

VALIDATION OF MAKAME SAVANNAH REDD

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 “Makame Savannah REDD”

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 Standard 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 project activity is a REDD+ project, eligible under the Agriculture, Forestry and Other Land Use Scope in VERRA scheme located in the Kiteto District, Arusha Region 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 Makame Savannah REDD project is estimated to generate approximately 136,504 tCO₂e in GHG emissions reductions on an average annual basis.

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 overall validation, from Contract Review to Verification 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). For the assessment a total of 20 findings were issued - 11 CLs, 05 CARs. 01 FAR and 03 IRs. The deviations applied to the methodology and listed in the PD have been resolved based on guidance from VERRA.

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 01st June 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 1st June 2020 for The Makame Savannah REDD Project meets all relevant requirements established by the VCS Standard, applicable Methodology, associated tools and modules. The project aims to meet the Gold level criteria by implementing benefits that qualify under exceptional community level, climate and biodiversity.

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1 INTRODUCTION

1.1 Objective

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

- 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.

1.2 Scope and Criteria

The scope of the validation was the independent and objective review and assessment of the project design of “Makame Savannah 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

1.3 Summary Description of the Project

The project activity is a REDD+ project covering an area of 104,065 hectare, eligible under the Agriculture, Forestry and Other Land Use Scope in VCS located in the Kiteto District in the United Republic of Tanzania. the project aims to engage and support Wildlife Management Area (WMA) 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 Makame Savannah REDD project is estimated to generate approximately 136,504 tCO₂e in GHG emissions reductions on an average annual basis.

The Makame Savannah REDD project will protect the Makame WMA from land grabbing and encroachment, and the conversion of land from forest to agriculture, thereby stopping deforestation and preventing GHG emissions generated through tree harvesting and clearing land for agriculture. In doing so the Masai communities living within the WMA will receive improved land tenure, grazing rights and significant income. This REDD project protects the southern extension of the Tarangire-Manyara ecosystem and in doing so protects significant biodiversity and megafauna, both resident and migratory.

2 VALIDATION PROCESS

2.1 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 Daudi Mollel	Host Country Expert	Interviews with community and forestry land use patterns, desk review
Mr R. Vijaya Raghavan	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 in forestry projects across various regimes and has undergone training in methodologies and processes related to forestry auditing. He has experience in community forestry projects under VCS, CCB and Plan Vivo in African region.

Mr. R. Vijaya Raghavan holds BE in Mechanical Engineering, M.Tech in Energy Conservation and Management and MBA in Technology Management. He is certified as Energy Auditor by Bureau of Energy Efficiency (BEE), Government of India. He has 10 years of working experience in energy sector including validation / verification of fifty CDM and VCS/GS projects and has undergone extensive training on CDM validation and verification and has been qualified as technical reviewer for several sectoral scopes. 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 is qualified as a technical reviewer for this project as per EPICs internal procedures.

Mr Daudi Mollel holds a diploma in wildlife management from the college of African wild life management, Tanzania. He has more than five years of work experience related to Development of Wildlife Information Landscape database, training the various data collection techniques to Rangers, technical oversight and supervision of monitoring and evaluation of all patrol activities in the field, community management, geospatial data collection and management. He is qualified as a host country and technical expert for this project as per EPICs internal procedures.

2.2 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 sample 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 – 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 various 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 project activity area (PAA) strata. This was done to obtain the necessary sample size and to meet a reasonable level of assurance.

2.3 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 and verification, the revised monitoring report 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 dated 1st June 2020, to confirm that all changes agreed had been incorporated. The entire list of documents reviewed is summarized in Section 6.0.

2.4 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 Tanzania government for forestry conservation and community forestry.
Mr. Edward Lekaita	Board member of Makame WMA	Policies, management structure and activities of Makame WMA
- Makame WMA office – meeting with project partners and natural resource officer - Makame WMA office – meeting with village council and villagers	Villages interviewed to review CCB indicators	Farming practices followed, Meeting with village council and VGS, benefit sharing mechanisms, village boundary visit for buffer zone verification.

2.5 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 2.1. 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.

2.6 Public Comments (Rules 4.6)

The Makame Savannah 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/1900>.

2.7 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, 11 CLs, 05 CARs and 03 IRs was raised. Also 1 FAR (FAR 1) were raised during this validation, which was acknowledged by Carbon Tanzania (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 3 of this report and documented in more detail. All the corrective actions and responses have been incorporated into the revised VCS-CCB PD.

2.7.1 Forward Action Requests

Also 1 FAR (FAR 1) was raised during the validation, which were acknowledged by CT. In order to ensure the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 3 of this report and documented in more detail

3 VALIDATION FINDINGS

3.1 Summary of Project Benefits

Section 1.1 and 1.2 of the PD describes the project benefits – both unique and standard benefit metrics. The unique benefits are described as the strengthening of the land rights of the WMA dependent communities comprising of the five villages and protection of grazing lands of the traditional Masai pastoral community. 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.

3.2 General

3.2.1 Summary Description of the Project (G1.2)

The project is located in Kiteto District, Northern Tanzania.

The Makame REDD project start date is 27th April 2016 based on activities outlined in section 2.1.11 and 2.1.13. of this PD. This date is based on the Project start date MoU signed between Carbon Tanzania and Kiteto District. The documents submitted by the PP for the start date have been review by the validation team and are found acceptable and meet the requirements as defined by VCS standard.

Threats to the forest habitats which is the scenario existing prior to the implementation of the project include ineffective implementation of the WMA Resource Management Plan (WMA RMP). Due to this the Land tenure, WMA boundaries and land-use planning would continue to be poorly-defined in the baseline without-project scenario. As a result, project area forest lands is projected to undergo deforestation due to migrants and conversion to agriculture.. Carbon Tanzania, in partnership with the Makame WMA which comprises of 5 villages in the district aims to collaborate for the effective implementation of the RMP which will reduce the threats and identify the forest landscapes to be protected under the project.

The objective of the Makame Savannah REDD is to ensure sustainability and conservation of natural resource available to the WMA communities, strengthen governanace structures and improve livelihoods. The project also aims for availability of carbon finance to support patrolling and other activities to enhance implementation of the RMP. An equally important goal is to work in partnership with local communities in order to have positive impacts on their livelihoods. Carbon Tanzania works with the existing Village Government structures such as the local WMAs as the primary interface, thus utilizing existing governance structures. Carbon Tanzania (CT) trains and provides compensation to Village Game Scouts (VGS) to conduct regular patrols of the forest. Additionally, overall governance in the landscape is improved through support to the Village Government in the form of training and contributions to the village development budget. Other livelihood-related interventions include training and demonstration of climate smart agriculture techniques and reproductive health services, among others. As part of the biodiversity plan the project aims to promote sustainable tourism as the WMA is a designated hunting zone. Further 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 Makame REDD project is estimated to generate approximately 136,504 tCO₂e in GHG emissions reductions on an average annual basis and qualifies as a 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.

3.2.2 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 S4.55557 / E36.67264 as verified during site visit.
Topography	The project is located in the northern part of the Wildlife Management Area in the Kiteto District of Tanzania-120 km due south of Arusha, Tanzania. The project area covers 104,065 hectares of Acacia-Commiphora scrub and Woodland Forest. This was verified from document review

Soil	The audit team based on document review and site visit verified that the project area soil is dominated by sedimentary rocks and there are no histosols in project area and leakage area.
Climate and Precipitation	The annual rainfall is between 500mm to 750mm, with average high temperatures range from 25 to 30°C which categorizes as semi-arid. The rainy season occurs twice in a year. The information was verified from public documents.
Vegetation and forest type	Acacia-Commiphora Scrub Strata and Woodland Forest Strata dominate the vegetation which was verified from the visit to the sample plots.
Wildlife	A large number of species are described in the PD of which some such as buffalo, giraffe, leopard, lesser kudu, bushbuck, zebra, were spotted during the site visit which verified the existence of the species

3.2.3 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 villages : Ndedo, Makame, Ngabolo, Irkiushiobor and Katikati. and speak. Masai or the traditional pastoralist community dominate the villages.
Primary livelihood activities	Grazing or pastoralism is the main occupation of the Masai who are nomadic. The audit team verified these aspects by means of interviews with villagers during site visit.
Land use	Agriculturalists have moved into the area and practice small scale farming of predominantly maize and beans. The land is held as a community resource; each village has completed a land-use planning process that has led to the formation of the Makame WMA, and therefore the two competing land practices of pastoralism and agriculture are restricted to designated areas within each village.
Education	As per information in the PD, the education level is low - Education is extremely low, only 5% of people have been to secondary or above.
Food insecurity	Agriculturalists have moved into the area and practice small scale farming of predominantly maize and beans. The land is held as a community resource; each village has completed a land-use planning process that has led to the formation of the Makame WMA, and therefore the two competing land practices of pastoralism and agriculture are restricted to designated areas within each village.
Gender issues	Review of project surveys and interview of villagers revealed gender bias to some extent.

3.2.4 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.

3.2.5 Stakeholder Identification (G1.5)

To identify stakeholders at the start of the project, a socioeconomic and ecological survey of the project area was completed as part of the Endangered Ecosystems of Northern Tanzania (EENT) project under the Northern Tanzania Rangelands Initiative (NTRI). This survey included over 1000 randomly selected households from 17 villages across the Masai Steppe, an area from Arusha south to Makame. The PD lists the five sampled villages in Makame, their population and the sample size. The documents provided and site visit interviews verified the information to be sufficient to meet VCS requirements.

The five villages Ndedo, Makame, Ngabolo, Irkiushiobor and Katikati, defined in this project were identified based on their membership with the Makame WMA and their associated rights over the land and natural resources within the WMA. Each village governed by their own elected Village Council, but also bound by the jurisdiction of the WMA.

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 PDD is in line with the actual implemented status.

3.2.6 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
Women and girls	To an extent the makame WMA communities reveal gender bias and generally women are less educated than men. The project aims to improve the livelihoods and income opportunities of women within the communities, reduce gender inequality and increase the number of women in formal leadership positions. The information was verified by the validation team by means of the interviews conducted during the site visit.
Children	According to the socio-economic baseline survey, 52% of Makame WMA inhabitants are below 15 years of age. The members of this group are either in school (just under half of primary school aged children are attending) or helping their family with work in the boma (homestead). The project aims to increase and diversify income opportunities for youth, as well as to improve their health. The information was verified by the validation team by means of the interviews conducted during the site visit.
Warriors (young men)	Changes in tradition have led to warriors grazing cattle (occurs in 16% of livestock keeping households in Makame) in order to reduce the impact of wildlife attacks on livestock. This group lacks authority to voice their opinions or contribute to decision making which the project aims to improve by providing employment opportunities. The information was verified by the

	validation team by means of the interviews conducted during the site visit.
Male Elders	This group encompasses all men who have transitioned from warriors through a traditional rite of passage ceremony. During this life stage, men will put all of their available capital into purchasing livestock, gaining more respect with a substantial and healthy herd. In Makame the typical duties of the men include farming and grazing cattle. The information was verified by the validation team by means of the interviews conducted during the site visit.
Pastoralists	90% of households within Makame WMA derive income from livestock. This is representative of the pastoralist culture of the Masai where livestock fulfils the livelihood and cultural needs of the people. The information was verified by the validation team by means of the interviews conducted during the site visit.
Agriculturists	small-holder agricultural activities on lands within the human settlement zones is practiced. As per the survey 59% of households in Makame WMA derive some income from crop farming. The large majority of these crops are maize with also some beans, sunflowers and sesame. The information was verified by the validation team by means of the interviews conducted during the site visit.
Non-Masai	These are generally the migrants and make up 7% of the population. The community group is marginalised by ethnicity and may be susceptible to racism from the Masai. The information was verified by the validation team by means of the interviews conducted during the site visit.
Kiteto District Government	As per the PD, the responsibilities of the Kiteto district includes: - Supporting the implementation of the Makame Savanna REDD project and Makame WMA through it's legal responsibility under the wildlife act. - The District Executive Officer shall appoint a Liaison Officer or Contact Person from amongst the relevant Heads of Departments at the District Council, who will coordinate the involvement of the District in the development of this REDD project. - The project will require input from officers from the following departments: Planning, Land Use, Livestock, Community Development, Wildlife, Gender, Forestry, Health and Legal. The responsibilities were verified during the interviews conducted by the audit team.

3.2.7 Sectoral Scope and Project Type

1. Project Sector and Scope: Sector 14 - Agriculture, Forest and other Land Use (AFOLU)
2. Project Category: Reducing Emissions from Deforestation and Degradation (REDD)
3. Type of Activity: Avoided Unplanned Deforestation (AUDD)
4. Grouped project: No
5. 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.

3.2.8 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 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.

3.2.9 Sustainable Development

The PD identified how the project will contribute to national sustainable development aims such as The Wildlife Policy (1998), The National Land Policy (1995) and the National Tourism Policy (1999) 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.

3.2.10 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 Makame REDD project start date is 27th April 2016 based on activities outlined in section 2.1.11 and 2.1.13. of this PD. This date is based on Project start date MoU signed between Carbon Tanzania and Kiteto District. The signing of this MoU along with the activities all lead to the beginning of implementation of management and protection plans related to the REDD project. 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.

3.2.11 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 27th April 2016 to 26th April 2046. 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.

3.2.12 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 poaching, ineffective implementation of RMP, climate change and invasion of land by 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 2nd June 2020), which will be updated periodically as part of the VCS monitoring and verification process. The risk factor of 19% 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.

3.2.13 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.

3.2.14 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.

- A review of the 30-year budget and workplan financial worksheets was done by the audit team. It was conformed that the projected flow of funds is adequate to support implementation of the project activities.
- As assessed from the financial analysis, "Makame financial viability.xls", the project cash flow breakeven point is two years from the current risk assessment.
- Assumptions related to Revenue (Hunting) and expenses (Governance, Management etc.) are 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 .
- 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 which are reviewed to match with the values used for the analysis.

3.2.15 Grouped Projects

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

3.2.16 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”

3.2.17 Most-Likely Scenario Justification (G2.1)

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

- Onsite observations and document review 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 government forest staff, 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 the ineffective implementation of the WMA RMP.

In summary, since the most-likely land-use scenario in absence of the project is justified 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 in line with VCS requirements.

3.2.18 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 and verified the same from relevant documents 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
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It was verified during the site visit that the decline in hunting requires an alternative system to value these areas, indicating that the additional revenue from the REDD project will contribute significantly to ensuring that the Resource Management Plan 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.

3.2.19 Stakeholder Access to Project Documents (G3.1)

The audit team has taken the following steps to validate the project's stakeholder engagement plans and practices as per information provided in section 2.3 of the PD.

- 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.
- 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).
- 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.

3.2.20 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.

Based on the above, 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 timely manner prior to any decision made to participate in the project.

3.2.21 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, 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.
- reviewed meeting notes, photographic evidence and attendance sheets confirming the level of outreach performed by the project.

3.2.22 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.

3.2.23 Stakeholder Consultations (G3.4)

The audit team took the following steps to validate the project's method(s) for conducting effective consultation with stakeholders.

- Verified 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 on-going 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 - UCRT, 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 VCS requirements.

3.2.24 Stakeholder Consultation Channels (G3.5)

The audit team has assessed the following regarding the stakeholder consultation channels used by the project proponent for the justification that adequate levels of information sharing has 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.
- UCRT 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.

3.2.25 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

3.2.26 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.

3.2.27 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

- The audit team 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.

3.2.28 Worker Training (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.

- The audit team 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.

3.2.29 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.

3.2.30 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.

- The audit team confirmed 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.

3.2.31 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 confirmed 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.

3.2.32 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 (UCRT), 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.

3.2.33 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.

- The audit team 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.
- The audit team 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.

3.2.34 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.

3.2.35 Project Management Partnerships/Team Development (G4.2)

The partnerships identified relevant to the project implementation as per information in the PD and summary of the role of the partner agencies as verified by the audit team are as follows:

Partner organization	Role
Ujamaa Community Resource Team (UCRT)	UCRT assists the community facilitation for Carbon Tanzania in Makame WMA. The role was verified by interview of the personnel.
HoneyGuide Foundation (HGF)	Provides capacity training and support to WMAs - Village Game Scouts as verified from documentary evidence and interview with villagers.
Maliasili Initiatives	Provides Carbon Tanzania with advice and support around its organizational and business

	development as verified from documentary evidence and interview with villagers.
The Nature Conservancy (TNC)	TNC a global conservation organization - provides technical support to Carbon Tanzania. The role was verified by interview of the personnel.

3.2.36 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 and other sources, 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 official letter from the project proponent, that the funding from USAID was used for project development but it was not used for gain of project benefits/15/.
- The audit team verified Project has secured around 24% (i.e. 15% to less than 40%) of funding, in the form of contracted annual hunting revenue, which is needed to cover the total cash out before the project reaches breakeven. A business plan is also in place for the Makame CWMA which was verified to be a fair estimate.

3.2.37 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.

3.2.38 Commercially Sensitive Information (Rules 3.5.13 – 3.5.14)

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

3.2.39 Statutory and Customary Property Rights (G5.1)

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.

3.2.40 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.

3.2.41 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 from April 2016 onwards. Consultative meetings were held with both members of the Makame WMA committee and representatives of the five participating villages to explain the respective responsibilities of each stakeholder in the proposed REDD project. Subsequently meetings with the full Makame WMA board (including village representatives) and executives were held to negotiate the terms of contract, which was thereafter signed by both parties. 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.

3.2.42 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 RMP and there is no such case of involuntary removal or relocation of property rights holders in the project area.

3.2.43 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 poaching 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.

3.2.44 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.

3.2.45 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.

3.2.46 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.

3.2.47 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.

3.2.48 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

3.2.49 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.

3.2.50 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.

3.2.51 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.

3.2.52 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.

3.2.53 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.

3.3 Climate

3.3.1 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

3.3.2 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 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.	From the declaration by PP it was confirmed 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	From GHG calculations it was verified that Logging emissions have been omitted as no

using T-SIG.	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.

3.3.3 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 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".

3.3.4 Baseline Scenario

The audit team has done an independent assessment of verification data used in identification of the baseline scenario.

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 WMA RMP. 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 WMA RMP 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. WMAs are created with the approval of the district governments and are given formal legal designation through the national Wildlife Conservation Act of 2009 and governed by WMA regulations enacted in 2012. However, no national or district government funds are made available for the management of WMAs, nor are there any finance requirements imposed on the management of WMAs.	The observations and document review of the audit team are in line with the assessment that the RMP 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,	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

detailed in Section 3.1.4, and corresponds to Alternative 1 above	per methodology requirements.
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Hence it is the opinion of the audit team that overall baseline scenario of the project has been justified adequately.

3.3.5 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 benchmark used for investment analysis. 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
Sub-step 2a. Determine appropriate analysis method 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 The project activity is characterized as implementation of the WMA RMP that leads to forest protection. Benchmark analysis (Option 3) is an appropriate method to determine whether the proposed project activity, without the revenue from the sale of GHG credits, is economically or financially less attractive than at least one of the other land use scenarios. As revenue for the WMA also occurs by other means the choice of the financial indicator is appropriate.
Sub-step 2b. Apply benchmark analysis The suitability of the benchmark used for investment analysis	Based on the selection of the benchmark the most appropriate indicator to compare the project and baseline land use is “break even on an annual net cash flow basis” (net cash

	flows=0). While other indicators, such as NPV or IRR, may be relevant in traditional investment contexts, the objective of the Makame WMA is simply to break even and generate sustainable and sufficient revenues to cover costs each year. Hence the selection of the indicator is appropriate.
Sub-step 2c. Calculation and comparison of indicators	As demonstrated by the annual net cash flows analysis, the project activity (fully implemented WMA) without carbon revenues does not achieve the benchmark of break-even cash flows on an annual basis and therefore is not considered financially attractive. The validation team has verified the break even financial analysis provided and also the summary of the cost analysis presented in table 3.6 of the PD to verify this approach as correct.
The credibility of each barrier identified in the barrier analysis.	Not applicable; as Benchmark analysis was used
Validation of key assumptions	The key assumptions in the projections of net cash flows in the benchmark analysis are hunting revenues and operating costs for the fully implemented WMA. the projected net cash flows without carbon revenues for the project activity are negative and does not reach the required break-even point even in the best case scenario when hunting revenues increase by 40% and operating costs to fully implement the WMA are at low-end estimates of \$138,479. The validation team has verified the break even financial analysis provided and also the summary of the cost analysis presented in table 3.6 of the PD to verify this approach as correct.
The appropriateness of the geographical region used in the common practice analysis.	From the analysis provided it is established that a WMA with sufficient financing for effective management and protection, in the absence of carbon revenue (or other as yet to be developed alternative revenue sources), cannot be characterized as common practice in Tanzania. This was verified from document reviews and interviews with WMA officials by the validation team.
The reasonableness of assumptions made in	Review of the following assumptions made

the demonstration of additionality.	in 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 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.	The audit team agrees, based on examination 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	The audit team agrees that none of the

operational costs associated with the project activities are duly documented in the 30-year budget and workplan.	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 Benchmark analysis is required by the additionality tool.
Step 3	This step is described as above as the project has used benchmark analysis.
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.

3.3.6 Methodology Deviations

The following methodology deviations are valid, based on guidance provided by VERRA based on review of responses 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 by PP	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 methodology as both population and settlement density reflect the relative density of resident populations (and level of pressures associated with those populations).	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.
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	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,

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.	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 $\Delta CLK-ASU, OLB = (\Delta CP, LB - \Delta CBSL, LK, unplanned) * LKPROP$ 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.

3.3.7 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

Forest carbon stocks were directly measured in a forest inventory of the project area in 2016-2017. Results are detailed in the "Forest biomass carbon inventory for the Makame Project, Kiteto District, Tanzania" 2017 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 centre.

The forest strata present in the Project area include Acacia dominated shrubland (MAS) and Acacia-Commiphora woodland (MWF). The results of the inventory as reviewed by the audit team indicated a total biomass carbon of 54.6 t CO₂e/hectare in live trees for the MAS strata and 99.0 t CO₂e/hectare for MWF strata estimated with a 90% confidence interval. Total forest biomass carbon was estimated as the sum of the sampled pools live trees and standing dead wood. 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.

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:

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

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 also verified to be calculated and applied correctly. The assessment of risk analysis is attached as Appendix 3 as part of the validation report.

Estimates of GHG credits eligible for issuance as VCUs were calculated as per Table below which was verified by the validation team to be accurate:

Years	ΔCBSL-REDD (tCO2e)	ΔCWPS-REDD (tCO2e)	Adjusted_NERREDD (tCO2e)	ΔCLK-REDD (tCO2e)	Risk buffer (%)	BufferUnplanned (tCO2e)	VCU (tCO2e)
2017	8,283	2,454	5,385	1,017	19%	1,023	3,345
2018	67,247	21,041	42,685	8,114	19%	8,110	26,461
2019	176,183	53,724	113,127	21,438	19%	21,494	70,195
2020	287,224	84,989	186,822	35,282	19%	35,496	116,044
2021	288,864	81,759	191,321	35,961	19%	36,351	119,009
2022	389,837	106,635	261,619	49,008	19%	49,708	162,904
2023	397,592	102,045	273,023	50,845	19%	51,874	170,303
2024	476,805	117,447	331,971	61,609	19%	63,075	207,288
2025	566,907	135,239	398,770	73,817	19%	75,766	249,187
2026	535,748	120,044	384,022	70,757	19%	72,964	240,301

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.

3.3.8 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.

3.3.9 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.

3.3.10 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.

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

The validation team has verified based on information in the PDD that Climate change and variability analysis is proposed to be done using Climate Wizard. Future climate change scenarios in five community wildlife management areas in the northern Tanzania rangelands (Burunge, Enduimet, Lake Natron Basin, Makame, and Randilen) and four districts (Kiteto, Monduli / Longido, and Simanjiro) in Northern Tanzania would be forecasted. These climate change scenarios will have an impact on availability of grazing for both pastoralist Masai and wildlife.

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

As per information in the PD, Increasing climate resilience amongst pastoralist involves improving governance structures, land and natural resource management through seasonal resource zone planning and ensuring water availability at the end of the dry season. The justification provided by the PP is accepted by the audit team.

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

The plan is designed to provide for planned seasonal grazing in Makame WMA. Development of dams for water storage for both livestock and wildlife. Increase mobility for both grazing and access to water for cattle and wildlife during the dry season.

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.

3.4 Community

3.4.1 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 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 project descriptions of the communities at the start of the project and any significant community changes in the past are thorough and accurate.

3.4.2 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 are of sufficient detail.

3.4.3 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 woodlands outside settlements, water resources and community prayer locations 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.

3.4.4 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 land conflicts between pastoral activities and agriculture and weak governance structures that lead to ineffective implementation of RMP as the main threats.

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.

3.4.5 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.

3.4.6 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.

3.4.7 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.

3.4.8 High Conservation Values Protected (CM2.4)

The audit team has provided an assessment of the requirements of this section based on the information in the PD and confirmed that the community-related HCV's are not negatively affected by the project. Areas identified as HSC areas will similarly not be negatively impacted. While on site, the audit team interviewed local community members for verification of the information.

3.4.9 Impacts on Other Stakeholders (CM3.1)

The relevant district government is identified as the other stakeholders as per information verified in the PD. The benefits anticipated for these districts include additional financial resources for district development as well as increase of conservation awareness, capacity building, and revenues from carbon sale which is accepted by the audit team as appropriate.

3.4.10 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.

3.4.11 Net Impacts on Other Stakeholders (CM3.3)

The audit team has reviewed the information in 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.

3.4.12 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.

3.4.13 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.

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

Based on public information it has been validated by the audit team 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 is primarily implemented by the government entity such as the WMA which the PP actively supports, and strengthens the land management and ownership of the communities in the five villages, the project qualifies under exceptional community benefits criteria.

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

3.4.15 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 WAM RMP funded by carbon revenues. The exact nature of these projects will be decided by the WMA 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	The review of the monitoring plans and implemented activities during site visit indicate that the long-term benefits have been correctly identified and implemented

3.4.16 Optional Gold Level: Community Participation Risks (GL2.3)

The validation team agrees that the project has correctly identified risks (grazing, finance, land use and finance) and the activities shall aim to reduce the risks. It has been verified from the interviews by the audit team that the consultations 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. As verified from the site visit observations, gender issues are addressed 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 are mechanisms implemented to increase the communication and involvement of women in the project which are effective.

3.4.17 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
Non-cattle owning Masai are identified as vulnerable and are expected to 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.

Hence it is the opinion of the validation team that that overall the impacts that will be realized by the marginalized and/or vulnerable community groups are sufficient to meet the project objectives.

3.4.18 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.

3.4.19 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:

- Based on WMA resource management plan, benefit sharing shall conform with laid down procedures from the Wildlife Division and Treasury for annual gross revenues (WMA Regulation 2012)
- Capital Fund: Not less than 15% shall be capital, re-invested for WMA resource development.
- Trust Fund: Not less than 50% shall be directed to member village projects (to be split, 30% for community projects and 20% placed on fixed deposit to earn interest as a buffer for contingency, emergency, etc.).

- Operations Fund: Not less than 25% shall be used to strengthen the AA (i.e. operations, Secretariat support, MWMA meetings, training, etc.).

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.

3.4.20 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 WMA and 5 villages from 2016 onwards. The Actual costs and benefits were presented in the village committee meetings, financial workshops and carbon champions programme on a regular basis. CT will provide written and oral updates that include information on payments, trainings, educational activities, and forest status.

3.4.21 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 in the PD:

- The project governance structure is led by Carbon Tanzania in partnership with the Makame WMA. 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 the Makame Wildlife Management Area administration. The governance of the WMA is distributed between the Village Council and the Authorised Association (AA), in collaboration with the District Government. It is these authorities that will enforce the WMA resource management plan which forms the foundation of this project, through which the enactment of traditional land management will create much of the CCB benefits.
- The responsibilities of these authorities and the regulations are based on the WMA Regulations 2012.
- In addition, project governance and implementation is supported by UCRT

3.4.22 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.

3.5 Biodiversity

3.5.1 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 loss of traditional migration routes of the Tarangire ecosystem. Makame WMA, the largest protected area in the ecosystem, protects key migration routes.

3.5.2 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 identified (cheetah, giraffe, Wild dog, oryx and several bird species) are found to have a decreasing population trend and are found either in the project area or in the vicinity.

3.5.3 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 decrease of species richness which will impact wildlife tourism in the project zone.

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

3.5.4 Expected Biodiversity Changes (B2.1)

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 project identifies several species whose population is expected to improve (Giraffe) and also remain stable (lion, elephant, leopard) as benefits of the project activities. 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.

3.5.5 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 project activities such as effective implementation of the RMP are needed.

3.5.6 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

3.5.7 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.

3.5.8 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.

3.5.9 Impacts of Non-native Species (B2.6)

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

3.5.10 GMO Exclusion (B2.7)

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

3.5.11 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.

3.5.12 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.

3.5.13 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.

3.5.14 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

3.5.15 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.

3.5.16 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.

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

The audit team by means of site visit observations, document review and information in the PD has verified that the information stated in the PD 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 threatened is demonstrated by identification of the species as below. The project plans to monitor 6 species of threatened bird species, 2 species of endemic bird and 8 species of threatened mammal. The

identified list of animals (Giraffe, African Wild dog, Beira Oryx, African Elephant, Leopard) are hence assessed to be classified correctly in the IUCN category.

3.5.18 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.

4 VALIDATION CONCLUSION

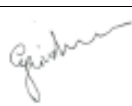
Carbon Tanzania (CT, Ltd.) has appointed EPIC Sustainability Services Private Limited to perform the validation of the project under VCS and CCB standards. The assessment covered the scope of the validation of the project design and sustainable benefits planned to be achieved for the project titled “Makame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

The validation was based on the project description (PD), non-permanence risk analysis and other supporting documents submitted to the validation 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 Makame 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	Onsite inspection

			managers, quantifiers and farmers, being in touch with project managers. 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 WAM RMP 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	0	Not Applicable	project financial plan

	assessment.			
e)	Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven	0	Not Applicable	project financial plan
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.	8	The highest risk rating has been chosen as the NPV from the most profitable alternative land use activity (annual crop agriculture) 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. An NPV analysis is not required as the chosen risk rating is the highest and most conservative
b)	NPV from the most profitable alternative land use activity is expected to be between	0	NPV from the most profitable alternative land is expected to be between 50% and up to 100% more	Document review of validation report and PD and validated risk report

	50% and up to 100% more than from project activities.		than from project 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 30-year contract between Carbon Tanzania and Makame WMA to continue management practices that	Document review of contracts

			protect the credited carbon stocks over the length of the project crediting period. The contract was signed 27 April 2017 and is in effect through 26 April 2046.	
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 $15 = (30 - 30/2)$	The project is protected by a 30-year contract between Carbon Tanzania and Makame WMA to continue management practices that protect the credited carbon stocks over the length of the project crediting period. The contract was signed 27 April 2017 and is in effect through 26 April 2046.	Document review of contracts
	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)	19	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	2	The individual villages have rights to resource access, but the government retains the right to ownership.	Document review

	holds a lease or concession).			
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 30-year contract between Carbon Tanzania and Makame WMA to continue management practices that protect the credited carbon stocks over the length of the project crediting period. The contract was signed 27 April 2017 and is in effect through 26 April 2046.	Document review of contracts
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	0	Representatives from 8 villages located within the project area who represent the households have been consulted as detailed in the Mpanda District Council	Site visit, Document review.

	been consulted.		Reconnaissance Report.	
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 households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted. This includes the five member villages of Makame WMA	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 less than -0.79.	0	The average governance 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	Verified from VCS 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	Applicable as above

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

			criteria	
	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	0	There is no natural fire categorized as catastrophic risk in this ecosystem as the fires risk is reduced by the grazing activities.	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 project zone Forest.	Site visit inspection
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	0	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)	0	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	19	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	0	
Overall Risk rating a) + b) + c)	19	
Total risk assessment buffer applicable	19%	VVB Assessment:
Gross emission reductions (GERs)	2,188,746	The buffer applied reflects the risk rating as applicable to the project activity and meets the

Emission reductions buffer	415,862	requirements of AFOLU Non-Permanence Risk Tool.
Net emission reductions	1,365,037	

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
$ADefPA, u, i, t$	Area of recorded deforestation in the project area stratum i converted to land use u at time t; ha	$ADefPA, u, i, t$ is derived assuming a project effectiveness of 80% (i.e., 20% of baseline deforestation occurs in the project case). Table 3.25 of PD, calculated annually as per methodology
$\Delta Cpools, Def, u, i, t$	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 $\Delta Cpools, Def, u, i, t = 68.3$

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
$\Delta CBSL, LK, unplanned$	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
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Parameters and Values used to calculate the Proportional Leakage for Areas with Immigrating Populations.

Parameter	Description	Justification
LKPROP	Proportional leakage for areas with immigrating populations; proportion	0.073, calculated as per methodology
PROIMM	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 unplanned deforestation displaced from the project area to the leakage belt; t CO ₂ e	Calculated in Table 3.30, as per methodology

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	Root biomass density was calculated using an IPCC root to shoot ratio of 0.28 for dry tropical forest, as	<i>Calculated for baseline and project</i>

species or forest type / biome	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”.			emissions as per VMD0001
Net carbon stock change as a result of deforestation in the project case in the project	Year	$\Delta CP, DefPA, i, t$ (t CO2-e)		Calculated correctly as per VMD0015 equation 3. Monitoring frequency- at least 5 years
	2017	2,355		
	2018	20,195		
	2019	51,565		
	2020	81,573		
	2021	78,474		
	2022	102,349		
	2023	97,944		
	2024	112,727		
	2025	129,804		
	2026	115,220		
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 CO2-e)		Calculated correctly as per VMD0015 equation 4. Monitoring frequency- at least 5 years
	2017	889		
	2018	7,058		
	2019	18,693		
	2020	30,848		
	2021	31,559		
	2022	43,123		
	2023	44,947		
	2024	54,612		
	2025	65,565		
	2026	63,079		
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 CO2-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}			Estimated as per ARCGIS. 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				
Carbon stock in all pools in the baseline case in stratum i	Strata		CBSL,i (t CO2-e ha-1)		Calculated based on forest inventory - frequency- at least 10 years
	MAS		54.6		
	MWF		99.0		
Carbon stock in all pools in post-deforestation land use u in stratum i	0				Calculated correctly as per VMD0015 equation 5. Monitoring frequency- at least 10 years
Area potentially impacted by degradation processes in stratum i	0, used for project emissions				Repeated each time 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				Calculated correctly as per VMD0015 equation 8. Monitoring frequency- at least 5 years
Total area of degradation sample	Calculated using ARCGIS				frequency- at least 5 years

plots in stratum 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	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 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	Standing dead wood	Verified from forest inventory. Monitored at least once every 10 years
	MAS	3,062,053	857,375	11,415	
	MWF	2,446,006	684,882	44,024	
Average aboveground biomass stock before burning stratum i,time t	Bi,t (tonnes d.m./ha) Ex- ante Project Area		31.0		Verified from forest inventory. Monitored at least once every 10 years
	Bi,t (tonnes d.m./ha) Ex- ante Leakage Belt		31.0		
Aboveground biomass density	Calculation of baseline emissions Calculation of project emissions				Verified from SOPs Monitored at least once every 10 years
Area of sample plots in ha	forest inventory procedures are provided in the SOPs.				Verified from forest inventory. Monitored at least once every 10 years
Carbon stock in all pools in post-natural disturbance q in baseline stratum i	Year	CP,Dist,q,i (t CO2-e)			Monitored at least Prior to each verification event and at least every 5 years
	2017	0			
	2018	0			
	2019	0			
	2020	0			
	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
	MAS		71,990		
	MWF		32,075		
	Strata in LB		Ai (ha)		
	MAS		71,940		
	MWF		32,075		

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.
$G_{g,i}$	Emission factor for stratum i for gas g	$GCH_4 = 6.8 \text{ g kg}^{-1}$ and $GN_2O = 0.2 \text{ g kg}^{-1}$. Derived from Table 2.5 of IPCC, 2006. Meets methodology requirements.
GWPg	Global warming potential for gas g	Default values from IPCC SAR: $CH_4 = 21$; $N_2O = 310$). 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.
$A_{DefLB,i,t}$	Area of recorded deforestation in the leakage belt at time t	Monitored for each verification event. Meets methodology requirements.
$\Delta C_{P,Def,i,t}$	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
PROPIMM	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

Finding 1 – CL 01

The PDD version 1 dated August 2017 indicates that the makame WMA comprises of 5 villages - rkiushiobor, Ndedo, Ngábolo, Katikati and Makame. However the information in the government website indicates that the WMA, established in 2003 has 4 villages. <http://www.twma.co.tz/wmas/makame-indema.html>

Clarify on the number of villages included in the makame WMA with evidence (such as official government notification) of the same

PP Response: When Makame WMA was established in 2003 there were 4 villages in the WMA, as is represented by this old website link from 2009. This is evidenced in the first Resource Management Plan as Irukishibor, Ndedo, Makame and Katti Kati. Ngabolo was at that point a sub-village of Ndedo. Ngabolo was created as a new village in 2009 and is included in the new Resource Management Plan (see PD.). The RMP is a legally binding official government document made under Regulation 36(1), and the Sixth Schedule of the WMA Regulations (2012). This document identifies Ngabolo as a village within Makame WMA.

VVB Response:

Based on the reply provided by PP and review of documents, the finding is resolved.

Finding 2 – CL 02

The carbon tenure agreement between carbon Tanzania and Makame WMA is signed on 27th April 2017, which details the implementation of an avoided deforestation project (Reduced Emissions from Deforestation and Degradation (REDD)) and indicates that lifetime of project as 30 years. In this context, clarify the consideration of start date as 27th April 2016, based on the MoU signed between the Kiteto district council and NTRI (the NTRI being composed of several partners of which carbon Tanzania is one of the partners) for the EENT project. As per the MoU, the EENT project is USAID funded and the tenure of the funding is up to 10th September 2020. In this context clarify the basis on which this document is considered as start date for the Makame REDD project.

PP Response 1:

The memorandum of understanding between Carbon Tanzania and partners was signed with Kiteto District government on the 27th April 2016. This MoU outlines the four strategic approaches being taken within Makame and is the start date of project activities by all NTRI partners within Makame Wildlife Management Area (see annual reports to the WMA AA). As this is a WMA, under the Wildlife Act, Kiteto District Government has a responsibility for all investments in the WMA. The MoU therefore is the start point for this REDD project, which includes the educational program and carbon baseline that lead up to the contract being signed by the WMA and the District Government on 27th May 2017.

The USAID funding linked to the project start date was originally designated for 2016 to 2020

however due to USAID terminating funding for EENT (all NTRI partners), these activities stopped for partners in early 2018. (see letter from the Chief of Party for the USAID EENT project, The Nature Conservancy in appendix and accompanying reference folder). Carbon Tanzania was able to continue by self-funding it's project development.

PP response 2:

The MoU with the District is the start point for all **management interventions and protection plans**. According to the WMA Regulations the District is the authority for development of the WMA and any contracts or memorandum relating to activities or investments in the WMA (see WMA Regulations 2012). The creation of a WMA is quite literally the Villages giving land and consent to the WMA authority to engage with projects and businesses on their behalf. A WMA cannot be created without the **Free Prior and Informed Consent** of the villages within it (see *RMP Section 1.2 which states that the WMA is charged with development on behalf of it's members which are the village governments*).

The MoU is also signed with project partners working within the WMA, such as UCRT and WCS (see PD appendix 1. Stakeholder Identification, as both of these organisations have responsibilities within the development of this project). The MoU has all of the text in the annex and within the signature box outlining the development and implementation of 'Makame WMA carbon project', this was done to ensure transparency and clarity. Edward Lekaita, who also signed this MoU is an executive board member of Makame WMA and representation for Makame WMA in all legal matters, hence he is the signatory to this MoU and represents the WMA in this MoU. In strategy 3 of the MoU, the avoided deforestation carbon project is clearly mentioned.

Within the contract the annex lists the activities;

- 1.1.8: Sensitise villages to REDD project
- 1.1.1. Governance work (part of CCB outputs)
- 2.1.5. Train carbon baseline teams
- 2.1.6. Conduct carbon baseline
- 3.1. Specifically about the carbon project
- 3.1.2. Develop PD for VCS

These activities are further outlined in the AR to the WMA for 2016.

PP response 3:

The memorandum of understanding between Carbon Tanzania and partners was signed with Kiteto District government on the 27th April 2016. This MoU outlines the four strategic approaches being taken within Makame and is the start date of project activities by all NTRI partners within Makame Wildlife Management Area (see annual reports to the WMA AA). As this is a WMA, under the Wildlife Act, Kiteto District Government has a responsibility for all investments in the WMA. The MoU therefore is the start point for this REDD project, which includes the educational program and carbon baseline that lead up to the contract being signed by the WMA and the District Government on 27th May 2017.

VVB Response conclusion round 1:

As per start date requirements any activities that are implemented is considered as start date. The project start date of an AFOLU project is the date on which activities that led to the generation of GHG emission reductions or removals are implemented (e.g., preparing land for seeding, planting, changing agricultural or forestry practices, rewetting, restoring hydrological functions, or implementing management or protection plans

Please note that prior to this, FPIC signed with community members has to be in place to legally enforce the activities. Further the MoU does not specifically mention the Makame REDD project – with title.

VVB Response conclusion round 2:

The reply indicates that MOU only allocates responsibilities to the different parties which is insufficient. Makame WMA is the main stakeholder and legal agreement with Makame WMA is considered as date on which FPIC is completed and the activities are enforceable legally. Hence after review of replies from PP for 3 iterations it has been concluded that insufficient information exists for conclusively establishing the start date as mentioned in the PD.

VVB Response conclusion round 3:

Based on VCS clarification on the start date that relevant events leading up to the actual start date (MoU as defined by PP), the reply by PP is deemed accepted.

Finding 3 – CAR 01

The carbon tenure agreement between carbon Tanzania and Makame WMA is signed on 27th April 2017, which details the implementation of an avoided deforestation project (Reduced Emissions from Deforestation and Degradation (REDD)). However this has not been included in section 2.1.13 Implementation Schedule of the PDD.

PP Response:

The signing of the MOU is now included in section 2.1.13 of the PD.

VVB Response:

Based on the revised PD submitted the finding is resolved.

Finding 4 – IR 01

The signed Resource Zone Management Plan completed and signed in March 2018, included in section 2.1.13 Implementation Schedule of the PDD has not been submitted for

review.

PP Response: The Resource Management Plan is a legally binding official government document made under Regulation 36(1), and the Sixth Schedule of the WMA Regulations (2012). Developed through a participatory process and designed by WMA authorities, the Village Governments and the communities they represent. This is the guiding document for the management of a WMA within Tanzania under the wildlife regulations and wildlife management act. There is no review procedure required by the process other than the completed resource plan must be reviewed, signed and approved by the Director of Wildlife (Minister of Natural Resources and Tourism, Wildlife Division) every five years. This new resource plan (2017-2022) was updated as part of the REDD project development process to include the REDD project area and signed by the Director of Wildlife.

VVB Response:

Based on the documents submitted by the PP, the finding is resolved.

Finding 5 CAR 02

Clarify the following on the USAID funding for the Makame WMA:

1. The Makame WMA, is also funded by USAID as part of the EENT project and the tenure of the funding is up to 10th September 2020. In this context, clarify on the basis in which the additionality analysis is considered for the WMA as the information in PDD does not seem to include quantitative analysis of funding from external agencies. Also revenue for the WMAs from block fee, game fee etc. have not been considered.
2. Considering that the benefits to local communities is documented as per the USAID report (2013) due to the establishment of WMAs based on the baseline survey from 2003 to 2013, clarify the basis on which Makame REDD project also considers similar benefits being derived from the Makame REDD project implementation from 2016 onwards.
3. USAIDs EENT factsheet on Makame WMA on April 2019 lists benefits for the communities, natural resource management, governance and wildlife. The results of the USAID funding indicate setting up of 2 Wildlife Management Areas (WMA) and 25 villages with demonstrated improved natural resource management, Stable or increasing numbers of elephant, zebra, wildebeest, giraffe, Grant's gazelle, and impala, and nearly 1,400 households adopted human-wildlife conflict mitigation measures. 334 living walls constructed to reduce conflicts between humans and predators. In the context of the data from the USAIDs fact sheet clarify, the basis on which Makame REDD project also considers similar benefits being derived from the Makame REDD project implementation.

PP Response 1:

1. Funding from USAID for the development of this REDD project in Makame WMA was

Terminated in March 2018. See letter in appendix to this document.

2. Benefits from the USAID project where not realised due to funding being terminated, see letter in appendix.
3. The USAID factsheet, April 2019 refers to work done outside of Makame, not within Makame WMA as all funding and related activities were terminated in March 2018. Clarification on this is outlined in the letter within the appendix and further qualification can be obtained from the Chief of Party on request.

PP response 2:

The USAID funding linked to the project start date was originally designated for 2016 to 2020 however due to USAID terminating funding for EENT (all NTRI partners), these activities stopped for partners in early 2018. (see letter from the Chief of Party for the USAID EENT project, The Nature Conservancy in appendix and accompanying reference folder). Carbon Tanzania was able to continue by self-funding it's project development.

VVB Response conclusion round 1:

The baseline case for WMAs as described in the PD is based on lack of fund availability. Hence taken from a standpoint of project start date, this is not the case with Makame as USAID funding was available up to March 2018 as per the letter submitted by one of the agencies who received the funds. Further, stopping of funding does not stop the benefits accrued by the project over the years and is still ongoing. Hence the concept of considering Makame WMA as the baseline case (BAU) is itself a contradictory view point.

Several publically available documents reviewed have indicated benefits accrued by makame WMA through USAID funding. Sufficient evidence from USAID which is the funding agency has not been submitted to conclusively establish that funds were stopped to Makame WMA and the reasons for such a step being taken. Hence after review of replies from PP for 2 iterations it has been recommended that the issue is unresolved and hence the overall validation could not be concluded positively.

VVB Response round 2:

Accounting for the recent clarification received from VCS on the issue EPIC has consented to reopen and review additional evidences submitted by PP. Hence the reviewing and re-assessment shall be undertaken once the financial additionality is presented by incorporating an amended approach with new and additional information, as well as incorporating the guidance provided by the certification organisation VERRA.

VVB Response round 3:

Based on declaration submitted by PP on status of USAID funds and its use for the project, the finding is resolved. However a FAR is raised to address the issue of any on-going USAID funds being utilised for the actual REDD project implementation and its impact on the financial aspects / additionality of the risk assessment during subsequent verification.

Finding 6 IR 02

The following reference documents, inference in the additionality section of the PDD have not been provided:

- (37) The NTRI 2017 report estimates that revenue covers only 5% of needed expenses
- (38) Northern Tanzania Rangelands Initiative. 2017. Making Wildlife Management Areas Deliver for Conservation and Communities.
- (39) IRG. 2016. Analysis of WMA Financial Viability and Options Study. Produced under USAID ContractNo. AID-621-TO-15-00004, Promoting Tanzania's Environment, Conservation and Tourism (PROTECT)
- (40) Tetra Tech ARD and Maliasili Initiatives. 2013. Tanzania Wildlife Management Areas Evaluation Final Evaluation Report.

PP Response:

These documents have been uploaded to the Makame Validation-Verification dropbox. See "ntri_brief_final_2017.pdf", "TetraTechARD2013.pdf", "Makame CWMA NRM Needs Assesment report 2016.pdf".

VVB Response:

Based on the documents submitted by the PP, the finding is resolved.

Finding 7 CL 03

The baseline study for Makame WMA, provided as a supporting document is dated 2003, whereas the project start date proposed is 2016. Also some data for baseline study is sourced from another document dated 2016. Clarify on the correct used document as valid baseline reference.

PP Response: The 2003 baseline study is not directly referenced in the PD and should not be included in the submission of project documents. The 2016 baseline study is the relevant document as cited in the PD.

VVB Response:

Based on response from PP, the finding is resolved.

Finding 8 IR 03

The planned and actual expenditures of the makame WMA are indicated in "Table 3.6. Annual Makame WMA operational expenditures". The source used for the information is not provided.

PP Response: The source for the planned and actual expenditures is the document “IRG. 2016 Analysis of WMA Financial Viability and Options Study. Produced under USAID ContractNo. AID-621-TO-15-00004, Promoting Tanzania’s Environment, Conservation and Tourism (PROTECT)”, which has been provided in response to Finding 6. The document, “Makame cost analysis 2014-2016.xlsx” was provided in the Makame – Validation – Verification folder on Dropbox and is the source for relevant accounting data. The name of the document has been added to the PD to clarify the source.

VVB Response:

Based on review of submitted documents the finding is resolved.

Finding 9 CAR 03

The PDD does not inform on how the performance of the WMA is assessed or how performance benchmarks are set, especially with respect to meeting the monitoring requirements.

PP Response: The WMA has it’s own means of monitoring performance. These are outlined in section 9.1.3. and section 9.1.4. of the RMP.

VVB Response:

Based on response from PP, the finding is resolved.

Finding 10 CAR 04

Section 4.4.2 of the PDD indicates that Carbon Tanzania will also prepare a publically available annual project report that is based on the data compiled throughout the year. In addition, Carbon Tanzania will hold bi-annual meetings to share project information and data with community members. The evidences for the same have not been provided

PP Response: Carbon Tanzania provides an annual report to the WMA AA at the end of every year, starting in December 2016. These reports detail all field work in chronological order conducted within the WMA or involving WMA staff. These reports are held by Carbon Tanzania and the WMA office. Copies of these reports are attached in the accompanying file. Bi-annual finance and grievance meetings are conducted with the WMA AA, these meetings provide an opportunity to share information and planning as well as, from 2020, talk about revenue. The minutes for these meetings are held by Carbon Tanzania and the WMA, copies are in the accompanying file.

VVB Response:

Based on review of submitted documents the finding is resolved.

Finding 11 CL 04

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.

PP Response: The patrolling schedule for Makame WMA is attached in accompanying file. Currently patrols are conducted from the 12th – 16th and the 28th – 4th every month. Patrolling is increased before holidays due to an increase in market demand for bushmeat and in response to any intelligence.

VVB Response:

Based on review of submitted documents the finding is resolved.

Finding 12 CL 05

Table 3.1 of the PDD 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 the Masai are the majority population, whose main occupation is cattle grazing. Also clarify the same for the BL-UP module justification that “the baseline agents of deforestation clear the land for cropland”

PP Response: The Maasai are not the agents of deforestation in the region, though they are the majority population, because they are pastoralists and primarily raise cattle. Immigrant farmers are the main agents of deforestation, and deforestation pressure will increase as the population of immigrant pastoralists increases in the region, and as available farmland decreases.

The BL-UP module specifies that “the baseline agents of deforestation clear the land for cropland”. The main drivers of deforestation are not Maasai, but farmers, both nearby residents and recent immigrants, who practice agriculture in the region. Maasai do not grow crops.

VVB Response:

Based on response from PP, the finding is resolved.

Finding 13 CL 06

Clarify if HCV areas are designated by the WMA? Justify on the approach of classifying entire project area as HCV in makame REDD project.

PP Response: HCV areas are not designated as such within the resource plan. The land use categories are those chosen by a pastoralist community, 1. Annual grazing. 2. Village area 3. Seasonal grazing. The REDD project area is designed to protect the forested lands within the WMA that are designated by the pastoral Masai as grazing areas which also have a high conservation value for wildlife.

Water holes within the project area are designated as High Conservation Value areas due to their importance for wildlife and people who live there. The designation has been added to the PDD to specify the location of HCV within the project area.

VVB Response:

Based on review of submitted documents and revised PD the finding is resolved.

Finding 14 CL 07

Table 5.4.1 of PDD indicates implementation of the makame RMP is monitored every five years. However it indicates dates from 2005 onwards. Clarify on the appropriateness of referencing dates prior to project start date for the monitoring plan. Also clarify on the process / metrics or framework of how the effective implementation of the RMP is assessed.

PP Response: The first Resource Zone Management Plan was completed in 2005 and not updated until this project started in April 2016 due to the WMA having no support or capacity to do so. The development of the new updated RMP in 2017 (2017 – 2022) was part of this project's development process.

VVB Response:

Based on review of submitted documents and revised PD the finding is resolved.

Finding 15 CL 08

The risk assessment in section opportunity cost indicates that the contract signed on 27 May 2017 and is in effect through 26 May 2046 which in effect is the project crediting period. In this period clarify the start date of the project as April 2016, which is not in line with the crediting period start date (also considered as project start date) under VCS requirements

PP Response: This error has been corrected in the risk analysis document "Makame Risk 2019.08.21.docx" and now reflects the appropriate start date of 27 April 2016.

VVB Response:

Based on review of submitted documents the finding is resolved.

Finding 16 CL 09

The risk assessment section under natural risks, indicate occurrence of fire rating as 0. Justify the low rating in the context that fires are included under project emissions as it is conservatively assumed that burning is a part of the forest conversion process in all incidents of deforestation taking place in the leakage belt.

PP Response: Fire is not permitted within the project area under the RMP, see section 6.1.2. Under the risk assessment, fire risk only includes occurrence of natural fires. Risk of deforestation by outside actors is already accounted for under project management risk. Risk of natural fire in the region is very low, due to low fuel loading in the understory. Therefore, a fire risk rating of 0 is justified.

VVB Response: Based on response from PP the finding is resolved.

Finding 17 CAR 05

As per step 2.2 of BL-UP module of VM0007, the PDD 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 Makame 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: Based on response from PP the finding is resolved.

Finding 18 CL 10

It is indicated in the PDD that 98% of the population in the villages use firewood as the cooking fuel. In the context of the population growth figures projected, clarify whether the use of firewood by the community is regulated as per the RMP and whether this has any effect on the project carbon stocks.

PP Response: The Resource management plan designates areas for fuel wood collection in section 6.1.1. which includes the project area. Based on informal surveys with

communities in the project area, dead wood is used for fuelwood, which is not a pool included in the project boundary. In Tanzanian woodlands, communities only collect dead wood from forests for domestic fuelwood use (Malimbwe R.E. and Zahabu E. 2001 The analysis of sustainable fuelwood production systems in Tanzania. FAO. Sokoine University of Agriculture, Tanzania).

VVB Response: Based on response from PP the finding is resolved.

Finding 19 CL 11

On the GIS analysis the following clarifications are raised–

- For the collected landsat data for 3 time points over a max of 12 years and 3 years between each points clarify the min and max cloud cover (in percentage) present in selected images.
- During the multi-stage processing of collecting the usable landsat imagery clarify if the missing regions due to cloud cover were replaced and how was this processed?
- During preparation of risk map clarify on the accessibility range created and the weights assigned to each range. Clarify on the source used for this analysis?

PP Response: a) Below is a table of % cloud cover for each Landsat image.

Where not otherwise noted 2015 imagery is Landsat 8	Image date	% Cloud cover	Image date	% Cloud cover	Image date	% Cloud cover
168 62	3/10/2015	2.88%	10/20/2015	19.01%	9/18/2015	14.98%
168 63	12/7/2015	18.32%	10/20/2015	0.85%	9/18/2015	4.54%
168 64	12/7/2015	3.26%	11/21/2015	5.13%	9/18/2015	0.90%
168 65	12/7/2015	7.53%	11/21/2015	6.83%	9/18/2015	4.06%
169 62	12/30/2015	0.00%	9/9/2015	1.06%	8/24/2015	2.61
169 63	12/30/2015	2.87%	9/9/2015	8.30%	4/18/2015	2.87%
169 64	12/30/2015	5.79%	9/9/2015	0.80%	4/18/2015	6.42%
169 65	10/11/2015	0.02%	9/9/2015	0.24%	4/18/2015	16.86%
167 62	1/14/2015	7.70%	12/16/2015	29.40%	3/3/2015	25.54%

167 63	1/14/2015	0.25%	19-Mar	22.33%	3/3/2015	18.50%
167 64	1/14/2015	9.44%	9/27/2015	37.09%	1/30/2015	10.41%
Where not otherwise noted 2010 imagery is Landsat 4-5						
168 62	12/18/2010	28.00%	1/16/2010	38.00%	2/1/2010	18.00%
168 63	2/8/2010	39.00%	1/23/2010	22.00%	1/31/2010 (L7)	0%
168 64	2/8/2010	41.00%	1/23/2010	44.00%	3/20/2010 (L7)	13%
168 65	4/13/2010	39.00%	1/23/2010	38.00%	3/20/2010 (L7)	10%
169 62	12/16/2010	2.00%	1/30/2010	0.00%		
169 63	12/16/2010	1.00%	1/30/2010	0.00%		
169 64	12/16/2010	0.00%	1/30/2010	1.00%		
169 65	12/16/2010	3.00%	1/30/2010	10.00%		
167 62	12/18/2010	30.00%	12/2/2010	39.00%	02/09/2010 (L7)	5%
167 63	12/18/2010	17.00%	12/2/2010	31.00%	1/16/2010	22.00%
167 64	12/18/2010	28.00%	2/1/2010	18.00%	1/16/2010	38.00%
Where not otherwise noted 2005 imagery is Landsat 4-5						
168 62	2/18/2005 (L7)	6%	3/6/2005 (L7)	11.00%	12/19/2010 (L7)	27.00%
168 63	9/6/2005	0%	9/18/2005	2.00%	3/6/2005	4.00%
168 64	9/6/2005	0%	5/17/2005	2.00%	2/10/2005	4.00%
168 65	9/6/2005	2.00%	5/17/2005	9.00%	2/10/2005	12.00%
169 62	10/7/2005 (L7)	2.00%	9/21/2005 (L7)	10.00%	2/25/2005 (L7)	3.00%
169 63	2/17/2005	0.00%	11/16/2005	5.00%	10/31/2005	5.00%
169 64	2/17/2005	0.00%	11/16/2005	15.00%	10/31/2005	8.00%
169 65	2/17/2005	0.00%	11/16/2005	11.00%	9/29/2000	5.00%
167 62	8/22/2005 (L7)	0.00%	9/7/2005 (L7)	11.00%	12/12/2005 (L7)	33.00%
167 63	8/22/2005 (L7)	0.00%	2/11/2005 (L7)	7.00%	9/7/2005 (L7)	24.00%

167 64	8/22/2005 (L7)	0.00%	12/12/200 5 (L7)	13.00%	11/10/200 5 (L7)	26.00%
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b) During the classification process cloud and shadow areas are identified from the lowest cloud cover image or highest quality image. These areas are then filled with other images that are not clouded in these portions of the image. Multiple images are used from within the calendar year to remove as much cloud as possible.

c) Sources for all GIS data are listed below. Weights assigned to factor maps are developed internal to the model based upon the training and testing samples.

Factors Considered	Description	Include d in Final Model	Sources
Accessibility Factors	Distance to Roads	Yes	TNC Africa
Anthropogenic Factors	Distance to Deforestation	Yes	Based on deforestation analysis
	Distance to Towns	Yes	World bank data/ Tanzania national bureau of statistics
	Distance to Forest Edge	Yes	Based on deforestation analysis
	Poverty Indices (% of population in poverty)[1]	Yes	World Bank – Tatem AJ, et al. Pilot high resolution poverty maps, University of Southampton/Oxford
Landscape Factors	Elevation	Yes	Shuttle Radar Topography Mission -SRTM data (Accessed through USGS Earth explorer)
	Slope	No	SRTM derived
	Soil	No	International Livestock Research Institute (ILRI)

	Precipitation	No	AFRICLIM (https://www.york.ac.uk/environment/research/kite/resources/)
	Distance to water sources	No	Tanzania national bureau of statistics/ SRTM water bodies
	Vegetation	No	International Livestock Research Institute (ILRI) Geocover
Actual Land Tenure & Management	Distance to Protected Areas	Yes	IUCN World Database of protected areas (WDPA)
	Distance to Management Areas	No	IUCN World Database of protected areas (WDPA)
VVB Response: Based on response from PP the finding is resolved.			

Finding 20 FAR 01

PP to address the issue of any on-going USAID funds being utilised for the actual REDD project implementation and its impact on the financial aspects / additionality of the risk assessment during subsequent verification

Additional Updates

The Makame REDD Project 2017.08.29 calcs workbook has been updated to reflect more accurate values for calculation of leakage for ex-ante estimates. A new MANFOR value was added from the NAFORMA document. Area weighted average above-ground carbon estimates were updated as well. The values applied in the original calculations workbook were found to be incorrectly converted from the NAFORMA data. The relevant values have been updated in the PDD.

VVB Response: Based on response from PP the finding is resolved.

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	Makame additionality analysis
12	Makame WMA business plan
13	Makame REDD VER calculation sheet
14	Resource Management zone plan (2017 -2022)
15	Memorandum of understanding between Carbon Tanzania and partners signed with Kiteto District government on the 27th April 2016
16	Evidences for FPIC process – minutes of meeting at village level.
17	Stakeholder consultation documents - photographs
18	Company policy documents
19	Employee contract documents
20	Letter from the Chief of Party for the USAID EENT project
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 conflicts in the project activity zone
25	Biodiversity monitoring plan