
2024	663,533	116,990	546,544	91,478	13%	71,051	4,839,674	5,565,625

The audit team is of the opinion that overall the methodology and referenced tools have been applied correctly to calculate baseline emissions, project emissions, leakage and net GHG emission reductions and removals.

Monitoring Plan

The validation team has performed an assessment on the Parameters and Values used to Calculate Annual the net project emissions which are summarized in Appendix 2.

It was validated that the monitoring plan, consistent with the requirements of the methodology, is provided in Section 8.1.1 of the PD . The audit team also assessed the suitability and eligibility of monitoring equipment and procedures in the field. The audit team has conducted visit to a random subset of

inventory plots in each strata and throughout the project accounting area, and confirmed that the collection of forest inventory data conformed to the project SOPs for plot measurements and data collection, which are in conformance with best forestry practices for the collection of carbon stock data.

Dissemination of Monitoring Plan and Results (CL4.2)

The audit team has assessed that adequate dissemination of the monitoring plan and results was done. Through interviews with the relevant project personnel, the audit team confirmed that the climate monitoring plan is made available for public review in the Project Office. In addition, results will be communicated to the communities and other stakeholders during the periodic meetings. Results of monitoring is planned to be made publicly available during each verification event.

Non-Permanence Risk Analysis

The audit team has performed an independent assessment of the non-permanence risk rating determined by the project proponent. For each risk factor it is verified that the rationale, assumptions and justifications used to support the risk score are appropriate. Relevant documents have been reviewed to support the risk score and the overall risk rating is verified to be appropriate and suitable in the context of the project design.

Non-permanence Risk Buffer withholding of 19 % (calculated as a percent of net change in carbon stocks prior to deduction of leakage, see "VCS-Non-Permanence-Risk-Report_Makame.docx" and "VCS-Risk-Report-Calculation-Tool-v3.1-Makame.xlsx"). was validated to be calculated and applied correctly. The assessment of risk analysis is attached as Annex B as part of the validation report.

The audit team is of the opinion that overall the methodology and referenced tools have been applied correctly to calculate baseline emissions, project emissions, leakage and net GHG emission reductions and removals.

Optional Gold Level: Regional Climate Change Scenarios (GL1.1)

The validation team based on information in the PD has assessed that the regional climate change scenarios pertain to targeted land-use planning which is expected to result in improved water storage at the end of dry season, as well as, generally, soil conservation and moderated micro-climates through retention of forest cover. Hence the information meets the CCB requirements.

Optional Gold Level: Climate Change Impacts (GL1.2)

As per information in the PD, changes in rainfall reliability, temperature changes, loss of fertility and lack of land tenure are identified as the major impacts which attribute to other health and livelihood related impacts. In these ways it is identified that the community well-being and livelihoods will be directly negatively affected. The justification provided by the PP is accepted by the audit team.

Optional Gold Level: Measures Needed and Designed for Adaptation (GL1.3)

The audit team has verified from the information in the PD the various activities to address the following:

- Land-use plans can ensure that enough land is set aside to ensure livelihoods even given the variability of future climate scenarios. Land use plans also include projections of future needs compensate for such future scenarios.
- Investment in health facilities and interventions also protect the communities against future health issues compounded by a more variable, wetter and hotter climate.
- Climate smart and adaptive agriculture and grazing regimes also serve as an adaptation mechanism that can increase resilience among communities.
- Investment and training in good governance and institutions will allow communities to adapt and cope with any climate related situations in the future and will furthermore allow communities to better implement all the other strategies and adaptations already identified.

Hence it is the opinion of the audit team that the measures described are based on the causal model described in response to G1.8.

Community

Descriptions of Communities at Project Start (CM1.1)

The audit team has assessed that the PD contains a comprehensive description of communities at the start of the project, including social, economic and cultural diversity within the communities. Demographics, well-being, and other community characteristics are also sufficiently detailed. The communities are represented by the population in the eight project villages of Bujombe, Kagunga, Kapanga, Katuma, Lugonesi, Lwega, Mwese, and Mpembe.

The audit team has verified that the descriptions contained in the PD are accurate by means of document review, on-site observations and interviews. Interviews were held with local communities in the project zone and project partners responsible for community outreach.

It is the opinion of the validation team that the project descriptions of the communities at the start of the project and any significant community changes in the past are thorough and accurate

Interactions between Communities and Community Groups (CM1.1)

The audit team has verified that the descriptions contained in the PD are accurate by means of on-site observations and interviews. Interviews were held with local communities in the project zone and project partners responsible for community outreach.

It is the opinion of the validation team that the information on interaction between the communities is of sufficient detail.

High Conservation Values (CM1.2)

The audit team confirmed that the descriptions contained in the PD regarding the community-related High Conservation Values (HCVs) are accurate through on-site observations and interviews. The project has identified zones such as water sources, spiritual sites and bee keeping areas as HCV within the project area. Given that the community-related HCVs are inherently correlated with the project's climate benefits, the audit team agrees that avoided deforestation and forest degradation are expected to have positive impacts on the community well-being, as described in the PD.

Without-Project Scenario: Community (CM1.3)

The audit team reviewed the PD and verified that it includes an estimate of the expected changes in the well-being of communities, including all constituent socio-economic or cultural groups such as indigenous peoples under the without-project scenario. The audit team confirmed that the project uses the Theory of Change methodology and SBIA assessments, as suggested by the CCB Standards. While on site, the audit team interviewed local community members who confirmed that the assumptions in the model were a result of the consultation process and are therefore clearly defensible. Furthermore, the focal issues used as indicators was used to distinguish the 'with project' and 'without project' scenarios. The section identifies threats such as loss of land due to unsustainable agricultural practices, migrant influx and ineffective implementation of VLUPs which are accurate.

The PD includes a detailed breakdown of anticipated impacts by group and shows the result to be net positive for all groups, therefore meeting the requirements of this indicator

Expected Community Impacts (CM2.1)

The audit team reviewed the PD and confirmed it includes a detailed assessment of expected community impacts on the well-being of communities, including all constituent socio-economic or cultural groups such as indigenous peoples under the with-project scenario. The audit team confirmed that the project utilizes appropriate methodologies, including predicted and actual, costs and risks, on each of the identified community groups. It was confirmed that the text in the PD is supported by a series of flow diagrams (e.g. Result Chain diagrams) which allow for assessment by the auditor and public. While on site, the audit team interviewed local community members who confirmed that the assumptions in the model with regard to community impacts, were a result of the consultation process and are therefore defensible. The PD includes a detailed breakdown of anticipated impacts by group and shows the result to be net positive for all groups, therefore meeting the requirements of this indicator.

Negative Community Impact Mitigation (CM2.2)

The audit team reviewed the PD and confirmed it addresses community impacts and measures needed to mitigate potential negative impacts on community groups. While on site, the audit team interviewed local community members who confirmed that potential negative community impacts and measures to counteract them were collaboratively addressed during outreach efforts. In addition, the project's monitoring systems are designed to monitor for negative impacts to community-related HCV attributes.

Net Positive Community Well-Being (CM2.3, GL1.4)

The audit team reviewed the PD and confirmed that the anticipated net well-being impacts of the project are predicted to be positive for all identified community groups. While on site, the audit team interviewed local community members who confirmed these claims.

The audit team therefore concludes that the project's anticipated net well-being impacts are predicted to be positive for all identified community groups compared with their anticipated well-being conditions under the without-project land use scenario.

High Conservation Values Protected (CM2.4)

The audit team reviewed the PD and confirmed that the community-related HCV's are not negatively affected by the project. Areas critical for the traditional cultural identity of communities- water sources, spiritual sites, and beekeeping areas will similarly not be negatively impacted. While on site, the audit team interviewed local community members for verification of the information.

Impacts on Other Stakeholders (CM3.1)

The validation team has assessed the Identified, potential positive and negative impacts that the project activities are likely to cause on the well-being of other stakeholders. Tanganyika district government and Mpanda district government are identified as the stakeholders which is an accurate description. The benefits anticipated for these districts include additional financial resources for district development as well as training and capacity building opportunities.

Mitigation of Negative Impacts on Other Stakeholders (CM3.2)

The audit team has reviewed the information in the PD regarding measures needed and included in the project description to mitigate potential negative impacts to the well-being of other stakeholders.

The audit team accepts the conclusions drawn regarding mitigation of negative impacts on other stakeholders.

Net Impacts on Other Stakeholders (CM3.3)

The audit team reviewed the PD and confirmed that the anticipated net well-being impacts of the project are predicted to be positive for other stakeholders. While on site, the audit team interviewed local community members who confirmed these claims.

The audit team therefore concludes that the project does not produce net negative impacts on the well-being of other stakeholders.

Community Monitoring Plan (CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

The validation team has performed an independent assessment of the community monitoring plan and verifies it is meeting the CCB standards requirements. As described in the PD and confirmed that it employs the Theory of Change and impact assessments. The monitoring plan identifies activities such as education, governance, employment and women empowerment which are in line with the theory of

change proposed. The audit team confirmed that the plan has selected variables that are directly linked to the project's community development objectives and impacts, and that the appropriate sampling methods, frequencies, and reporting methods are used. While on site, the audit team interviewed local community members who confirmed that the community variables were produced as a result of the consultation process and are anticipated to be positive.

Monitoring Plan Dissemination (CM4.3)

The audit team has assessed that adequate dissemination of the monitoring plan and results was done. Through interviews with the relevant project personnel, the audit team confirmed that the climate monitoring plan is made available for public review in the Project Office. In addition, results will be communicated to the communities and other stakeholders during the periodic meetings. Results of monitoring is planned to be made publicly available during each verification event.

Optional Gold Level: Exceptional Community Criteria (GL2.1)

Based on public information it has been validated that the project zone is in a low human development country. The human development index (HDI) in Tanzania was reported at 0.538 in 2018, with a rank of 154 out of 189 countries¹, placing Tanzania in the low human development category. As the project area is designated village land recognized under the approved village land use plans (VLUPs) which provide benefits to communities, the project qualifies under exceptional community benefits criteria.

Optional Gold Level: Short-term and Long-term Community Benefits (GL2.2)

The validation team has performed the step wise assessment as summarized below to describe the steps taken to validate the short-term and long-term net positive well-being benefits for smallholders/community members generated by the project activities.

Type of benefits	Validation team assessment
In the short-term, the project provides capacity development training and education on REDD+, project governance, forest management, forest law enforcement, as well as reproductive health etc. The project also provides employment for some villagers as village game scouts, thus providing income to them and their families.	The review of the monitoring plans and implemented activities during site visit indicate that the short-term benefits have been correctly identified and implemented
In the longer term, well-being will be boosted by the village development projects funded by carbon revenues. The exact nature of these projects will be decided by the Village	The review of the monitoring plans and implemented activities during site visit indicate that the long-term benefits have been correctly identified and implemented

¹ United Nations Development Programme. Human Development Indicators; Tanzania. <http://hdr.undp.org/en/countries/profiles/TZA>

Governments in consultation with villagers, but it is likely that they will provide longer-term well-being benefits such as improved food security, greater access to education (including higher education), and improved health standards	
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Optional Gold Level: Community Participation Risks (GL2.3)

The validation team agrees that the project has correctly identified risks (gender issues) and the activities shall aim to reduce the risks. The project team aims through the consultations to make sure that Village Governments do not have higher expectations for their own benefits and understand that the project is meant to benefit the village as a whole. Also the project aims to address gender issues by encouraging gender balance in participation in project activities and by raising awareness on the importance of including women's perspectives in decision making. Door-to-door visits by carbon champions and reproductive health officers will increase communication and involvement of women in the project.

Optional Gold Level: Marginalized and/or Vulnerable Community Groups (GL2.4)

The validation team has conducted an independent assessment to verify the steps taken by the PP on the marginalized and/or vulnerable community groups that the project is engaging that is planned to gain net positive benefits. For each community group, the Net positive impacts, Benefit access and Negative impacts have been verified based on information provided in the PD. The summary is provided as below:

Community groups - risks and impacts	Validation team assessment
Poorer households in the community will experience net positive impacts from the project as a result of several activities. These include improved livelihoods resulting from projects supported by the Village Government using project carbon revenues. The project addresses risks by relying on verbal communication and door-to-door meetings through the carbon champions who share information and seek input from all households in the villages. No negative risks are anticipated	The review of the monitoring plans, interviews with villagers and implemented activities during site visit indicate that the community have been correctly identified and implementation plans targeted towards improvement of the same.
Women will positively benefit from the project activities. In particular, women will benefit from the reproductive health services that will be supported by the project, resulting in better	The review of the monitoring plans, interviews with villagers and implemented activities during site visit indicate that the community have been correctly identified and implementation plans

health conditions. They will also benefit from some of the livelihood activities, such as climate smart agriculture.	targeted towards improvement of the same.
The project addresses risks by relying on verbal communication and door-to-door meetings through the carbon champions and reproductive health officers.	
No negative risks are anticipated	

Optional Gold Level: Net Impacts on Women (GL2.5)

As per the benefits and implemented activities, the audit team by means of interviews and document review assessed that the project will seek to have a positive influence on the status of women in the project area with benefits including improved livelihoods, influence in decision-making and has organized forums for their training. The information in PD supports the information made available to the audit team and hence it is the opinion of the validation team that the CCB criteria are addressed satisfactorily.

Optional Gold Level: Benefit Sharing Mechanisms (GL2.6)

The validation team has assessed by means of information in the PD and site visit observations that the project's benefit sharing mechanism(s) meet the requirements of GL2.6. The observations of the audit team are summarized as below:

- Payments from carbon sales will flow directly to the official village government account based on the project steering committees decision on a bi-annual basis (every six months).
- Together all eight villages will receive 50% of the net revenues from sales with 50% remaining with CT to cover its operating costs, verification and pay taxes (village governments are exempt from tax) and invest in new projects.
- The benefit sharing mechanism was communicated in a participatory way to communities in two ways; the 50%-50% split in revenue distribution between Carbon Tanzania and the villages was introduced in the contract training seminars and meetings, and is also outlined in the contract (see appendix).
- The more detailed concept around dividing revenue between villages is based on; a base payment (50%) and the size of the village (50%) and was communicated at the introduction to the contract meetings.

Optional Gold Level: Benefits, Costs, and Risks Communication (GL2.7)

The validation team by means of site visit interviews and document review has assessed the following information to be correctly stated:

Sufficient information of the benefits, costs and risks have been communicated during the introductory meetings in the 8 villages. The Actual costs and benefits is also planned to be presented in the village committee meetings and general assemblies on a regular basis. CT will provide written and oral updates that include information on payments, trainings, educational activities, and forest status.

Optional Gold Level: Governance and Implementation Structures (GL2.8)

A step wise assessment was done by the audit team on the project's governance and implementation structures, and any relevant self-governance or other structures used for aggregation of smallholders/community members. It has been validated that the project's governance and implementation structures enable full and effective participation of smallholders/community members in project decision-making and implementation.

The validation team by means of site visit interviews and document review has assessed the following information to be correctly stated:

- The project governance structure is led by Carbon Tanzania in partnership with Tuungane, a collaborative program of The Nature Conservancy and Pathfinder. Carbon Tanzania, as the project proponent, holds overall responsibility for the project in ensuring that its objectives are attained.
- The local government is also a key actor in project governance and implementation, particularly in ensuring that the forest protection and village development activities are implemented.
- The project relies on the existing governance structure represented by Tanganyika District, Mwese and Katuma Wards, and the village committees and sub-village representatives of the eight project villages. This democratic structure (with elected representatives) has checks and balances embedded.

Optional Gold Level: Smallholders/Community Members Capacity Development (GL2.9)

The validation team by means of site visit interviews and document review has assessed the information on capacity development is sufficient and ensures that the smallholders and/or community members, and relevant local organizations or institutions, to participate effectively and actively in project design, implementation and management.

Biodiversity

Existing Conditions (B1.1)

The audit team has conducted an assessment to identify, discuss, and justify conclusions regarding the biodiversity within the project zone at the start of the project and threats to that biodiversity based on information in the PD and site visit observations. The validation team by means of onsite observations and document review has assessed that the information presented in the PD on the threatened species and the assumptions and rationale on categorizing the species are acceptable. Threats to biodiversity are correctly identified as habitat loss driven by shifting agriculture contrary to village land use plans and Poaching of mammals using snares, predominantly for the bush meat trade.

High Conservation Values (B1.2)

The validation team by means of onsite observations and document review has assessed that the information presented in the PD on the HCV and the assumptions and rationale on categorizing the species are acceptable. Mostly the species (Chimpanzee, giraffe, Wild dog, Leopard, Lion and several bird species) identified are found to have a decreasing population trend and are found either in the project area or in the vicinity.

Without-project Scenario: Biodiversity (B1.3)

The audit team agrees with the project assessment that the without-project land use scenario would result in significant loss of habitat and lead to increase in hunting throughout the project zone. See Section 3.5.1 and 3.5.2 for documents assessed and observations made.

In conclusion, the audit team agrees with the project personnel's assessment regarding expected changes to biodiversity conditions in the without-project scenario

Expected Biodiversity Changes (B2.1)

Describe the steps taken to validate the key assumptions, rationale and methodological choices used to anticipate changes in biodiversity resulting from project activities under the with-project scenario. Provide and justify an overall conclusion regarding the expected impacts for each biodiversity element identified in the project description.

The audit team confirmed that the PD provides an estimate of the changes in biodiversity using the Theory of Change methodology, focal issue identification and result chain diagrams, as suggested by the CCB Standards. The audit team agrees with the project assessment that the positive and negative impacts on biodiversity are directly linked to the health and existence of the ecosystems that comprise habitat for wildlife. The audit team was also able to confirm that the PD provides a transparent description of the net impacts by comparing the 'with project' and 'without project' scenarios that allows for assessment by the auditor and the public resulting in net positive impact estimates.

Mitigation Measures (B2.3)

The project does not anticipate negative impacts to biodiversity in the project area. The audit team agrees given that the primary project activity is protection of the forest, and thereby the species' habitat. Therefore no mitigation measures are needed. For the maintenance of the HCV attributes of the project area, the audit team agrees that no measures beyond the effective implementation of the VLUPs are needed.

Net Positive Biodiversity Impacts (B2.2, GL1.4)

The audit team is of the opinion that the project activities designed to avoid deforestation and forest degradation are expected to have only positive impacts on the project's biodiversity as the status of biodiversity is inherently correlated with the climate benefits of the project. The information in the PD and onsite observations supports this assessment sufficiently.

Hence the audit team concludes that the project will produce net positive biodiversity impacts.

High Conservation Values Protected (B2.4)

The project does not anticipate negative impacts to biodiversity-related HCV's in the project area. The audit team agrees given that the primary project activity is protection of the forest, and thereby the species' habitat. For the maintenance of the biodiversity HCV attributes of the project area, the audit team concludes that only positive impacts will occur.

Species Used (B2.5)

This indicator is not applicable as no species are used by the project, and furthermore no invasive species are used in the project.

Impacts of Non-native Species (B2.6)

This indicator is not applicable as no nonnative species are used in the project.

GMO Exclusion (B2.7)

This indicator is not applicable as no GMO's will be used to generate emission reductions or removals.

Inputs Justification (B2.8)

The PD identifies pesticides, and herbicides that are used in ongoing agricultural activity. However their use is legal and is an ongoing practice as verified by the audit team during site observations.

Waste Products (B2.9)

This indicator is not applicable as no waste products beyond the normal amount produced through general operations, will be generated by the project.

Negative Offsite Biodiversity Impacts (B3.1) and Mitigation Measures (B3.2)

The audit team concludes that only positive biodiversity impacts will occur due to the project; as a result, per Section 3.5.5 and 3.5.7, potential negative offsite impacts on biodiversity outside the project zone are not likely.

Net Offsite Biodiversity Benefits (B3.3)

The audit team concludes that only positive biodiversity impacts will occur due to the project; as a result, per Section 3.5.5 and 3.5.7, evaluation of unmitigated offsite impacts is not applicable

Biodiversity Monitoring Plan (B4.1, B4.2, GL1.4, GL3.4)

The audit team has conducted an independent review of the information in the biodiversity monitoring plan, as described in the PD and verified that it employs the Theory of Change and the Impact Assessments, as recommended by the CCB Standards. The audit team confirmed that the plan has selected biodiversity indicators that are directly linked to the project's biodiversity objectives, and that the appropriate sampling methods, frequencies, and reporting methods are used. Based on onsite observations and interviews of the field team involved in the surveys, carbon plot monitoring, the competence to perform the wildlife and vegetation monitoring protocols was verified. In addition, the audit team was able to independently confirm the accuracy of the GIS and remote sensing work performed by the project partners through validation activities.

The audit team therefore concludes that the biodiversity monitoring plan meets the requirements of the relevant CCB Standard indicators.

Biodiversity Monitoring Plan Dissemination (B4.3)

The audit team has assessed that adequate dissemination of the monitoring plan and results was done. Through interviews with the relevant project personnel, the audit team confirmed that the climate monitoring plan is made available for public review in the Project Office. In addition, results will be communicated to the communities and other stakeholders during the periodic meetings. Results of monitoring is planned to be made publicly available during each verification event.

Optional Gold Level: High Biodiversity Conservation Priority Status (GL3.1)

The audit team has reviewed documents, surveys and information in the PD to assess that the information stated in the PDD as summarized below is accurate:

As per CCB, the presence of at least a single individual of a species on the IUCN Red List that is critically endangered or endangered is demonstrated by identification of the species as below:

- *Eastern Chimpanzee (Pan troglodytes schweinfurthii)* – IUCN Red List threat category *Endangered*
- *Leopard (Panthera pardus)* - IUCN Red List threat category *Vulnerable*
- *Giant Ground Pangolin (Smustia gigantea)* - IUCN Red List threat category *Vulnerable*

- *Martial Eagle (Polemaetus bellicosus)* - IUCN Red List threat category *Vulnerable*

Optional Gold Level: Trigger Species Population Trends (GL3.2, GL3.3)

The audit team has reviewed documents, surveys and information in the PD to assess that the information stated in the PDD as summarized below is accurate:

Trigger species as identified in the section above are part of the biodiversity monitoring plan and the projected trends in trigger species populations and the projections meet the requirements of GL3.2 and GL3.3.

VALIDATION CONCLUSION

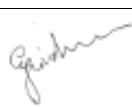
Carbon Tanzania (CT, Ltd.) has appointed EPIC Sustainability Services Private Limited to perform the validation under VCS and CCB standards. The assessment covered the scope of the validation of the project design and sustainable benefits planned to be achieved for the project titled “Ntakata Mountains REDD Project”.

The validation was based on the project description (PD), non-permanence risk analysis and other supporting documents submitted to the assessment team by the client. The assessment criteria was based on the requirements in VCS Standard v3.7, VCS AFOLU v3.6, the applied GHG methodology “VM0007: REDD Methodology Modules (REDD-MF)” and its associated modules as well as the VCS Non- Permanence Risk, the VT0001 “Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities” v3 and the CCB Standard v3.1 are the criteria used to validate the Project.

The project combines sustainable development with carbon sequestration and supports biodiversity conservation efforts. Carbon credit sales generate participant income and provide project funding which contribute to infrastructure benefits. These sustainable benefit metrics are verified to meet the CCB requirements.

The Project Proponent management team is responsible for the preparation and reporting of estimated GHG emissions data, and the project monitoring plan. The estimated net community, climate and biodiversity benefits planned to be achieved by the project based on the project design and current progress are verified to be realistic and credible.

It is the responsibility of the EPIC validation team to express an independent GHG verification opinion on the proposed project design and implementation and monitoring plan for the project. Based on the assessment, the validation team concludes, with a reasonable level of assurance that the estimated net anthropogenic GHG removals and net benefits to community and biodiversity is likely to be achieved by the project.

Prepared and submitted by:

Dr G Vishnu
(Lead Auditor)

APPENDIX 1: NON-PERMANENCE RISK ASSESSMENT CHECKLIST

Risk Factor	Risk Factor and/or Mitigation Description	Risk rating as per WWC LLC	VVB opinion	Method of verification
INTERNAL RISKS				
Project Management				
a)	Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located.	0	The Ntakata REDD+ Project does not involve any reforestation / afforestation with non-native species for carbon stocks. Not Applicable	Validation report, Project Design, Onsite inspection
b)	Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued.	2	The on-site visit inspection indicated that the ongoing enforcement is required	Onsite inspection
c)	Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (i.e., any area of required experience is not covered by at least one individual with at least 5 year's experience in the area).	0	It was verified during the on-site visit that both management team and consulting and local teams has extensive experience that exceeds five areas in all areas. Hence the experience and skills of the personnel are considered as sufficient to meet the criteria. Not Applicable	Onsite inspection / interviews
d)	Management team does not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area.	0	It was verified that full time professional staff are located in the country and Carbon Tanzania has management staff and field personnel. The activities in the field including training, quantification and auditing are coordinated by managers, quantifiers and farmers, being in touch with project managers.	Onsite inspection

			Not Applicable	
e)	Mitigation: Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (e.g., individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs.	-2	It was verified during the on-site visit that both management team and consulting and local teams has extensive experience that exceeds five areas in all areas. Hence the experience and skills of the personnel are considered as sufficient to meet the criteria. Not Applicable Hence the experience and skills of the personnel are considered as sufficient to meet the criteria.	Onsite inspection, project webpage
f)	Mitigation: Adaptive management plan in place.	-2	The VLUPs provide a framework for continued management of forest land within each village's jurisdiction, and provide them agency to take adaptive measures to conserve forested areas.	Onsite inspection ,Document review
Total Project Management [a + b + c + d + e + f]		-2	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
Financial Viability				
a)	Project cash flow breakeven point is greater than 10 years from the current risk assessment.	0	Not Applicable	project financial plan
b)	Project cash flow breakeven point is between 7 and up to 10 years from the current risk assessment	0	Not Applicable	project financial plan
c)	Project cash flow breakeven point between 4 and up to 7 years from the current risk assessment.	0	Not Applicable	project financial plan
d)	Project cash flow breakeven point is less than 4 years from the current risk assessment.	0	Not Applicable	project financial plan
e)	Project has secured less	0	Not Applicable	project financial plan

	than 15% of funding needed to cover the total cash out before the project reaches breakeven			
f)	Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven.	2	It is verified from the project financial plan and Project cash flow	project financial plan
g)	Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven	0	Not Applicable	project financial plan
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven.	0	Not Applicable	project financial plan
i)	Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven.	0	It is verified from the project financial plan that Project cash flow	project financial plan
	Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)]	2	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
Opportunity Cost				
a)	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated.	0	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities	Document review of validation report and PD and validated risk report
b)	NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project	0	NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project activities	Document review of validation report and PD and validated risk report

	activities.			
c)	NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities.	0	NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities	Document review of validation report and PD and validated risk report
d)	NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated.	0	NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated	Document review of validation report and PD and validated risk report
e)	NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity.	0	NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity	Document review of validation report and PD and validated risk report
f)	NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity.	0	NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity	Document review of validation report and PD and validated risk report
g)	Mitigation: Project proponent is a non-profit organization.	-2	The project proponent, Carbon Tanzania, is a non-profit organization.	Not Applicable
h)	Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period.	-2	Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see project longevity) The project is protected by a legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting	Document review of contracts

			periods. The project is protected by a 30-year contract between Carbon Tanzania and the villages of Lugonesi, Mwese, Bujombe, Lwega, Kapanga, Mpembe, Katuma, Kagunga, and Kushuhudiwa to continue management practices that protect the credited carbon stocks over the length of the project crediting period. The contract was signed October 3, 2018	
i)	Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over at least 100 years.	0	Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see project longevity)	Not Applicable.
	Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g or h)]	-4	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
Project Longevity				
a)	Without legal agreement or requirement to continue the management practice.	0	Not Applicable.	Not Applicable.
b)	With legal agreement or requirement to continue the management practice.	15	The project is protected by a legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting periods. The project is protected by a 30-year contract between Carbon Tanzania and the villages of Lugonesi, Mwese, Bujombe, Lwega, Kapanga, Mpembe, Katuma, Kagunga, and Kushuhudiwa to continue management practices that protect the credited carbon stocks over the length of the project crediting period. The contract was signed	Document review of contracts

			October 3, 2018	
	Total Project Longevity (PL)	15	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
	Total Internal Risk (PM + FV + OC + PL)	11	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
EXTERNAL RISKS				
Land Tenure and Resource Access/Impacts				
a)	Ownership and resource access/use rights are held by same entity(s).	0	Not Applicable	Not Applicable
b)	Ownership and resource access/use rights are held by different entity(s) (e.g., land is government owned and the project proponent holds a lease or concession).	2	The individual villages have rights to resource access, but the government retains the right to ownership.	Document review
c)	In more than 5% of the project area, there exist disputes over land tenure or ownership.	0	Not Applicable	Not Applicable
d)	There exist disputes over access/use rights (or overlapping rights).	0	Not Applicable	Not Applicable
e)	WRC projects unable to demonstrate that potential upstream and sea impacts that could undermine issued credits in the next 10 years are irrelevant or expected to be insignificant, or that there is a plan in place for effectively mitigating such impacts.	0	Not Applicable	Not Applicable
f)	Mitigation: Project area is protected by legally binding commitment (e.g., a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period.	-2	The project is protected by a legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting periods. The project is protected by a 30-year contract between Carbon	Document review of contracts

			Tanzania and the villages of Lugonesi, Mwese, Bujombe, Lwega, Kapanga, Mpembe, Katuma, Kagunga, and Kushuhudiwa to continue management practices that protect the credited carbon stocks over the length of the project crediting period	
g)	Mitigation: Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims.	0	No land disputes exist over land tenure, ownership or access/use rights among the villages in and around the project area.	Not Applicable
	Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)]	0	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
Community Engagement				
a)	Less than 50 percent of households living within the project area, who are reliant on the project area, have been consulted.	0	Representatives from 8 villages located within the project area who represent the households have been consulted as detailed in the Mpanda District Council Reconnaissance Report.	Site visit, Document review.
b)	Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted.	0	More than 20 percent of surrounding villages within 20km of the project area have been consulted about the project.	Site visit, Document review.
c)	Mitigation: The project generates net positive impacts on the social and economic well being of the local communities who derive livelihoods from the project area	-5	The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area.	Site visit, Document review.
d)	Total Community Engagement (CE) [where applicable, (a+b+c)]	-5	Risk rating perceived is appropriate in this section considering all applicable criteria.	Applicable as above
Political risk				
a)	Governance score of	0	The average governance	Verified from VCS

	less than -0.79.		score for Tanzania from 2011 through 2016 was -0.47, or between the governance score of -0.79 to -0.32. Details of the calculation are provided on the "World Bank WGI" tab	guidance based on the World Bank Institute Worldwide Governance Indicators from the website.
b)	Governance score of -0.79 to less than -0.32.	0	Not Applicable	Not Applicable
c)	Governance score of -0.32 to less than 0.19.	4	Applicable	Verified from VCS guidance based on the World Bank Institute Worldwide Governance Indicators from the website.
d)	Governance score of 0.19 to less than 0.82.	0	Not Applicable	Not Applicable
e)	Governance score of 0.82 or higher.	0	Not Applicable	Not Applicable
f)	Mitigation: Country is implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3.	-2	Tanzania is engaged in the World Bank Forest Carbon Partnership Facility ² and is implementing REDD+ readiness activities.	Document review
g)	Total Political (PC) [as applicable ((a, b, c, d or e) + f)]	2	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
	Total External Risk (LT + CE + PC)	0	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above
NATURAL RISKS				
F	Fire	1	There is no natural fire in this ecosystem, due to the extreme wetness of the forest. However anthropogenic fires which are set frequently in savanna areas and around villages to clear fallows and promote grass growth for livestock do on a cyclical basis cause damage to the forest.	Site visit inspection
PD	Pest and Disease Outbreaks	0	As a relatively intact natural ecosystem, there is no likelihood nor reported examples of pest outbreaks causing destruction to this area of the Forest in project	Site visit inspection

² <https://www.forestcarbonpartnership.org/tanzania>

			zone.	
W	Extreme Weather	0	It has been verified for that there has been no forest loss events due to extreme weather in the project zone.	Site visit inspection
G	Geological Risk	1	Historical data in the region indicates that risks such as earthquakes, volcanic activity have been identified to impact the project	Document review
ON	Other Natural risk	NA	NA	NA
	Total Natural Risk (as applicable, F + PD + W + G + ON)	2	Risk rating perceived is appropriate in this section considering all applicable criteria	Applicable as above

Summary of assessment:

Risk Category	Risk rating	Requirements for risk rating
a) Internal risk	11	Note: - Overall risk rating shall be rounded up to the nearest whole percentage. - The minimum risk rating shall be 10, regardless of the risk rating calculated. - If the overall risk rating is over 60 then the project fails the entire risk analysis.
b) External risk	0	
c) Natural risk	2	
Overall Risk rating a) + b) + c)	13	
Total risk assessment buffer applicable	13%	VVB Assessment: The buffer applied reflects the risk rating as applicable to the project activity and meets the requirements of AFOLU Non-Permanence Risk Tool. Reduction in both internal and external risks due to increased community engagement has resulted in significant decrease of risk rating from 25% in M1 to 10% in M2, which is acceptable.
Gross emission reductions (GERs)	5099640	
Emission reductions buffer	662,953	
Net emission reductions	4202000	

APPENDIX 2: VALUES (EX-ANTE AND EX- POST) AND ESTIMATIONS AND THEIR VALIDATION

Parameters and Values used to Calculate Annual Ex-Ante Project Emissions.

Parameter	Assessment by validation team
Net carbon stock change as a result of degradation in the project area in the project case in stratum i at time t; t CO ₂ e	This is calculated as Zero as No emissions from degradation are expected to occur due to the prevalence of available fuelwood outside the project area. Forest patrols will further deter degradation activities. Ex-ante degradation is therefore estimated as zero. Emissions resulting from degradation due to selective logging of FSC certified areas (parameter $\Delta CP, SelLog, i, t$) equates to zero as no selective FSC logging occurs in either the baseline or with-project case. Hence justification is accepted by audit team
Net carbon stock change as a result of natural disturbance in the project area in the project case in stratum i at time t; t CO ₂ e	This is calculated as Zero Forests in Mpanda district have a low incidence of natural disturbance and hence no disturbances are likely which result in tree death and CO₂ emissions. Hence justification is accepted by audit team
Greenhouse gas emissions as a result of deforestation and degradation activities within the project area in the project case in stratum i in year t; t CO ₂ e	The calculations were verified from excel sheet provided.
Net carbon stock change as a result of forest growth and sequestration during the project in areas projected to be deforested in the baseline in stratum i at time t; t CO ₂ e	Excluded on Conservative basis

Parameters and Values used to Calculate Annual Ex-Ante Deforestation Emissions

Parameter	Description	Justification
$\Delta CP, DefPA, i, t$	Net carbon stock change as a result of deforestation in the project case in the project area in stratum i at time t; t CO ₂ e	Table 3.25 of PD, calculated annually as per methodology
$A DefPA, u, i, t$	Area of recorded deforestation in the project area stratum i	$A DefPA, u, i, t$ is derived assuming a project

	converted to land use u at time t; ha	effectiveness of 80% (i.e., 20% of baseline deforestation occurs in the project case). Table 3.25 of PD, calculated annually as per methodology
$\Delta C_{pools,Def,u,i,t}$	Net carbon stock changes in all pools in the project case in land use u in stratum i at time t; t CO ₂ e ha ⁻¹	This value is the strata area weighted mean based on forest inventory sheet $\Delta C_{pools,Def,u,i,t} = 68.3$

Parameters and Values Used to Calculate Annual Ex-Ante GHG Emissions

Parameter	Description	Justification
GHGP,E,i,t	Greenhouse gas emissions as a result of deforestation activities within the project area in the project case in stratum i in year t; t CO ₂ e	Table 3.27 a of PD, calculated annually as per methodology
EBiomassBurn,i,t	Non-CO ₂ emissions due to biomass burning in stratum i in year t; t CO ₂ e	Table 3.27 b of PD, calculated annually as per methodology

Parameters and Values used to Calculate Annual Ex-Ante GHG Emissions in the Leakage Belt.

Parameter	Description	Justification
$\Delta CLK-ASU-LB$	Net CO ₂ emissions due to unplanned deforestation displaced from the project area to the leakage belt; t CO ₂ e	Calculated as per Table 3.30 as per methodology
$\Delta C_{BSL,LK,unplanned}$	Net CO ₂ emissions in the baseline from unplanned deforestation in the leakage belt; t CO ₂ e	Derived as per Table 3.38 as per methodology
$\Delta CP, LB$	Net greenhouse gas emissions within the leakage belt in the project case t CO ₂ e	Ex-ante estimate is calculated by multiplying the estimated baseline carbon stock changes and greenhouse gas emissions for the project area by a factor < 1.0 representing the % of deforestation expected to be displaced into the leakage belt. This result is then added to the estimated baseline for the leakage belt. Calculated as per Table 3.30 as per methodology

Parameters and Values used to calculate the Proportional Leakage for Areas with Immigrating Populations.

Parameter	Description	Justification
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LKPROP	Proportional leakage for areas with immigrating populations; proportion	0.073, calculated as per methodology
PROPIMM	Estimated proportion of baseline deforestation caused by immigrating population; proportion	0.091 calculated as per methodology
PROPLB	Area of forest available for unplanned deforestation as a proportion of the total national forest area available for unplanned deforestation; proportion	0.0036751 calculated as per methodology
PROPCS	The proportional difference in stocks between areas of forest available for unplanned deforestation both inside and outside the Leakage Belt; proportion	0.800 calculated as per methodology

Parameters and Values used to Calculate the Net CO₂ Emissions due to Unplanned Deforestation Displaced Outside the Leakage Belt.

Parameter	Description	Justification
ΔCLK-ASU,OLB	Net CO ₂ emissions due to unplanned deforestation displaced outside the leakage belt; t CO ₂ e	Calculated in Table 3.35, as per methodology
ΔCBSL,LK,unplanned	Net CO ₂ equivalent emissions in the baseline from unplanned deforestation in the leakage belt; t CO ₂ e	Calculated in Table 3.38, as per methodology
ΔCP,LB	Net CO ₂ equivalent emissions within the leakage belt in the project case; t CO ₂ e	Calculated in Table 3.30, as per methodology
LKPROP	Proportional leakage for areas with immigrating populations; proportion	Calculated as per methodology

Parameters and Values used to Estimate Total Leakage due to the Displacement of Unplanned Deforestation.

Parameter	Description	Justification
ΔCLK-AS,unplanned	Net greenhouse gas emissions due to activity shifting leakage for projects preventing unplanned deforestation Net CO ₂ emissions; t CO ₂ e	Calculated in Table 3.37, as per methodology
ΔCLK-ASU-OLB	Net CO ₂ emissions due to unplanned deforestation displaced outside the leakage belt; t CO ₂ e	Calculated in Table 3.35, as per methodology
ΔCLK-ASU-LB	Net CO ₂ emissions due to	Calculated in Table 3.30, as per

	unplanned deforestation displaced from the project area to the leakage belt; t CO ₂ e	methodology
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Parameters for monitoring:

Parameter	Description		Justification
Net CO ₂ emissions in the baseline from unplanned deforestation in the project area	Derived and calculated in Section 3.2 of PD		<i>Used in Calculation of baseline emissions, estimated correctly</i>
Net CO ₂ emissions in the baseline from unplanned deforestation in the leakage belt	Derived and calculated in Section 3.2 of PD		<i>Used in Calculation of leakage emissions, estimated correctly</i>
Carbon fraction of biomass	IPCC 2006GL		<i>Global default value applied coorectly</i>
Average aboveground tree carbon stock for forests available for unplanned deforestation outside the Leakage Belt	Values transformed from NAFORMA data. p48 NAFORMA, Ministry of Natural Resources and Tourism, Tanzania Forest Services Agency, Government of Finland, AND FAO. 2015. NAFORMA - National Forest Resources Monitoring and Assessment of Tanzania Mainland - Main Results. Estimated in Section 3.2 of PD		<i>Used in Calculation of leakage emissions, estimated correctly</i>
Allometric equation for species j linking measured tree variable(s) to aboveground biomass of living trees.	Data resulting from the forest inventory		<i>Justified as national level region specific data is used</i>
Root to shoot ratio appropriate to species or forest type / biome	Root biomass density was calculated using an IPCC root to shoot ratio of 0.28 for dry tropical forest, as found in the VM-0007 module CP-AB, "Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools".		<i>Calculated for baseline and project emissions as per VMD0001</i>
Net carbon stock change as a result of deforestation in the project case in the project	Year	ΔCP,DefPA,i,t (t CO ₂ -e)	<i>Calculated correctly as per VMD0015 equation 3. Monitoring frequency- at</i>
	2017	257,657	
	2018	324,523	
	2019	298,803	

	2020	256,263		least 5 years
	2021	158,643		
	2022	170,604		
	2023	114,079		
	2024	110,824		
	2025	108,907		
	2026	101,895		
Net carbon stock change as a result of deforestation in the project case in the leakage belt in stratum i at time t	Year	$\Delta CP, DefLB, i, t$ (t CO ₂ -e)		Calculated correctly as per VMD0015 equation 4. Monitoring frequency- at least 5 years
	2017	315,473		
	2018	594,688		
	2019	653,755		
	2020	663,474		
	2021	490,704		
	2022	516,287		
	2023	392,545		
	2024	408,939		
	2025	427,620		
	2026	410,555		
Net carbon stock change as a result of natural disturbance in the project case in the project area in stratum i at time t	Year	$\Delta CP, DistPA, i, t$ (t CO ₂ -e)		Calculated correctly as per VMD0015 equation 20. Monitoring frequency- at least 5 years
	2017	0		
	2018	0		
	2019	0		
	2020	0		
	2021	0		
	2022	0		
	2023	0		
	2024	0		
	2025	0		
	2026	0		
Area of recorded deforestation in the project area stratum i converted to land use u at time t	Monitoring responsibilities are listed in section 3.3. used for calculation of project emissions			Estimated as per ARCGIS. Monitoring frequency- at least 5 years
Area of recorded deforestation in the leakage belt stratum i converted to land use u at time t	Monitoring responsibilities are listed in section 3.3. used for calculation of leakage			Estimated as per ARCGIS. Monitoring frequency- at least 5 years

Area impacted by natural disturbance in post-natural disturbance stratum q in stratum i, at time t	Year	A _{DistPA,q,i,t}		<i>Estimated as per ARCGIS. Monitoring frequency- at least 5 years</i>
	2017	0		
	2018	0		
	2019	0		
	2020	0		
	2021	0		
	2022	0		
	2023	0		
	2024	0		
	2025	0		
	2026	0		
Carbon stock in all pools in the baseline case in stratum i	Strata	(t CO ₂ -e ha ⁻¹)		<i>Calculated based on forest inventory - frequency- at least 10 years</i>
	stratum i	163.8		
Carbon stock in all pools in post-deforestation land use u in stratum i	49.1 t CO ₂ -e ha ⁻¹			<i>Calculated correctly as per VMD0015 equation 5. Monitoring frequency- at least 10 years</i>
Biomass conversion and expansion factor for conversion of commercial wood volume per unit area to total aboveground tree biomass per unit area	1.8			<i>Calculated correctly as per VMD0015 equation 5. Monitoring frequency- at least 10 years</i>
SLF = Fraction of wood products that will be emitted to the atmosphere within 5 years of production by class of wood product ty	0.2			<i>Calculated correctly as per VMD0015 equation 2, 4. Monitoring frequency- at least 10 years</i>
Total area of stratum i	204,807 Ha			<i>Calculated from forest inventory to remain constant.</i>
Area potentially	0, used for project emissions			<i>Repeated each time</i>

impacted by degradation processes in stratum i		the PRA indicates a potential for degradation. PRA conducted every < 2 years
Biomass carbon of trees cut and removed through degradation process from plots measured in stratum i at time t	0	<i>Calculated correctly as per VMD0015 equation 8. Monitoring frequency- at least 5 years</i>
Total area of degradation sample plots in stratum i	Calculated using ARCGIS	<i>frequency- at least 5 years</i>
Net carbon stock changes as a result of degradation in stratum i in the project area at time t	<i>Monitoring responsibilities are listed in section 3.3.</i>	<i>Calculated correctly as per VMD0015 equation 8. Monitoring frequency- at least 5 years</i>
Estimated proportion of baseline deforestation caused by immigrating population 14.6%	Calculated based on results of survey of communities in the area around the project –used for leakage calculation.	<i>frequency- at least 5 years</i>
diameter at breast height	Monitored during the course of each forest inventory – used for leakage and project emissions	<i>Verified from forest inventory and SOP frequency- at least 10 years</i>
Basal diameter	Monitored during the course of each forest inventory – used for leakage and project emissions	<i>Verified from forest inventory and SOP frequency- at least 10 years</i>
Height of tree	Monitored during the course of each forest inventory – used for leakage and project emissions	<i>Verified from forest inventory and SOP frequency- at</i>

		<i>least 10 years</i>		
Percentage uncertainty (expressed as 95% confidence interval as a percentage of the mean where appropriate) for carbon stocks and greenhouse gas sources in the with-project case (1,2...n represent different carbon pools and/or GHG sources)	Calculation of baseline emissions Calculation of project emissions			<i>Monitored at least once every 10 years</i>
Carbon stock or GHG sources (e.g. trees, dead wood, soil organic carbon, emission from fertilizer addition, emission from biomass burning etc.) in the baseline case	Strata	Live aboveground tree biomass	Belowground biomass	total
	i	118.3	44.5	163.8
				<i>Verified from forest inventory. Monitored at least once every 10 years</i>
Average aboveground biomass stock before burning stratum i, time t	Bi,t (tonnes d.m./ha) Ex-ante Project Area		69.3	
	Bi,t (tonnes d.m./ha) Ex-ante Leakage Belt		69.3	
				<i>Verified from forest inventory. Monitored at least once every 10 years</i>
Aboveground biomass density	118.3 tonnes d. m. ha-1			<i>Verified from SOPs Monitored at least once every 10 years</i>
Area of sample plots in ha	forest inventory procedures are provided in the SOPs.			<i>Verified from forest inventory. Monitored at least once every 10 years</i>
Carbon stock in all pools in post-natural disturbance q in baseline stratum i	Year	CP,Dist,q,i (t CO2-e)		
	2017	0		
	2018	0		
	2019	0		
	2020	0		
				<i>Monitored at least Prior to each verification event and at least every 5 years</i>

	2021	0		
	2022	0		
	2023	0		
	2024	0		
	2025	0		
	2026	0		
Total area of stratum i	Strata in Project		Ai (ha)	Verified from ARCGIS analysis
	Stratum i		204807	
	Strata in LB		Ai (ha)	
	Stratum i		184733	

Data and Parameters for Monitoring Illegal Degradation.

Parameter	Description	Justification
$A_{DegW,i,t}$	Area potentially impacted by degradation processes in stratum i	Delineated based on survey results indicating general area of project potentially accessed and typical depth of penetration of illegal harvest activities from points of access. Meets methodology requirements.
$C_{DegW,i,t}$	Biomass carbon of trees cut and removed through degradation process from plots measured in stratum i at time t	Estimated from diameter measurements of cut stumps in sample plots
AP_i	Total area of degradation sample plots in stratum i	Calculated as 3% of $A_{DegW,i,t}$. Meets methodology requirements.
$\Delta C_{P,DegW,i,t}$	Net carbon stock changes as a result of degradation in stratum i in the project area at time t	Calculated. Meets methodology requirements.

Data and Parameters for Monitoring Emissions from Biomass Burning

Parameter	Description	Justification
$E_{BiomassBurn,t}$	Greenhouse emissions due to biomass burning as part of deforestation activities in stratum i in year t	Calculated. Meets methodology requirements.
$A_{burn,i,t}$	Area burnt for stratum i at time t	Monitored for each verification event. Meets methodology requirements.
$B_{i,t}$	Average aboveground biomass stock before burning stratum i, time t	Conservatively assumed to be the carbon stock in all pools in the baseline case (CBSL,i). Meets methodology

		requirements.
COMF i	Combustion factor for stratum i; dimensionless	0.45 for primary open tropical forest. Derived from Table 2.6 of IPCC, 2006. Meets methodology requirements.
Gg,i	Emission factor for stratum i for gas g	GCH ₄ = 6.8 g kg ⁻¹ and GN ₂ O = 0.2 g kg ⁻¹ . Derived from Table 2.5 of IPCC, 2006. Meets methodology requirements.
GWPg	Global warming potential for gas g	Default values from IPCC SAR: CH ₄ = 21; N ₂ O = 310). Meets methodology requirements.

Data and Parameters for Monitoring Activity Shifting Leakage.

Parameter	Description	Justification
ΔCP, LB	Net greenhouse gas emissions within the leakage belt in the project case	Calculated. Meets methodology requirements.
ADefLB, i, t	Area of recorded deforestation in the leakage belt at time t	Monitored for each verification event. Meets methodology requirements.
ΔCP, Def, i, t	Net carbon stock change as a result of deforestation in the project case in the project area in stratum i at time t	Calculated. Meets methodology requirements.

Data and Parameters for Monitoring Immigrant Leakage

Parameter	Description	Justification
PROPIIM	Proportion of area deforested by immigrant agents in the leakage belt and project area	Monitored prior to each verification event and at least every 5 years. Meets methodology requirements.
PROPRES	Proportion of baseline deforestation caused by population that has been resident for ≥5 years	Monitored prior to each verification event and at least every 5 years. Meets methodology requirements.
TOTFOR	Total available national forest area	Monitored prior to each verification event and at least every 5 years. Meets methodology requirements.
PROTFOR	Total area of fully protected forests nationally	Monitored prior to each verification event and at least every 5 years. Meets methodology requirements.
MANFOR	Total area of forests under active management nationally	Monitored prior to each verification event and at least every 5 years. Meets methodology requirements.

APPENDIX 3: RESOLUTION OF FINDINGS

1 ASSESSMENT FINDINGS

Finding 1 – CL 01

Signing of MOU between the project partners, Carbon Tanzania, The Nature Conservancy and Pathfinder dated 19th May 2017 is considered as the project start date. However, the Village contracts submitted are signed dated 03rd October 2018, which indicates the formal agreement with the villages for the implementation of the project. In this context, clarify on the appropriateness of the start date indicated in the PD.

PP Response round 1: The MoU was signed in May 2017 by The Nature Conservancy and Pathfinder, partners in the Tuungane project landscape. The signing of this MoU triggered the beginning of the project start period. This is based on activities outlined in 2.1.11. of the PD and 2.1.13 of the PD. This includes biodiversity monitoring, introductory meetings with all jurisdictions of government and participatory. The contract signed on 3rd October 2018 was based on part of the project design and implementation to ensure all community members across the eight villages understood the contractual agreements and responsibility of both parties.

VVB Response round 2:

The MoU signed in May 2017 has only triggered the beginning of implementing management and protection plans with The Nature Conservancy and Pathfinder, partners in the Tuungane project landscape. However the MoU does not involve the signed consent of the villages committee members who are considered as the representatives of the villages.

The contract signed on October 2nd 2018, in which the village committee has agreed to the conditions in the contract and signed the agreement is considered and understood as the date on which the legal aspects for the implementation of the project were finalised. Hence any activities from this date onwards are considered to conform to the VCS requirements of start date.

Based on PP response round 2 the finding is resolved.

PP Response to round 2:

7 Jan 2020: Establishing clear timeline for project start date.

1. *FPIC February 2016: Within any District in Tanzania, the District is the primary authority for introducing development partners instigating projects, any project development and implementation regarding natural resources, this includes any project relating to economic development and any plans relating thus. The Local Government 'District' Act 1982 Section 118. 1e / 1a. (shall be the function of every district council, in relation to its area. Of jurisdiction - ' (a) "to formulate, co-ordinate and supervise the implementation of all plans of the economic, commercial, industrial and social*

development in its area of jurisdiction. to consider, regulate and co-ordinate development plans, projects and programmes of villages and township authorities within its area of jurisdiction, so as to ensure the more beneficial development and mobilization of productive forces in the village and township authorities and their application towards- G) the enhancement of productivity; (ii) the acceleration of social and economic development of villages; and (iii) the amelioration of rural life.) On February 8th 2016 (see evidence in community folder, CT-Community training), the District conducted a reconnaissance of all project villages on behalf of Carbon Tanzania to establish if the villages would consider embarking on a carbon project. This was done to ensure that the correct authority, in this case the District Land and Natural Resource Officer, introduced the concept of a carbon project to ensure **free prior and informed consent** from the village governments.

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- 2. February 2017. CT conducted introductory meetings in February 2017 - June 2017 which included training on the REDD project and the step by step development process. The signing of the minutes of these meetings in February 2017 by the Village Governments that they understand the REDD project and the project development process **represents consent given by these villages.**
-
- 3. The project start date, 19th May 2017, is based on the start of project activities outlined in sections 2.1.11 and 2.1.13 of the PD concurrent with the signing of the MoU between Carbon Tanzania and The Nature Conservancy and Pathfinder, partners in the Tuungane project landscape. According to the VCS Standard v4.0, the start date is "the date on which activities that led to the generation of GHG emission reductions or removals are implemented". Activities implemented on or by this date include introductory meetings with all jurisdictions of government, completion of all participatory land use plans, and training of Village Game Scouts (VGS) at official government institutions. The signing of the MOU along with the activities represent the beginning of **implementing management and protection plans.**
-
- 4. The contract signed on 3rd October 2018 was based on part of the project design and implementation to ensure all community members across the eight villages understood the contractual agreements and responsibility of both parties, but project activities leading to the generation of emission reductions and removals began prior to this date.

Finding 2 – CL 02

During the site visit, interview with the village council indicates that the validity of the Village Land Use Plan (VLUP) varied between 10 to 20 years. However, as the project has lifetime

of 30 years with renewal every 10 years, clarify on the mechanism of updating the CCB indicators based on the approved valid VLUP.

PP Response: Land use plans are updated between every 10 to 20 years as stated in the land act (1999) of Tanzania. The renewal of land use plans is laid out in the land act as a participatory process and should changes be requested to the land use plan, these must be submitted to the minister of lands for approval. There are no examples in Tanzania where villages have requested changes to their land use plans and all evidence suggests that the devolved land use planning process in Tanzania is functioning well.

VVB Response:

The reply seems to suggest that land use plans are continued without any changes, which is not the case as needs of the community also changes and the reply itself suggests that VLUPs are updated every 10-20 years. Hence PP to clarify, if in case of any changes to VLUP, what is the proposed mechanism to consider the impact on the project monitoring and renewal. Also PP to submit evidence of the approval date of the VLUP submitted by the villages and the tenure of the plans. Based on PP response round 2 the finding is resolved.

PP Response to round 2:

1. When VLUPs are created, there is consideration of both current and future needs for housing, agriculture and grazing (See Bujombe LUP page 51 and attached table for livestock use projected to 2027, translated below).

Table 21. Estimates of Livestock Populations after 10 years (2027)

Sub-village	2017				2027			
	Cows	Goat	Sheep	Land Need	Cows	Goat	Sheep	Land Need
Mabwensofu	282	178	59	329.4	331	244	81	396
Matimba	280	70	12	296.4	328	96	16	353.4
Katente	1059	216	88	1119.8	1241	296	121	1324.4
Nkwende	672	154	10	704.8	788	159	14	822.6
Misanga	1144	375	81	1235.2	1341	514	111	1466
Kasunga	754	141	0	782.2	800	193	0	838.6
Kasangasi	783	187	85	837.4	918	256	116	992.4
Total	4974	1321	335	5305.2	5830	1810	459	6283.8

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- CCB indicators are linked to activities that support the village government in good governance, law enforcement, the support of village development plans and community benefits, both fiscal and educational. Given that district government, village governments, and the communities are both the owners

of the land, beneficiaries of land use plans and hold sole legal responsibility for participatory land planning, any future changes to land area designation that causes deforestation would only result from the Village having diminished engagement in benefits. Any changes to the VLUP which effect forest protection are included in Appendix 2. Project Risks under No 4. Diminished Village Engagement and the action is the engagement and support of these villages.

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
4. Diminished village engagement	- <i>If villages disengage from participation in VLUPs, forestland and wildlife habitat may face increased pressure due to illegal harvest and/or land conversion for agriculture.</i>	- <i>Meet regularly with villages to remain engaged with the process and to support the needs of the communities.</i>

In the unlikely scenario that the village communities want to make changes to future land use plans that would necessitate changes in the CCB indicators, changes that do not threaten project activities or success, these indicators will be amended in a future version of the Monitoring framework. If LUP changes threaten core project activities and success, there is a clear conflict mitigation process outlined in the contract between the project developer, the village and district.

All Village Land Use Plans and Participatory land use planning documents are provided for evidence in the Dropbox Folder: "Folder 5. Carbon Tenue / Land Legal Agreement".

Finding 3 – CL 03

Benefit sharing mechanisms are explained in section 4.5.6 of the submitted PD. However the village chairman in Katuma was not aware of the benefit sharing mechanism. In this context, clarify on the effectiveness of the trainings provided to the stakeholders on their awareness of the project benefit sharing mechanisms.

PP Response: The benefit sharing mechanism was communicated in two ways; the 50%-50% split in revenue distribution between Carbon Tanzania and the villages was introduced in the contract training and meetings, (evidence attached) (*Mgawanyiko wa mapato kati Carbon Tanzania na kijiji* – the division of revenue between Carbon Tanzania and the village) and is also outlined in the contract (English Version is shared). The more detailed concept around dividing revenue between villages and that division being based on; a base payment and the size of the village was communicated at the introduction to the contract meetings; (evidence copied and attached – *Mgawanyiko wa mapato ndani ya mradi* – the division of revenue inside the project).

VVB Response:

The explanation provided by the PP is in line with the evidences provided. However the same is not updated in relevant sections of the PD. Also, as per the observation, a FAR (FAR 1) is raised such that the awareness of benefit sharing mechanisms are verified during subsequent verifications.

PP Response to Round 2:

Section 4.5.6 of the PD has been updated to address Finding 3 CL03 and is provided to the VVB in the most recent version of the PD.

Finding 4 – CL 04

Cotton growing was indicated to be introduced by the government in Katuma around 2 years back. Cotton, being a cash crop has incentivised farmers to grow it more and in some cases reduce the land area for maize which is a major food crop of the region. In the context of implementation of the climate smart agriculture, clarify on how growing of cotton categorises as a climate smart agricultural practice and meets the objective of the CCB monitoring plan.

PP Response: Cotton as a cash crop should not be confused with food crops grown for local use and some local market sales. Cotton is part of an outgrowing exercise with a guaranteed market; cotton requires less water than rain fed maize so is a much better and stable crop choice as a cash crop. Climate smart agricultural practices are focused on food crops as was reflected in the meetings. These include vegetable beds and zero till techniques as verbalised by the villagers in Lugonesi and Katuma.

VVB Response:

While the reply justifies that cotton is not part of the climate smart agricultural practices, clarify whether the aspect of cotton cultivation is considered in the VLUP. Based on PP response round 2 the finding is resolved.

PP response to Round 2:

The village land use plans outline areas for agriculture (Makazi and Kilimo) but does not specify the type of agriculture in those areas. In this case villages have the choice to grow what crops they need for food or are appropriate as a cash crop. All agriculture is restricted to the designated farming areas (Makazi and Kilimo) which have been set aside for agriculture in the participatory land use planning process that is outlined in section 2.1.6 of the project description. These areas are usually based on soil, water resources and slope that allow for farming.

Finding 5 CL 05

The frequency of patrol monitoring varies between monthly and bimonthly as verified from interview with the VGS in the villages. Clarify on the correct frequency as per the agreement framework as the same is not clearly indicated in the PD.

PP Response: Each village keeps a log for recording patrolling of forests (as evidenced in Katuma Village where you saw the log book for patrolling). The PD does not reflect a strict schedule as some forests require 4-5 days to patrol (such as Lugonesi) so a patrol happens

once a month for 4-5 days, where other villages can patrol their forest in 1 day, so send the VGS from the village every week. Other variables to consider are rain, fire and other incidents that mean the VGS may have to focus on specific areas. Enforcement of the village by-laws are the responsibility of the village. Carbon Tanzania, whilst ensuring patrolling happens every month, does not want to be proscriptive and wants the village governments to follow their own timetable to deal with the localised differences as described above.

VVB Response:

While the reply indicates the variables due to which the frequency of patrolling is not fixed, the same is not reflected in the relevant sections of the PD. While carbon Tanzania is responsible for the operation of the VCS project, the statement indicates that the responsibility of implementing the framework for patrolling rests with the village governments. Considering that patrolling is a major conservation activity, evidence of a mechanism to ensure and verify that patrolling is done is not provided by the PP. Based on PP response round 2 the finding is resolved.

PP Response to Round 2:

- The community monitoring framework in the Community Monitoring Plan (See CMP) (See Section 4.4.1 of the PD) outlines the mechanism to ensure patrolling is recorded and completed. This data is outlined in the Monitoring report for verification as number of patrols completed and number of incidents logged. The village governments control the framework for patrolling, but Carbon Tanzania is responsible for ensuring the patrols are being done by requiring the patrol reports.*

1.4 Forests are effectively patrolled and monitored to prevent illegal activity	2017 onwards	# of patrols conducted # incidents reported	# of patrols conducted # incidents reported	- VGS patrol reports	Bi-annual	Village Government CT
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- Each village has a patrol log whereby the VGS report to the village government. This is a standard practice in Tanzania where VGS are paid as part of a patrolling mechanism. A copy of the patrolling log is provided in Dropbox Folder: "Findings response round 1 & 2".*

Finding 6 IR 01

The following reference documents, inference in the biodiversity monitoring section of the PD have not been provided:

- Tanzania Chimpanzee Conservation Action Plan.*
- Moyer, D et al. (2006) Surveys of Chimpanzee and other Biodiversity in Western Tanzania. WCS JGI UCSD.*
- Ogawa H. et al. (2006) Chimpanzee in Ntakata and Kagunga areas, Tanzania. Reaserchgate.*

The following documents, translated to English are requested to be submitted:

4. *MOU signed by the partners dated May 2017*
5. *Agreement with villages dated October 2018*

PP Response: The 5 documents are provided in the Dropbox folder.

VVB Response: the provided documents are reviewed and are found to address the requirements. Hence the finding is resolved.

Finding 7 CL 06

The VLUP indicates designated areas for grazing and agriculture which however are forests now as indicated in discussions with CT. The project has included these areas for the carbon accounting. Provide justification of the same.

PP Response: The treatment of these areas is clear and simple – they should be included in the project areas. In the baseline, these areas are subject to *unauthorized* deforestation, because there is no process in place to authorize deforestation (there are no VLUPs, which are part of the project activity), thus they should absolutely be included in the project area because we can expect the project activity to reduce levels of unauthorized deforestation in the makazi areas. Yes, we expect some deforestation in these areas in the project case, as there is a mechanism to permit certain levels of land conversion (although for accounting it will be conservatively treated as “unauthorized”), and this will decrease the net benefits of the project. This is a realistic and typical outcome of any conservation activity – perfect protection is seldom attainable, and even efforts to increase ag productivity, for example, will not completely stem demand for new land resources.

VVB Response:

The response by PP indicates that the VLUP is not part of the project activity. PP to submit land use maps of the villages (VLUP) and the project boundary map for verification of the information. Based on PP response round 2 the finding is resolved.

PP Response to Round 2:

Support for implementation of all the VLUPs is part of the project activities. All VLUPs include grazing areas where deforestation is prohibited. Furthermore, all VLUPs include designation of a certain area of land (Makazi) to be used for agricultural activities, which may or may not lead to some forest loss over the project lifetime. Because the land is designated as Makazi does not mean that it is certain that this land will be deforested, only that the village has the option to remove trees in this area should they choose to do so. The loss of forest cover that occurs in the Makazi due to these activities, allowed under the VLUP, will be considered as unplanned deforestation in the overall carbon accounting and counted against the total credits generated by the project. It is unlikely that the entire Makazi area will be deforested, and in fact this area may retain more canopy cover than it would have under the baseline deforestation scenario.

The land use plan maps are included in the Appendix 3: Approved Village Land Use Plans of the PD and the project boundary map is provided in Section 3.1.3 of the PD on page 35.

Finding 8 CAR 01

Total costs as cash flow associated with project development are provided in the document, "Ntakata Additionality Cost Analysis.xlsx". However the excel sheet indicates the project implementation costs and does not specify the cost subheads associated with CT costs and community costs. Also it does not calculate the impact from the anticipated funding from the sale of carbon credits and the cash flow for the entire project lifetime.

PP Response:

The other excel sheet provided, "Ntakata Cash Flow Analysis 3-8-19.xlsx" contains the cost subheaders. It also contains the impact from the anticipated funding from the sale of carbon credits through 2025.

The "Ntakata Additionality Cost.xlsx" spreadsheet addresses the simple cost analysis for proof of additionality sub-step 2a and 2b Option I. The Additionality Cost spreadsheet shows that there are no financial or economic benefits other than VCS related income.

VVB Response: the documents provided by the PP have been reviewed and are found to address the requirements. Hence the finding is resolved.

Finding 9 CAR 02

Section 4.5.6 of the PD describes the framework of benefit sharing mechanism "The payments to communities will be based on three criteria: participation, size of the forest area managed, and performance. CT currently foresees All eight villages will receive a base payment for participation in the project amounting to 30% of the bi-annual allocation. An additional 40% of the biannual allocation will be based on the size of the forest area protected, divided proportionately depending on the number of hectares protected. Villages that are protecting larger areas of forest – and presumably exerting more effort - will receive payments proportionate to the larger area. The remaining 30% will be allocated based on performance and results". However the legal framework document to support the same has not been submitted.

PP Response: The more detailed concept around dividing revenue between villages and that division being based on; a base payment and the size of the village was communicated at the introduction to the contract meetings; (evidence copied and attached – *Mgawanyiko wa mapato ndani ya mradi* – the division of revenue inside the project). Carbon Tanzania has not prescribed a legal framework but instead provides a 6 monthly project steering committee grievance and finance meeting where issues around revenue can be discussed in a transparent and open forum.

VVB Response:

FAR to be raised to verify the implementation of this mechanism in future verification.

Finding 10 CAR 03

Section 4.4.2 of the PD indicates that Carbon Tanzania will also prepare a publically available annual project report that is based on the data compiled throughout the year. The evidences for the same have not been provided since the project start date.

PP Response: Annual project reports for 2017 and 2018 are provided in the dropbox folder.

VVB Response: The PP has not explained how these annual reports are made publically available to the community. **Based on PP response round 2 the finding is resolved.**

PP Response to Round 2:

These reports are explained and shared during bi-annual project meetings and shared digitally with all stakeholders. See Section 2.3.2 of the PD.

Finding 11 CL 07

Burning is practised as a cultural phenomenon in the Ntakata region. Clarify in case an agricultural land use is implemented according the VLUP and the existing forest area is converted to that land use, how is the emissions from burning considered in the verification?

PP Response: In the carbon accounting it is conservatively assumed that all deforestation in the baseline and the with-project activity are emitted through biomass burning. These emissions are included in the carbon accounting for the 2017-2019 reporting period in the "DefPA Actual" tab of the "Ntakata2019-VCS-Monitoring-Calcs_2.xlsx" spreadsheet.

VVB Response: the response provided by the PP has satisfactorily addressed the finding.

Finding 12 CL 08

Table 3.1 of the PD justifies one of the applicability conditions as - Baseline deforestation in the project area falls within the unplanned deforestation category, as the agents of deforestation are small scale farmers who do not have permission to convert forest in the project area to cropland. However, clarify the validity of the statement in the context that for the villages in Ntakata the main occupation is agriculture and they have been given the right by means of the VLUP.

PP Response: In the baseline scenario, small-scale farmers are not authorized to remove forest in the project area and thus any deforestation would be considered unplanned deforestation. The project activity explicitly grants the rights of small-scale farmers to remove forest from specific areas within the project site, but does not guarantee that those areas will actually be deforested. Any deforestation that occurs within the project site is conservatively accounted for as unplanned deforestation and does not provide a benefit to the project.

VVB Response: Clarify on the reply submitted that "The project activity explicitly grants the

rights of small-scale farmers to remove forest from specific areas within the project site” in the context of the VLUP which already designates land area for agricultural use. **Based on PP response round 2 the finding is resolved.**

PP Response to Round 2:

As explained in PP Response to Round 2 of Finding 7, the VLUP designates specific areas (Makazi) for people who reside in the project villages to practice small scale agriculture in areas designated for agriculture (Makazi). These areas are currently forested but are allowed to be deforested by farmers specifically from the villages who own rights to the land through the signing of the VLUPs as a part of the project activity. The forest loss that occurs in the Makazi area as a result of authorized agricultural activities will be conservatively considered unplanned deforestation *ex-post*. The forest loss that occurs in the Makazi will be counted as a loss in the overall carbon credit accounting. Under the baseline scenario, there is no mechanism for small-scale farmers to receive authorization for agricultural activities. Therefore, any agricultural activities on this land by small-scale farmers in the baseline scenario that results in loss of forest cover is unauthorized and is accounted for as unplanned deforestation.

Finding 13 CL 09

The risk assessment in section opportunity cost indicates that the contract signed on 03rd October 2018 and is in effect through the project crediting period. In this context clarify the start date of the project as 19th May 2017, which is not in line with the crediting period start date (also considered as project start date) under VCS requirements

PP Response: The risk assessment document has been updated to accurately reflect the start date of the project which is 19 May 2017. This date corresponds to the signing of the MOU to begin work with the villages and create the village land use plans.

VVB Response:

To be resolved based on response to CL 01 to designate the start date based on VCS requirements. Based on PP response round 2 the finding is resolved.

PP Response to Round 2:

See PP response to CL 01 above. The project start date reflects the “date on which activities that led to the generation of GHG emission reductions or removals are implemented”. These activities include the concurrent signing of the MOU on 19th May 2017 along with the implementation of project activities implemented by this date including introductory meetings with all jurisdictions of government, completion of all participatory land use plans, and training of Village Game Scouts (VGS) at official government institutions. The signing of the MOU along with these activities represent the beginning of **implementing management and protection plans**.

Finding 14 CAR 04

As per step 2.2 of BL-UP module of VM0007, the PD does not clearly state and justify that among the approaches provided by the module, simple historical approach is used and is suitable for both rate and location of deforestation.

PP Response: According to Part 2 of the BL-UP module in the VM0007 methodology, “the *default* approach for estimation of annual areas of unplanned deforestation is simple historic”. The default approach was chosen for the Ntakata project. The PDD explicitly states in Section 3.2.1, “Development of the project baseline emissions from unplanned deforestation, both rate and location, was conducted in conformance with the VCS modular REDD methodology VM0007, specifically the BL-UP module using the simple historic approach.”

VVB Response:

The PPs response only states the requirements of the methodology and does not justify the approach used as relevant to the finding raised. Based on PP response round 2 the finding is resolved.

PP Response to Round 2:

The simple historic approach is the default approach and it is also a conservative approach for the baseline. According to the World Bank, the population in Tanzania is increasing rapidly, at almost 3% per year. Therefore, following the alternate population driver approach would lead to a higher rate of deforestation in the baseline than is represented in the simple historic approach.

Section 3.2.1 has been updated to reflect the justification of the simple historic approach used here.

Finding 15 FAR 01

In further continuation of CL 03, FAR 1 is raised such that the awareness of benefit sharing mechanisms are verified during subsequent verifications.

PP Response:

APPENDIX 4: LIST OF DOCUMENTS REVIEWED

S.No.	Document details
1	VCS standard version 3.7
2	CCB Standards third edition (ver 3.1)
3	AFOLU Non-Permanence Risk Tool Version 3.4
4	AFOLU Requirements Version 3.6
5	VM0007: REDD Methodology Modules (REDD-MF), Version 1.5” and its associated modules
6	VCS Non- Permanence Risk, the VT0001 “Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities” v3
7	VCS- CCB project document version 03 dated 1 st June 2020
8	VCS risk analysis report version 2.0 dated 2 nd June 2020
9	GIS Maps of Project Area, Leakage area and Reference area
10	Non-Permanence Risk Worksheet
11	Ntakata additionality analysis
12	Ntakata REDD VER calculation sheet
13	Village Land Use Plans (for 8 villages)
14	MOU between Carbon Tanzania, The Nature Conservancy and Pathfinder dated 19th May 2016
15	Evidences for FPIC process – Minutes of Project introductory meetings in 8 villages
16	Village contracts for all 8 villages signed dated October 2018
17	Stakeholder consultation documents - photographs
18	Company policy documents
19	Employee contract documents
20	Field inventory calculations
21	Field assessment sheet of the biomass survey for the PSPs
22	Declaration from carbon Tanzania on status of finding from USAID
23	Declaration from carbon Tanzania on double counting and participation in other GHG mechanisms.
24	Declaration on historical conflict in the project zone
25	Biodiversity monitoring plan