

VERIFICATION REPORT OF COMACO LANDSCAPE MANAGEMENT PROJECT

AENOR

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Summary:

AENOR has carried out the verification of the COMACO Landscape Management Project. The Project promotes sustainable agriculture and forest conservation at a landscape level, through a sustainable agricultural land management component and REDD+ component. The field visit took place from 21 to 27 January 2019 in which the auditors visited the project area, interviewed key stakeholders, staff and other related experts, and also reviewed the PD, and supporting documents.

The purpose of the verification was to determine the conformance of the project with respect to the VCS Standard and the validated PD. The scope of the verification was to assess the conformance of validated project, once implemented, with the VCS requirements and requirements in the validated P.D.

This is the second verification event, corresponding to the monitoring period from 1 November 2015 to 31 October 2017.

The auditor submitted to the PPs a final verification report version 1, in which 6 CARs and 12 CLs were reported (see findings in Appendix 3 of this verification report). All these issues raised during the verification process were appropriately closed by means of corrections, more clear explanations and other supported documents.

Once all issued detected were appropriate resolved, AENOR carried out this final verification report and deems with reasonable level of assurance that the project complies with all of the verification criteria. The assessment team has no restrictions or uncertainties with respect to the compliance of the project with the verification criteria, hence, the audit team concludes that the cumulative net GHG emissions reductions or removals of 603,893 t CO₂e over the monitoring period has been quantified in accordance with VCS rules. A buffer discount rate of 11% was applied resulting, in accumulated 540,336 VCUs.

Table of Contents

1	Introduction	5
1.1	Objective	5
1.2	Scope and Criteria	5
1.3	Level of Assurance.....	5
1.4	Summary Description of the Project	6
2	Verification Process	7
2.1	Method and Criteria.....	7
2.2	Document Review	8
2.3	Interviews	8
2.4	Site Inspections	9
2.5	Resolution of Findings.....	9
2.5.1	Forward Action Requests.....	10
2.6	Eligibility for Validation Activities	10
3	Validation Findings.....	10
3.1	Participation under Other GHG Programs	10
3.2	Methodology Deviations	10
3.3	Project Description Deviations	11
3.4	Grouped Project	11
4	Verification Findings.....	14
4.1	Project Implementation Status	14
4.2	Accuracy of GHG Emission Reduction and Removal Calculations	16
4.3	Quality of Evidence to Determine GHG Emission Reductions and Removals	18
4.4	Non-Permanence Risk Analysis.....	20
5	Safeguards.....	23

5.1	No Net Harm	23
5.2	Local Stakeholder Consultation	24
6	Verification conclusion	24
APPENDIX 1: Evidence		26
APPENDIX 2: Meeting Attendance Lists		28
APPENDIX 3: Findings		30

1 INTRODUCTION

1.1 Objective

The objective of the verification audit was to conduct an independent assessment of the project to determine:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated project description (PD), including the monitoring plan.
- The extent to which GHG emission reductions and removals reported in the monitoring report are materially accurate.

1.2 Scope and Criteria

The scope of the verification audit is to verify the emissions reductions and/or removals of the COMACO Landscape Management Project in Zambia, against the Verified Carbon Standard, the identified methodology and the validated PD throughout the monitoring period from 01 November 2015 to 31 October 2017.

The objectives of this audit included a verification of the Project's calculated reductions and/or removals with the Verified Carbon Standard requirements and any additional requirements of VCS AFOLU projects. In addition, the audit assessed the project with respect to the validated baseline scenarios presented in the PD.

Criteria from the following documents were used to assess this project:

- VCS Program Guide v.3.7
- VCS Standard v.3.7
- VCS AFOLU Requirements v.3.6
- VCS AFOLU Non-Permanence Risk Tool v.3.3

Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document.

1.3 Level of Assurance

The assessment was conducted to provide a reasonable level of assurance of conformance against the defined audit criteria and materiality thresholds within the audit scope. Based on the audit findings, a positive evaluation statement reasonably assures that the project GHG assertion is materially correct and is a fair representation of the GHG data and information.

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent AENOR instructions required. The technical review was performed by a technical reviewer qualified in accordance with AENOR's qualification scheme for CDM/VCS validation and verification.

1.4 Summary Description of the Project

The COMACO Landscape Management Project promotes sustainable agriculture and forest conservation at a landscape level in Zambia. The Project comprises two components:

- Sustainable Agricultural Land Management (SALM) – which promotes widespread adoption of agricultural practices aimed at achieving sustainable agricultural production, and increasing farmers' income, and sequestering carbon. This involves the adoption by farmers of legume-based alley cropping, residues management, and reduced tillage among other SALM practices. The eligible land for adoption is agricultural land.
- REDD+ (Avoided Unplanned Deforestation) – which aims to reduce forest loss, and protect and expand areas under natural forest, and conserve biodiversity. This is achieved primarily through creation of Community Conservation Areas (CCA), while promoting sustainable forest management including sustainable utilization of NTFPs, e.g., honey.

This is done by Community Markets for Conservation (COMACO) extension staff, as well as through lead/model farmers from within the group.

The Project started the 1 July 2012. The verification covers the second monitoring period for both components, from 1 November 2015 to 31 October 2017.

The Project is located in Eastern Province of The Republic of Zambia and stretches across nine chiefdoms. The project area for the SALM component consists of agricultural lands only. For the REDD+ component it consists of numerous parcels of forested lands found within the chiefdoms. It is designed has a grouped project and 28 additional chiefdoms are planned to be included, as long as these areas meet the eligibility.

The resultant emission reductions generated from the Project is a key co-benefit, and an important source of revenue – meant to be used for furthering extension and support for adoption and implementation of the Project activities. In this second monitoring period, the net GHG emission reductions are 603,893 t CO₂e. Over its twenty-year crediting period, the net GHG emission reductions of the Project have been estimated at 4,523,090 t CO₂e.

The Project uses to approved VCS methodologies: VM0017 Adoption of Sustainable Agricultural Land Management, version 1.0 and VM0015 Methodology for Avoided Unplanned Deforestation, version 1.1.

The verification of this monitoring period was requested of AENOR by The World Bank, on behalf of COMACO. The audit of the Monitoring Report, supporting documentation, field visit, and interviews has provided AENOR with the evidence to determine conformance to the VCS Standards with a reasonable assurance.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through a combination of document review, interviews and communications with relevant personnel and on-site inspections. The project was assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in this report, findings were issued to ensure that the project was in full conformance to all requirements.

AENOR carried out this verification report and deems with reasonable level of assurance that the project complies with all of the verification criteria.

The verification has been performed through a deep desk review and on-site inspection including interviews with relevant personnel and stakeholders.

The verification activities in which risks were assessed were the evaluations of the monitoring system (data flow, data control procedures, etc.) but mainly the quality of raw data as well as sources and the spreadsheet calculations.

AENOR reproduced and verified 100% of sheets in the *Monitoring Report ER summaries* and the *REDD+monitoring_ER calculations* spreadsheets calculations and more than 50% of the data/calculations carried out in those sheets for the monitoring period 1 November 2015 to 31 October 2017 for the project area and leakage belt.

The project boundary, farming and deforested areas in the project area and leakage belt for the monitoring period were 100% checked using the GIS database.

The carbon stock changes, forest classes in the project area and leakage belt were also 100% verified and crosschecked with validated values. For data provided for the reference region, AENOR carried out samples of at least 5% of data since they had already been previously validated and posed a lower risk to the emissions reductions achieved by the project.

AENOR decided to carry out a deep and meticulous review of the sheets due to verify the correct application of the methodologies (formulae, equations) and checked that data required to calculate the GHG removals are appropriately provided.

Some mistakes were identified and subsequently corrected. These findings are detailed in Appendix 3 and they were successfully closed. Therefore, related identified mistakes/clarifications as listed in findings in Appendix 3 to this report have been determined to be immaterial. All identified inconsistencies and clarification requests have been successfully closed.

Based on the assessment carried out, AENOR confirms with a reasonable level of assurance that the claimed emission reductions are free from material errors, omissions or misstatements.

In addition, AENOR confirms that sufficient evidence was presented for the reported net anthropogenic GHG emission reductions and that there is a clear audit trail that contains the evidence and records that validate the stated figure in this verification report since:

- Sufficient evidence available: The project participant has provided the 100% of data used in the calculations to achieve the final amount of GHG emission reductions reported.
- Nature of evidence: The raw data were collected from reliable sources. They are detailed in the project documents and have been provided to the verification team and the most relevant are appropriately detailed in the Appendix 1.
- Cross-checked evidence: AENOR cross-checked the collected information through an on-site inspection to the project area and reproducing calculations.

Hence, AENOR confirms that the stated figures in the monitoring report are correct and confirms that is able to certify net anthropogenic GHG removals based on verifiable and reliable evidence.

2.2 Document Review

The monitoring report, project description, and supporting documentation were carefully reviewed for conformance to the verification criteria and consistency with the Project Description. The audit team examined plot data sheets; spreadsheets used to enter and compile the plot data and reproduced the removal spreadsheet calculations to obtain same results than those appearing in the Monitoring report. The Non-Permanence Risk Report for this monitoring period was assessed, as well.

Appendix 1 to this report details the list of documents provided by PPs and reviewed by AENOR during the verification process.

2.3 Interviews

During the field visit, COMACO staff in charge of the Project was interviewed about the implementation of its activities, the monitoring procedures, the GHG reductions calculation and other relevant subjects of the Project. The following table details the COMACO staff interviewed and their role in the Project:

Name	Role
Japhet Seulu	Project Manager
Moses Mwenda	Cooperatives Manager
Kenneth Linyunga	Extension Manager
Musolé Kambinda	Communications & Marketing Manager
Angel Makungu	GIS Officer / Carbon Project Coordinator
Joel Ngumayo	Senior Monitoring & Evaluation

Farmers, cooperative members and forest rangers from three chiefdoms (Mwasemphangwe, Zumwanda and Jumbe) were interviewed through meetings (for the list of participants, see Annex 2*). They were asked about their participation in the Project, the capacitation and training received, their farming and beekeeping practices, the sharing of benefits and other aspects of the Project.

Local authorities were interviewed. Specifically, Chief Zumwanda IX of the Zumwanda Chiefdom was interviewed about the implementation of the Project and its impacts on the Chiefdom.

2.4 Site Inspections

Site inspections were conducted from 23 to 25 January 2019. The objectives of the site visit were to assess the accuracy of the Monitoring Report, including project implementation status, to assess conformance to the monitoring plan, to assess whether project activities are being implemented according to the project description, and the quality of field data collection techniques.

The following table summarizes the inspections carried out during the site visit:

Item inspected	Location
COMACO crop processing plant	Chipata
Community Conservation Area	Mwasemphangwe Chiefdom
Farming plots	Zumwanda Chiefdom
Improved cookstoves	Jumbe Chiefdom
Beehives	
Borehole/well	
Leakage management area	

2.5 Resolution of Findings

As an outcome of the verification process, the team raised different types of findings. In general, where insufficient or inaccurate information was available and clarification or new information was required the team raised a Clarification Request (CL), specifying what additional information was required. When a non-conformance arose, the team raised a Corrective Action Request (CAR). A CAR was issued, where:

- Non-conformities with the monitoring plan or methodology were found in monitoring and reporting, or if the evidence provided to prove conformity was insufficient;
- Mistakes were made in applying assumptions, data or calculations of emission reductions which would impair the estimate of emission reductions;

Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

* The participants attendance list of the Chikomeni Chiefdom meeting is not available.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period. FARs are for the benefit of future projects and future verification actors. These have no impact upon the completion of the verification activity.

All CARs and CLs raised during verification shall be resolved prior to submitting a request for issuance. CARs and CLs are raised in the findings document. The PP is given the opportunity to “close” outstanding CARs and respond to CLs and FARs.

All CARs, CLs and FARs for this verification period are included in this report. A total number of 6 CARs and 12 CLs were raised for this verification period. No FAR was raised.

All findings issued by the AENOR audit team during the verification process have been closed. In accordance with Section 5.3.6 of the VCS Standard, all findings issued during the verification process, and the inputs for their closure, are described in Appendix 3.

2.5.1 Forward Action Requests

No FARs were raised to the PP during the verification process.

2.6 Eligibility for Validation Activities

AENOR holds accreditation for validation for the relevant sectoral scope 14 under which this project activity is classified.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project was not validated under another GHG program. Therefore, there are no Gap Validation findings to report. The Project Description was subject to validation under VCS Standard and was found to conform to the VCS requirements.

3.2 Methodology Deviations

The following methodology deviations were applied to the project from the previous monitoring period:

1. Timescale of emission reduction calculations: the soil carbon modeling is always done for a particular cropping season in that year, instead of the natural year.
2. Organic input from soil fertility trees to the soil: the estimate of the annual amount of carbon inputs from *Gliricidia sepium* into the soil has been taken from a local published study. The default and the modeled average SOC value from soil fertility trees in this project is defined to be always below the CDM default value of 0.8
3. Calculation of evapotranspiration: a calculation method (modified Hargreaves method) was chosen to estimate PET from average radiation and the 5-year averaged temperature and precipitation data.

There are not new methodology deviations applied for this monitoring period.

3.3 Project Description Deviations

Section 2.2.2 of the MR details one Project Description deviation applied during this monitoring period.

The Community Conservation Area (CCA) of Luembe Chiefdom was validated in the PD as one of the 14 CCAs (form of land use zoning to protect the forest from deforestation/degradation) demarcated to constitute the first project activity instance. During this monitoring period, it has come to the attention of the PP that the 1 km leakage belt of the Luembe CCA was falling within the project boundary of the *Lower Zambezi REDD+* (validated under VCS Standard, ID 1202).

The meeting held between the parties of both projects resolved that the CCA boundary should be moved 2 km inwards. To avoid double counting and taking the most conservative approach, COMACO decided to remove the CCA from the project area and do not account any GHG emission reductions for this CCA.

This do not impact on the applicability of the methodology and/or the appropriateness of the baseline scenario. Furthermore, there are no GHG emission reductions reported in the first or this second monitoring period.

AENOR verified that no GHG emission reductions were claimed for this CCA since the validation of the project.

AENOR deems that the exclusion of the CCA does not impact the applicability of the methodology, the additionality of the Project nor the appropriateness of the baseline scenario.

In accordance with the VCS Standard Program Definitions, AENOR considers that the case does not represent a loss event nor a reversal, since no verified emission reductions were claimed nor issued due to Luembe CCA since the validation.

The Project remains in compliance with the VCS rules, it is completely implemented and discrepancies between the Project and the PD have been clearly commented in the MR and suitability assessed by AENOR.

3.4 Grouped Project

The project is a grouped project.

In this monitoring period one new instance was added to the project area. The MR provides in its table 4 and table 5 the information of the inclusion of new areas, both in the SALM component and the REDD+ component. In addition, section 2.3 of the MR provides the assessment for each instance of the eligibility criteria for their consideration.

In this second monitoring period, 1,089 farmers, 9,758 ha of farming plots and 19,303 ha of forest have been included in the second instance, as well as 89,083 ha of forest from the first instance that were not included for verification during the first monitoring period.

AENOR validated the new project activity instance based on the information reported in the MR and supporting evidence provided against the applicable set of eligibility criteria. After checking the records (KMZ file, GIS package, contracts, start dates, calculations etc.) AENOR deems that quality and completeness of evidence, data and documentation relating to the new project activity instance is complete and allows to carry out a reliable validation of new instances.

The PP provided all the relevant documents to justify the compliance of the new instance with the eligibility criteria set out in the validated PD.

Criteria	Component applicable to		Relevant Document reviewed
	SALM	REDD+	
The new instances are located within the boundaries of the chiefdoms listed in Appendix 1 of the PD.	☒	☒	Map showing project boundaries and farm plot instances within project boundaries
Participating farmer groups have willingly agreed to adopt and apply SALM practices being promoted, evidenced by pledge/agreement.	☒		Conservation Pledge forms on Filed in the office (check during site visit)
The farming system is typically low-input agriculture.	☒		Tembo and Sitko 2013. Technical Compendium: Descriptive Agricultural Statistics and Analysis for Zambia
In the baseline, there is generally low level of application of SALM practices on the agricultural lands, hence, the lands can be assumed to be degrading.	☒		Information from project baseline surveys, and agricultural statistics by Tembo and Sitko 2013
The land is either cropland or grassland at the start of the project, and is not a wetland.	☒		Figure 3, page 29 of the PDD
The lands have not been cleared of native forests 10 years prior to inclusion into the project.	☒		Figure 3, page 29 of the PDD
There is evidence that the land is degraded/degrading e.g. through any local, regional, national or international land classification system or peer-review study, participatory rural appraisal, satellite imagery and/or photographic evidence.	☒		2015-03-20 Drivers and Effectiveness Factor Analysis CLMP

Criteria	Component applicable to		Relevant Document reviewed
	SALM	REDD+	
The area of land under cultivation in the region is constant or increasing.	☒		CSO/MACO/FSRP Crop Forecast Surveys. Various years. Lusaka: GRZ in Sitko et al. 2011. Technical Compendium: Descriptive Agricultural Statistics and Analysis for Zambia in Support of the USAID Mission's Feed the Future Strategic Review
Forest land, according to the national forest definition, in the region is constant or decreasing over time.	☒		Page 31 of the PDD. Other sources corroborate this trend of forest loss: the UN-REDD report on the drivers of deforestation in Eastern province (1965 -2005) of 0.85%. <i>Source:</i> Vinya et al., 2011. Preliminary study on the drivers of deforestation & potential for REDD+ in Zambia
There is evidence through research that the RothC carbon model or an appropriate and similar model is appropriate for use in the climatic regions or AEZs in which the new project instances are situated	☒		Kaonga M. L., Coleman K. (2008). Modelling soil organic carbon turnover in improved fallows in eastern Zambia using the RothC-26.3 model. Forest Ecology and Management 256. pp 1160-1166
The new project instances have the same regional baseline scenario as the first project activity instances i.e. the land will continue to be used for low-input farming, and is degraded or continue to degrade in the absence of the project intervention.	☒		Reversing Agro-Based Land Degradation through Conservation Agriculture: Emerging Experiences from Zambia's Smallholder Farming Sector.
The adoption and application of SALM practices/project intervention activities are not already occurring at a large-scale in the area prior to the project intervention.	☒		Information from project baseline surveys, and agricultural statistics by Tembo and Sitko 2013
The approach to forest conservation, e.g., Community Conservation Area (CCA) and Community Conservation Plan (CCP) established to manage the forest area has been willingly agreed upon by the communities		☒	Copies of Community Conservation Plans
The area included as project area meets the definition of a forest at the date of inclusion and should have been forest at least 10 years before.		☒	Project Design Document

Criteria	Component applicable to		Relevant Document reviewed
	SALM	REDD+	
The area is subject to unplanned deforestation as defined in the VCS AFOLU Requirements/ VCS Standard.		☒	The Forest Act No. 4 of 2015
The area is similar to the reference region as described in section 2.3 in terms of enforced policies and regulations, socio-economic and cultural conditions, landscape configuration and ecological conditions, and agents and drivers of deforestation.		☒	KML file and shapefiles of the CCAs
The project activity is avoided deforestation of secondary forest		☒	Community Conservation Plan documents in "Community Conservation Plans"
The area does not have peat.		☒	Figure 3, page 29 of the PDD
The area is not already subject to activities that protect forest loss or enhance carbon storage, or where these activities exist, they are not adequately implemented.		☒	See USAID Report (2013) here for further details on the socio-economic baseline conditions in the Eastern Province
The area has the same baseline scenario as the first project activity instances identified in section 2.4	☒	☒	The project monitoring system ensures that the baseline scenario and the additionality are representative for all potential farms in the project as well as the initial project activity instances (farms currently adopting SALM). This also applies to REDD

AENOR based on evidence, justifications and feedbacks from PP validated the compliance of the new instance with the eligibility criteria set out in the PDD and deem they fulfil with criteria and then the inclusion is valid.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During this verification process, AENOR has not detected project changes in regards of the project title, its purposes and objectives. As such, the project activity accurately reflects the proposed project which mainly consists of widespread adoption of agricultural practices aimed at achieving sustainable agricultural production, and increasing farmers' income, and sequestering carbon, as well as to reduce forest loss, and protect and expand areas under natural forest, and conserve biodiversity. Through site inspections and interviews with key staff and project stakeholders, the auditor's team ratified the main objectives of the project activity.

As commented above, the project is designed as grouped project, and then the inclusion of the new instance and the drop off of others is acceptable. For the present monitoring period, one new instance was included and a CCA was excluded from the previous instance.

AENOR verified that no removals are claimed for the Luembe CCA, which was excluded from the project boundary in this monitoring period. For the new instance included in this monitoring period, AENOR verified that the areas considered are eligible and that project activities are implemented in accordance to the validated PD and the reported information on the MR.

Carbon pools addressed and emissions of non-CO2 GHGs are the same than those validated. Leakage is considered and assessed, and the non-permanence risk is also evaluated.

After the review of the MR, spreadsheet calculations and the other document to support calculations such as GIS information, farmer's surveys and others, AENOR deems that project status is in compliance with applicable methodologies and implementation is in support of the VCS principles of Conservativeness and Accuracy.

There is no evidence of double counting or that the Project has participated nor been rejected under any other GHG programs. GHG emission reductions or removals generated by the project are not included in an emission trading program or any other mechanism that includes GHG allowance trading. The project has not received or sought any other form of environmental credit.

Related to the compliance with the Monitoring Plan, section 3.3 of the MR provides information about the monitoring plan and actions carried out for the current monitoring period. AENOR reviewed during the site visit the procedures put in place to perform the compliance surveys, the post-harvest surveys and the remote sensing analysis and deems that they are in accordance with the procedures described in the validated monitoring plan. AENOR checked the monitoring plan contained in the validated PD and compared it with the monitoring report to verify whether there was any difference that would cause an increase in estimates of the GHG emission reductions in the current monitoring period. AENOR has confirmed that there are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodologies. Also, the project proponent effectively monitors the required parameters to determine the project's removals by sinks and emissions by sources as required by the monitoring plan and the applicable methodologies

The parameters reported, including source, frequency and review criteria as indicated in the monitoring plan were verified to be correct and in line with the monitoring plan of the validated PD. Necessary management system procedures including responsibility and authority of monitoring activities have been verified to be consistent with the PD. Knowledge of personnel associated with the project activity was also found to be satisfactory.

Regarding leakage emission, they account 0. In this regard, AENOR has checked evidence provided which confirms the information included in the MR. In addition, no biomass loss events were reported during this verification period.

Regarding the sustainable development, AENOR interviewed farmers and local authorities, and verified the claimed contributions of the Project.

None methodology deviations were validated during PD validation. The methodology deviations listed in section 3.2 of this report were validated during the previous monitoring period. There are no new methodology deviations for this monitoring period.

Hence, after a complete review of the different documents provided and the on-site visit, AENOR is able to confirm that the project implementation is in accordance with the validated PD. There are not material discrepancies between project implementation and the project description.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

Procedures for quantifying the baseline emissions were conducted in accordance with the approved VCS methodologies VM0017: Adoption of Sustainable Agricultural Land Management, version 1.0 and VM0015 Methodology for Avoided Unplanned Deforestation, version 1.1. The verification team performed an intensive review of all input data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS documentation, methodology and associated tools, and the PD. Further, the verification team reproduced calculations for selected samples to ensure accuracy of the results. Conversion factors, formulas, and calculations were provided by PP in spreadsheet format to ensure all formulas were accessible for review. The verification team recalculated subsets of the analysis to confirm correctness. PP also provided a step-by-step overview of select calculations to ensure the verification team understood the approach and could confirm its consistency with the methodologies and PD. Where applicable, references for analysis methods or default values were checked against relevant scientific literature for best practice.

The following table summarizes the data and parameters used by the PP to calculate the GHG emission reductions, which has been assessed by AENOR:

Data/Parameter	Value	Purpose of data/parameter	Assessment procedure and result
Area _{i,t} Total annual area harvested of crop <i>i</i> or N-fixing trees <i>i</i>	Multiple values	SALM baseline and project emissions calculation	• Values are consistent with surfaces reported in the MR. • They have been correctly inputted in the calculation spreadsheets.
Agricultural land applying inorganic fertilizer	Multiple values	SALM baseline and project emissions calculation	• Values are consistent with validated PD and monitoring surveys. • They have been correctly inputted in the calculation spreadsheets.
BSN _{t=0} Synthetic fertilizer use	120 kg/ha	SALM baseline emissions calculation	• Value is consistent with value stated in validated PD. • It has been correctly inputted in the calculation spreadsheets. • Reviewed provided literature and estimation reproduced.

Data/Parameter	Value	Purpose of data/parameter	Assessment procedure and result
BEBB _t Baseline emissions due to biomass burning	0.05 tCO ₂ e/ha	SALM baseline emissions calculation	Recalculated using Tool <i>Estimation of non-CO₂ emissions from the burning of crop residues</i> and confirmed.
Share of agricultural land practicing no-burning	Multiple values	SALM baseline and project emissions calculation	- Values are consistent with validated PD and monitoring surveys. - They have been correctly inputted in the calculation spreadsheets.
SOC _{c,mc} Soil organic carbon density	Multiple values	SALM baseline and project emissions calculation	- Consistent with ROTH C model results. - It has been correctly inputted in the calculation spreadsheets.
Reduced tillage factor k	1.09	SALM project emissions calculation	- Value is consistent with value stated in validated PD and IPCC 2006 Guidelines for National Greenhouse Gas Inventories - It has been correctly inputted in the calculation spreadsheets.
Area deforested per forest class	Multiple values	REDD+ baseline, project and leakage emissions calculation	- Values are consistent with value stated in validated PD. - Cross-checked with GIS package. - They have been correctly inputted in the calculation spreadsheets.
Carbon stocks per hectare of initial forest classes and post-deforestation LU/LC class	Multiple values		- Values are consistent with value stated in validated PD. - They have been correctly inputted in the calculation spreadsheets.
Average proportion of mass burnt in the carbon pool p in the forest class, icl	60%	REDD+ baseline, project and leakage emissions calculation	- Value is consistent with value stated in validated PD and provided literature. - It has been correctly inputted in the calculation spreadsheets.

AENOR reproduced the calculations to achieve the same results and deems they are depicted clearly and correctly in the provided sheets. The AENOR verification team was able to trace calculations directly from the data sources of inventory's field measurements. Formulae used are in compliance with

monitoring plan, PD and methodologies and the default values used to determine the parameters are appropriate. Thus, the net amount of VCUs to be issued is accurate and realistic.

AENOR verified for the parameters available at validation, the values reported or the references to the documents where they are used or explained by reviewing, reproducing and crosschecking the evidence provided by the PP. AENOR checked the values of these parameters to be appropriate and correctly used in equations

AENOR checked that the list of parameters to be monitored was complete and consistent with information in the monitoring plan of the PD.

AENOR did not find inconsistencies between the PD, technical annex, monitoring report and spreadsheet calculation.

After a deep and thorough review and reproduction of calculations and the corresponding tracks to the other spreadsheets, AENOR deems the parameters monitored and available at validation are correct, reliable and consistent. Information in the monitoring report is in compliance with the PD, the calculations provided and the applicable methodology. Then, the results showed in the monitoring report are reliable, consistent and accurate.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

Section 3.2 of the MR lists all the data and parameters monitored for the determination of the Project's GHG emissions reductions. According to section 3.3 of that same document, the main tools for monitoring the mention data are the following:

For the SALM component:

- Compliance survey (CS): gathers information on adaption of SALM practices through direct interviews to farmers and direct observation of farms. CS is meant to gather information for comparing with the information from the PHS.
- Post-harvest survey (PHS): conducted at the end of the crop calendar/season, to gather information such as crop yields, and areas under adoption of different SALM practices. It is largely interview-based. The PHS is the primary source of information for the GHG emissions estimation.

This sample-based surveys are designed based follow the CDM 'General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities'. The sampling unit is the farm, and the approach for drawing samples (selecting the farms) is simple random sampling, considering a margin of error of 15% at 95% confidence level.

In both surveys, the data are obtained as interview responses and direct observations/measurements. They are recorded using a tablet/data logger; then transferred, stored and analyzed using the project web-based Management Information System (Project MIS). During the site visit, AENOR verified the data logger used for data collection and cross-checked the data logs with the web-based storing system, the Management Information System.

AENOR verified that the following quality assurance procedures are implemented:

- COMACO staff, Farmer Group Resource Persons (FGRPs), and farmers are trained in participatory planning, data collection and record-keeping. Individual farmers are also supported by the FGRPs, who receive extra training on data recording and entry by COMACO staff.
- The FRGP verifies/cross-checks data, and assists farmers to fill the questionnaire/SALM pledge forms;
- COMACO extension/survey team support the entire process and makes a follow up if there are inconsistencies/errors in the documentation/data. For this, the extension extension/survey/M&E team cross-checks about of 5-10% sample of the field data;
- Pre-testing and re-testing of the data collection procedures and tool is continually done to ensure the data collection tool is always reliable.

For the REDD+ component:

The land use and land-cover change within the project area and the leakage belt ins done through remote sensing analysis of LANDSAT satellite images, as the procedure described in section 2.4.2 of the validated PD.

The monitoring tasks of the REDD+ component, except monitoring of project implementation, are planned to be undertaken solely by COMACO since they are largely technical analyses. According to the MR, the reliable field measurement is expected to be achieved by:

- Following the methodology and best-practice guidance of satellite image acquisition
- Sourcing satellite from known and recommended platforms, e.g., LANDSAT
- Selecting images of good quality, e.g., free from cloud cover.

Through document review and direct interviews, AENOR deems that the staff performed good practices in this assessment and the resulting quality of the data to determine GHG removals is sufficient and appropriate.

The MR defines a quality assurance (QA) and quality control (QC) plan for the Project, based on:

1. Ensuring reliable field measurements;
2. Verifying data entry and analysis;
3. Data maintenance and archiving.

This QA/QC plan is outlined in section 3.3.4 of the MR, which is consistent with the plan of section 4.3.3 of the validated PD.

AENOR has verified that monitoring staff implemented the monitoring plan as it is established in the validated P.D. AENOR also could evidence during on site visit that key personal are fully involved in monitoring events (training, measuring, archiving, reporting, quality control, etc). QA/QC procedures are considered strict at identifying, reviewing, and handling inconsistencies found.

Roles and responsibilities are clearly identified in the monitoring report. QA/QC procedures were developed by the PP for maintaining consistency and quality of databases over time. Additionally, field

data collection (surveys) are reviewed for consistency and accuracy. Quality audits are conducted to identify inconsistencies/errors, sampling 5-10% of data.

Interviews with the project proponent and inspection of data and results demonstrated that the project proponents possess all of the competencies required for reporting of GHG emissions reductions on accurate way. Data presented to the audit team were clear and coherent and processing steps could be traced to the corresponding sections of the methodology and monitoring plan with transparency.

AENOR deems that the PP performed good practices in this assessment and concludes that GHG removals were quantified correctly in accordance with the project description and applied methodologies, and that the that evidence is sufficient in quantity and appropriate in quality to determine the GHG reductions of the Project.

4.4 Non-Permanence Risk Analysis

The PP has elaborated a VCS Non-permanence Risk Report for this monitoring period, dated on 21 November 2018, according to the Non-Permanence Risk Tool v3.3. Below, it is explained the assessment of the non-permanence risk rating determined by the PP. Issues raised to them in this regard are detailed in the Appendix 3.

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
Internal Risks			
Project Management: It is assessed using table 1 of the VCS AFOLU Risk Tool.	-2 (total may be less than zero)	a) The species planted (<i>Gliricidia sepium</i>) has adapted well to the agro-ecological conditions of the project area. Risk rating=0 is justified. b) Outside actors do not actively encroach on the project area. In the SALM component, the participating farmers have full control over their lands, hence, the carbon stocks, which are accounted and credited are not affected by outside actors. For the REDD+ component, encroachment on forests by outside actors cannot occur without local collaborators. Communities have set rules to deal with it: land opening is only sanctioned by the chief, and there are sanctions for illegal timber harvest by both residents and non-residents. Risk rating=0 is justified. c) In accordance with the evidence provided, Management team includes individuals with significant experience in all skills necessary to successfully undertake all project activities. Risk rating=0 is justified. d) COMACO has its headquarters in Lusaka, which is less one-day travel by car to the project site Risk rating=0 is justified. e) N.A. f) The project applies an adaptive management approach, including extensive consultations with the community and government governance structures, and continuous monitoring is used to assess performance, implementation challenges/ failures and adapt the project by devising and implementing ways to improve performance including non-permanence risk mitigations. This	No corrective actions or clarifications were requested.

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		includes revising plans such as the CCPs, and the Operations Plan. Risk rating=-2 is justified.	
Financial viability: It is assessed using table 2 of the VCS AFOLU Risk Tool.	1 (total may not be less than zero)	a)-d) According to the financial information provided, the Project cash flow breakeven point between 4 and up to less than 7 years from the current risk assessment. Risk rating=1 is justified. e)-h) Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven. The World Bank BioCarbon Fund paid for the full cost of the project design and development. In this monitoring period, COMACO was able to pay for all the monitoring activities from donor funding. Risk rating=0 is justified. e) N.A.	No corrective actions or clarifications were requested.
Opportunity Cost: It is assessed using table 3 of the VCS AFOLU Risk Tool.	-2 (total may be less than zero)	a)-c) N/A d) Baseline activities in the project area are subsistence-driven, i.e., subsistence agriculture and harvesting of forest products, and the project generates net positive community impacts. The SALM component, does not displace any activities. It aims to simply improve the existing practices to make it more productive and sustainable. For the REDD+ component, the alternative land use would be subsistence agriculture. Risk rating=0 is justified. e)-f) N/A g) COMACO is a non-profit organization as defined in Section 2.2.3 of the VCS Non-Permanence Risk Tool V3.2. Risk rating=-2 is justified. h) N.A. i) N.A.	No corrective actions or clarifications were requested.
Project Longevity: It is assessed using table 4 of the VCS AFOLU Risk Tool.	4 (total may not be less than zero)	a) It can be realistically assumed that that farmers, communities and chiefdoms will sustain the adopted SALM and forestry activities and practices in the project area beyond those periods since doing so provide sustained livelihoods and environmental benefits, i.e., increased crop yields, and resilient and productive agricultural and forest landscapes. As the farmers, communities and chiefs realize the benefits they are unlikely to reverse these practices in the future. This was confirmed during site visit by AENOR. In addition, they will continue to receive from COMACO market incentives (premium prices). The CCP involves land use zoning, where forest land boundaries are clearly demarcated, and maintained, resulting into long-term land use allocation. Therefore, though the project has a crediting period of 20 years, the adopted SALM and REDD+ activities and practices will remain adopted/implemented. Risk rating=4 is justified. b) N.A.	No corrective actions or clarifications were requested.

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
Total internal risk=1 (total may not be less than zero)			
External Risks			
Land Tenure and resources access/impact: It shall be assessed using table 6 of the Risk Tool.	2 (total may not be less than zero)	a) N.A. b) Ownership and resource access/use rights are held by different entities. Risk rating=2 is justified. c)-d) N/A. Clear property rights. Risk rating=0 is justified. e) N.A. f) N.A. g) N.A.	No Corrective Actions or Clarifications were requested.
Community engagement: It shall be assessed using table 7 of the Risk Tool.	-5 (total may be less than zero)	a)-b) COMACO conducted wide consultations involving community members, chiefdoms and government agencies to obtain free prior informed consent to the project. The community-level consultations involved all villages. Risk rating=0 is justified. c) The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area: enhanced and sustainable agricultural production, higher farm incomes, etc. Risk rating=-5 is justified.	No Corrective Actions or Clarifications were requested
Political Risks: It shall be assessed using table 8 of the Risk Tool.	0 (total may not be less than zero)	a)-b) N/A c) Zambia presents -0.28 according to the World Bank Institute's Worldwide Governance Indicators. AENOR verified the value and reliability of source. Risk rating=2 is justified. f) Zambia has an established Designated National Authority under the CDM, i.e., Ministry of Lands, Natural Resources and Environmental Protection, but does not have a registered CDM A/R project yet. The country is, however, currently implementing REDD+ Readiness activities: it is an UN-REDD Programme Partner Country. Risk rating=-2 is justified.	No Corrective Actions or Clarifications were requested.
Total external risks=0 (Total may not be less than zero)			
Natural risks			
Fire Risk: It shall be assessed using table 10 of the Risk Tool.	LS*M=2,5	According to data from NASA's Fire Information for Resource Management Systems (FIRMS), the project area experiences fires frequently. A 2015 study also indicates that fires occurs on approximately 20% of the Eastern Province annually. Significance and Likelihood (LS): Thus LS=5 is reasonable. Mitigation (M) measures: The project is implementing fire management measures – including construction of firebreaks, and fire control by communities. Then, M=0.5 is reasonable.	No Corrective Actions or Clarifications were requested
Pest and disease outbreaks: It shall be assessed using table 10 of	LS*M=2,5	No serious pest and disease of <i>Gliricidia sepium</i>, the species planted in agroforestry (alley-cropping), has occurred in Eastern Africa. Crop pest and diseases occurrences expected at	No Corrective Actions or Clarifications were requested.

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
the Risk tool.		least once every 10 years. But due to cultural practices such as intercropping and crop rotation practices adopted in the project, and integrated pest management, the risk of pest and disease outbreaks is considered minor (5% to less than 25% loss of carbon stocks). Significance and Likelihood (LS): Thus LS=5 is reasonable. Mitigation (M) measures: The project is implementing an integrated Pest management Plan (IPM) and provides advice and technical support on integrated pests and diseases management. Then, M=0.5 is reasonable.	
Extreme weather: It shall be assessed using table 10 of the Risk tool.	LS*M=5	Zambia experiences about 1-3 drought years every decade. The significance of drought effects on the project's sequestered carbon stocks is considered to be minor (5% to less than 25% loss of carbon stocks). Significance and Likelihood (LS): Thus LS=5 is reasonable. Mitigation (M) measures. None, Then, M=1 is correct	No Corrective Actions or Clarifications were requested
Geological risks: It shall be assessed using table 10 of the Risk Tool.	LS*M=10	Seismic hazard and earthquakes are generally very low in Zambia, and so are not expected to cause significant losses of carbon stocks. Thus, it is reasonable the value LS=0. Mitigation (M) measures. None, then rating=1.	No Corrective Actions or Clarifications were requested
Total natural risks=10			
OVERALL RISK RATING=1+0+10=11, Overall Risk rating value of 11% is applied.			

AENOR has checked that information provided in the Non-Permanence Risk Report for the monitoring period is consistent with supporting documents provided. The assumptions and justifications provided to determine the risk rating of each risk factor are developed and they are based on provided documents using conservative assessments. AENOR deems that information provided is reliable and appropriate. Thus, the overall risk rating is credible and realistic.

5 SAFEGUARDS

5.1 No Net Harm

The PP has identified the following potential negative impacts as a result of the Project implementation:

- Increased human immigration into area may lead to increase in human disturbances, loss of trees and habitat in project area and to non-compliant farming practices and other harmful practices, such as poaching and charcoal-making.
- Households with surplus income may choose to invest in harmful practices-e.g. charcoal making, bushmeat
- Increased exposure to illegal markets and people who may exploit local residents. Side-selling of surplus to buyers other than COMACO and competing with other companies that might influence farmer members to grow other crops by matching COMACO prices.

- Improved chiefdom-wide management of natural resources may lead to leakage as harmful practices (such as charcoal making) and poaching shift to non-project areas. Some levels of ecosystem disturbance are possible if new settlements are developed as a result of relocation of some households from potential forest reserve areas to new farming areas.
- Shifts in land use in demarcated conservation zones could limit access to wild resources and harmful income-generation activities (charcoal-making). May also require resettlement of villagers living in conservation zones to new farming areas.

PP has implemented an Environmental and Social Management Framework (ESMF), which has allowed to identify and implement a comprehensive set of mitigation measures for the adverse impacts. These measures are described in section 2.4.1 of the MR.

During the site visit, AENOR interviewed local community stakeholders and verified that the PP has put into place the mitigation measures and that the Project has a net positive impact, both from the environmental and social side. Hence, AENOR deems that the PP has taken the reasonable steps to mitigate the potential negative impacts.

5.2 Local Stakeholder Consultation

According to section 2.4.2 of the MR, the Project is overseen by district-level COMACO/Community Advisory Management Committees (COMACs). These committees provide transparent oversight to levels of compliance by both participating communities and COMACO to their respective pledges of market support and conservation compliances.

The input of stakeholders was especially important for the Community Conservation Plans, since these were elaborated in a participatory manner by community members themselves. Additionally, the Project incorporates underlying principles of land and natural resource management, as well as lessons and experiences from work currently in the project area, achieved through conducting regular meetings with the community members and local traditional leaders so as to get their input on various ways that can help further improve sustainable environmental resource management.

Through reviewed documentation and consultation to community leaders and other community representatives during the site visit, AENOR considers that community members demonstrated awareness and consent of the Project's activities and verified that inputs from communities are considered when those activities are implemented.

6 VERIFICATION CONCLUSION

AENOR has verified that the project is in compliance with the Verified Carbon Standard version 3.7 without qualifications or limitations. The project has been implemented in accordance with the validated Project Description and its validated variations.

AENOR is able to issue a positive verification opinion for the 603,893 tones CO₂e of verified emissions reductions, as reported in the Monitoring Report version 3.4 dated on 29 October 2018.

The verification assessment covered the monitoring period from 1 November 2015 – 31 October 2017 and verified that calculated emission reductions and/or removals were achieved during the monitoring

period with a reasonable level of assurance. The overall non-permanence risk rating was 11%. Therefore, the total number of credits to be deposited in the buffer account is 63,556 VCUs and the total VCUs to be issued are 540,336 VCUs.

AENOR is able to confirm that the new instance added to the Project meets all the eligible criteria outlined in the validated PD and is in line with all criteria applicable for the validation against the VCS standard Version 3.7 without any qualifications or limitations.

Verification period: From 01-November-2015 to 31-October-2017.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net Carbon Stock Change (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)	Buffer contribution (tCO ₂ e)	VCUs to be issued (tCO ₂ e)
2015	358,122	112,569	0	233,685	245,553	25,705	219,848
2016	444,744	134,598	0	296,297	310,146	32,593	277,554
2016	72,598	24,405	0	47,803	48,193	5,258	42,935
Total	875,464	271,572	0	577,785	603,893	63,556	540,336

Overall non-permanence risk rating: 11%

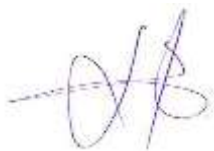
VCUs buffer to be deposited: 63,556 t CO₂e.

Total VCUs to be issued: 540,336 t CO₂e.

Date: 2 September 2019

Verifier Leader

Jose Luis Fuentes



APPENDIX 1: Evidence

1. Project Description
2. Previous period Monitoring Report
3. Monitoring Report v3.4 29 October 2018
4. Non-permanence Risk Report v1.0 21 November 2018
5. Extension Summary Report
6. Monitoring Report ER summaries and the REDD+monitoring_ER spreadsheet
7. REDD+monitoring_ER calculations spreadsheet
8. RothC model spreadsheets
9. Guidance for the estimation of project removals due to changes in soil organic carbon with the RothC model
10. Modelling soil organic carbon turnover in improved fallows in eastern Zambia using the RothC-26.3 model
11. COMACO Organization Structure
12. COMACO Operational Plan
13. Carbon Project management and responsibilities- Nov 2015
14. COMACO Environmental and Social Management Plan
15. Assessing the effect of COMACO membership on household socioeconomic status and maternal and child nutrition in rural Zambia
16. Community meetings minutes
17. COMACO Manual for Community Conservation Plans and Conservation Areas
18. COMACO sustainable land sustainable agriculture, wildlife and forestry compliance scoring
19. COMACO Conservation Model
20. COMACO Crop Fund
21. Community Conservation Plans
22. Project GIS data
23. Project Management Information System
24. Technical Compendium: Descriptive Agricultural Statistics and Analysis for Zambia
25. Activity Baseline and Monitoring Survey Guideline for Sustainable Agricultural Land Management practices (SALM)
26. Breakeven analysis
27. COMACO Pest Management Plan November 2014
28. Geological risk Seismicity map East Africa
29. The Forest Act 2015
30. Drivers of Deforestation with Effectiveness Factor Analysis - COMACO Landscape Management Project
31. Andersson and D'Souza (2014). Conservation Agriculture adoption among smallholder farmers in southern Africa
32. Performance Monitoring Training Manual
33. SALM Farmer Registration Form Descriptor
34. Beekeeping reports
35. Reversing Agro-Based Land Degradation through Conservation Agriculture: Emerging Experiences from Zambia's Smallholder Farming Sector
36. Feed the Future Zambia - Zone of Influence Baseline Report

37. Kamelarczyk, K. B. F., 2009. Carbon Stock Assessment and Modelling in Zambia. A UN-REDD programme study.
38. Minishi et al., 2010. The role of the Miombo Woodlands of the Southern Highlands of Tanzania as carbon sinks
39. Jha and Hojjati, 1993. Fertilizer use on smallholder farms in eastern province, Zambia.
40. Ariga, 2013. Zambia Fertilizer Assessment.
41. FAO, 2013 quoted in Stubbs, 2013. Energy usage of agricultural machinery for corn and soybean production in Brazil, India, USA and Zambia.

APPENDIX 2: Meeting Attendance Lists



COMACO

Community Markets For Conservation



PARTICIPANTS ATTENDANCE LIST PAL No. **18700**

24/1/2019 AENDR Meeting Date: ZUMWANDA

No.	Participants Full Names	NRC#	Gender		COMACO Members? (Y/N)	Title e.g. L.P. P.P. P.P.P. P.P.P.P.	Contact Phone No.	Signature
			Male	Female				
1	Laxumi Chipeta		M		Y(N)	PLF		
2	Stanley Chirwa		✓		Y(N)	CC		
3	NBOMI MWALE			✓	Y(N)	L.F		
4	MARIZYONI MWALE		✓	✓	Y(N)	L.F		
5	MWALE TABITA				Y(N)	L.F		
6	MARILWA HADA			L	Y(N)	L.F		
7	MARLEI GONDO			✓	Y(N)	L.F		
8	CHRISTINE SHUMBA			✓	Y(N)	SLP		
9	SOPHIA HADA			✓	Y(N)	L.F		
10	ESTHER MBWE			✓	Y(N)	L.F		
11	GAMBA JALICO		L		Y(N)	L.F		
12	MATHEWS NGULURE		✓		Y(N)	L.F		
13	EZEKIEL PHIRI		✓		Y(N)	L.F		
14	GERALD ABANDA		L		Y(N)	L.F		
15	SATIEL MBONGE		✓		Y(N)	CFMG		
16	MACKSON PHIRI		✓		Y(N)	L.F		
17	PAUL C. LIMBA		✓		Y(N)	L.F		
18	JOYCE KAMANGA			✓	Y(N)	SLF		
19	MWAZI ZIMBA		✓		Y(N)	SLP		
20	STANISLAW PHIRI		✓		Y(N)	L.F		
21	GORDON BANDA		✓		Y(N)	L.F		
22	STEPHEN MTONA		✓		Y(N)	SLP		
23	PHIRI JOHNA		✓		Y(N)	CFMG		
24	PASCALE NYAKU		S3/7		Y(N)	C/P		
25	PHIRI SEVELIAN		S1/N		Y(N)			
26	MTONA HANAN		S1/N		Y(N)	✓		
27	ANGELO MALLINGA				Y(N)	✓		
28	PHIRI MTONA		✓	✓	Y(N)			
29	PHIRI MTONA				Y(N)			
30	MIKE J. LUNDA		✓		Y(N)	P.S		
31	KAY MASHANGWE		✓		Y(N)	M.E		
32	JOSEPH SUNDU		✓		Y(N)	GIS		
33	MURZANS MWALE		✓		Y(N)	✓		
	FESTO MURZANS		✓		Y(N)	✓		
Total farmers participated			Total Female					
Total COMACO Farmers			Total Male					
Total Non - COMACO								



COMACO

Community Markets For Conservation



Umbu
Chiefdom

PARTICIPANTS ATTENDANCE LIST

PAL No.: 43265

Date: 25/1/2015

	Participants Full Names	NRC#	Gender		COMACO Member? (Y/N)	Title e.g. LEPLF, PGC, PGM	Contact Phone No.	Signature
			Male	Female				
1	JOSEPH NCHIRUMU		✓		Y/N	INDUNA		[Signature]
2	KIOSHUS NCHIRUMU		✓		Y/N	SLF		[Signature]
3	JOSEPH NCHIRUMU		✓		Y/N			[Signature]
4	KIOSHUS NCHIRUMU		✓		Y/N			[Signature]
5	EVERETT NCHIRUMU		✓		Y/N	INDUNA		[Signature]
6	ABDULMAN MBADU		✓		Y/N	INDUNA		[Signature]
7	EDWARD BANDA		✓		Y/N	INDUNA		[Signature]
8	ALIAS BANDA		✓		Y/N	INDUNA		[Signature]
9	FRANK NCHIRUMU		✓		Y/N	INDUNA		[Signature]
10	ISAAC NCHIRUMU		✓		Y/N	CO-OP SECRETARY		[Signature]
11	JOHN J. NGOMA		✓		Y/N	PLF		[Signature]
12	ENNY MURRAY			✓	Y/N	L.F		[Signature]
13	AGNES NCHIRUMU				Y/N	SLF		[Signature]
14	Brenda MURRAY			✓	Y/N	SLF		[Signature]
15	MARGRET PHIRI			✓	Y/N	SLF		[Signature]
16	ELWICE BANDA			✓	Y/N	L.F		[Signature]
17	ZILUSE JILU			✓	Y/N	L.F		[Signature]
18	HAUSI BANDA		✓		Y/N	SLF		[Signature]
19	VICTOR NCHIRUMU		✓		Y/N	INDUNA		[Signature]
20	ISAK MBANDI		✓		Y/N			[Signature]
21	JOSEPH NCHIRUMU		✓		Y/N	Audit		[Signature]
22					Y/N			
23					Y/N			
24					Y/N			
25					Y/N			
26					Y/N			
27					Y/N			
28					Y/N			
29					Y/N			
30					Y/N			
31					Y/N			
32					Y/N			
33					Y/N			

Total farmers participated

Total Female

Total COMACO Farmers

Total male

APPENDIX 3: FINDINGS

Clarification Request (CLs)

CL ID	01	Date: 11/01/2019
Description of CL		
<i>Provide relevant implementation dates of the project activities in Section 1.1 of the MR.</i>		
Project participant response		Date: 02/02/2019
<i>Done. This has been included in the MR</i>		
Documentation provided by project participant		
Monitoring Report – Section 1.1		
DOE assessment		Date: 03/04/2019
PP has provided the requested information. CL closed.		

CL ID	02	Date: 11/01/2019
Description of CL		
<i>Provide details on how leakage and non-permanence risk factors are being monitored and managed in Section 2.1.</i>		
Project participant response		Date: 11/01/2019
<i>Risk factors on leakage and non-permanence risk are monitored through the existing COMACO monitoring systems. These include the annual Compliance survey, Financial Systems and Post-harvest surveys conducted by COMACO</i>		
Documentation provided by project participant		
Compliance reports 2017 and 2018 and link to MIS for Post-harvest data		
DOE assessment		Date: 03/04/2019
PP has provided the requested information. CL closed.		

CL ID	03	Date: 11/01/2019
Description of CL		
<i>Provide supporting documentation mentioned in the MR (such as: Bee-keeping report, Extension summary report, etc.) and Excel files (RothC model and associated files).</i>		
Project participant response		Date: 11/01/2019
<i>These files will be uploaded in the shared Project dropbox folder</i>		
Documentation provided by project participant		
Bee-Keeping report, Extension summary report, RothC model excel files		
DOE assessment		Date: 12/04/2019
PP has provided the requested information. CL closed.		

CL ID	04	Date: 11/01/2019
Description of CL		
<i>Provide information regarding the procedures used for handling any internal auditing performed and any non-conformities identified in Section 3.3.</i>		
Project participant response		Date: 11/02/2019
<i>Please refer to the document "2015-03-23 COMACO OPERATIONAL PLAN-Landscape Project" under Supporting documents in the Project dropbox shared.</i> <i>Text on Expected precision and Variance in internal audits performed and how information is used to calculate carbon stock changes has been added. The full document manual can be accessed on Project Dropbox.</i>		
Documentation provided by project participant		
2015-03-23 COMACO OPERATIONAL PLAN-Landscape Project (in project dropbox)		
DOE assessment		Date: DD/MM/YYYY
PP has provided the requested information. CL closed.		

CL ID	05	Date: 11/01/2019
Description of CL		
<i>Provide more detail regarding the estimation of the application rate of fertilizer in the baseline, stated as 120 kg/ha in Section 4.4.1.</i>		
Project participant response		Date: 11/01/2019
<i>Since, the types and application rates were not recorded by the project, this information was obtained from relevant studies, i.e., a study by Jha and Hojjati, 1993, and Ariga, 2013). This reference has been provided in the Monitoring report.</i>		
Documentation provided by project participant		
Jha and Hojjati, 1993. <i>Fertilizer use on smallholder farms in eastern province, Zambia.</i> Ariga, 2013. <i>Zambia Fertilizer Assessment.</i>		
DOE assessment		Date: 02/04/2019
The PP has provided enough information to clarify the issue. CL closed.		

CL ID	06	Date: 11/01/2019
Description of CL		
<i>Detail the input data used in equation 20 of the Tool "Estimation of non-CO2 emissions from the burning of crop residues" (Section VI.3 of the SALM methodology) to calculate BEBB_t.</i>		
Project participant response		Date: 11/01/2019
<i>The derived formula ($BEBB_t = 0.05 \text{ tCO}_2\text{e per ha per year}$) was used in the first monitoring period to determine the Baseline Emissions from Biomass Burning (BEBB_t). It was adopted in this monitoring period and used to determine the (BEBB_t).</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has provided adequate explanation. CL closed.		

CL ID	07	Date: 11/01/2019
Description of CL		
<i>The trends in fertilizer use (Table 31, Section 4.2.1) do not match with the values used for calculations in the Excel file. Clarify the calculation process to determine the project surface of agricultural land that applied fertilizers.</i>		
Project participant response		Date: 11/01/2019
<i>There are two calculations here. There is a baseline calculation of fertilizer application as well as the project calculations. The baseline calculation is based on the fertilizer application measurement for the year 2013 which is considered constant for the baseline period. this is because there was no record of fertilizer application for the previous years. In the monitoring measurements from 2013 onwards, fertilizer application was measured and used for the calculations in the monitoring period.</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has provided adequate explanation and made corrections on the table. CL closed		

CL ID	08	Date: 11/01/2019
Description of CL		
<i>In Section 4.2., the following is stated: "For 2015, annual per ha project emissions due to fertilizer use has been estimated from quantities reported in the 2015 monitoring survey (average of 87.3 kg/ha), applying equations (1) and (2) of the CDM A/R Tool "Estimation of direct nitrous oxide emission from nitrogen fertilization", version 01, which resulted into 0.04 tCO₂e/ha/year in 2015".</i> <i>The ratio 0.04 tCO₂e/ha/year is not used for calculations in the Excel file, instead, 0.033 and 0.037 is used for 2016 and 2017 respectively. Clarify the calculation.</i> <i>Additionally, provide further information on the estimation process of the average use of fertilizer (87.3 kg/ha as stated in the MR).</i>		
Project participant response		Date: 11/01/2019
<i>This factor of 0.05 tCO₂e/ha/year was only applied to data for 2013 and 2014 due to lack of monitoring data for those years as stated in monitoring report and the PD. Otherwise, for 2016 and 2017, data is available (0.033tCO₂e/ha/year for 2016 and 0.037 tCO₂e/ha/year for 2017) in the MIS and the EF was determined for each year. The excel sheet for computations will be uploaded to Dropbox and MIS is Online for project summaries.</i> <i>The average use of fertilizer for 2015 (which is 87.3kg/ha) was based on the total area under fertilizer in 2015 and the total fertilizer used in 2015. This information is found in the MIS (link provided).</i> <i>This information has been included in the monitoring report under section 4.2.1: fertilizer application</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
PP has provided the requested information. CL closed.		

CL ID	09	Date: 11/01/2019
Description of CL		
<i>Clarify the calculation process of PEN_i of the SALM component.</i>		
Project participant response		Date: 11/01/2019
<i>To determine the aboveground biomass, a conservative estimate of 5 kg dry mass per tree is applied – based on a study in Eastern Zambia by Kaonga (2012) which measured 2-year old trees. This value is assumed for each year during the verification period and multiplied by the number of trees planted per ha. The number of hectares under agroforestry was determined from PHS survey data in the MIS.</i> <i>Text included under section 4.2.1: project emissions due to N-fixing</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
PP has provided the requested information. CL closed.		
Project participant response		Date: 03/05/2019
Documentation provided by project participant		

CL ID	11	Date: 11/01/2019
Description of CL		
<i>Provide specific source of the tillage factor (K) (Section 4.2.1).</i>		
Project participant response		Date: 11/01/2019
Table 5.5 of the Volume 4. Chapter 5 of 2006 IPCC guidelines. This factor has been corrected and its 1.09.		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has provided adequate clarification and made corrections regarding the tillage factor. CL closed.		

CL ID	12	Date: 29/01/2019
Description of CAR		
<i>Provide access to the Management Information System of the project with the latest available data.</i>		
Project participant response		Date: 29/01/2019
MIS link: http://portal.itswild.org/salm/index.php		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has provided access. CL closed.		

Corrective Actions Request (CARs)

CAR ID	01	Date: 29/01/2019
Description of CAR		
<i>KML file with the project area location for the Second Monitoring Period has not been provided.</i>		
Project participant response		Date: 29/01/2019
<i>Check dropbox ->Project GIS data->Chiefdom_Boundaries_KML.kml</i>		
Documentation provided by project participant		
DOE assessment		Date: 12/04/2019
File provided. CAR closed.		

CAR ID	02	Date: 11/01/2019
Description of CAR		
<i>The Monitoring Report template (v3.3) used is outdated. Section 1.10 Sustainable Development and Section 2.4 Safeguards are missing.</i>		
Project participant response		Date: 11/01/2019
<i>The New template v3.4 has been used.</i>		
Documentation provided by project participant		
DOE assessment		Date: 04/03/2019
The PP has used the latest version of Monitoring Report template. CAR closed.		

CAR ID	03	Date: 11/01/2019
Description of CAR		
<i>In Section 3.2.2 REDD+ component, the following information is missing for all parameters:</i> <i>Frequency of monitoring/recording</i> <i>Value monitored</i> <i>Monitoring equipment</i> <i>QA/QC procedures to be applied</i> <i>Calculation method</i>		
Project participant response		Date: 11/01/2019
<i>All this information has been included and described accordingly</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has added the missing information to the Monitoring Report. CAR closed.		

CAR ID	04	Date: 17/01/2019
Description of CAR		
<i>The Non-Permanence Risk Report template (v3.1) and the Risk Report Calculation Tool (v3.0) used are outdated.</i>		
Project participant response		Date: 29/01/2019
<i>Addressed. New template for Non-Permanence Risk Report v3.2 and the Risk Report Calculation Tool v3.1 has been used.</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has used the latest versions of Non-Permanence Risk Report template and the Risk Report Calculation Tool. CAR closed.		

CAR ID	05	Date: 17/01/2019
Description of CAR		
<i>The governance score to determine the Political Risk is not calculate using the most recent five years of available data from WGI.</i>		
Project participant response		Date: 29/01/2019
<i>Addressed. The governance score has been calculated based on the World Governance Indicators from 2013 to 2017 for Zambia</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has made the requested correction regarding the Political Risk calculation. CAR closed.		

CAR ID	06	Date: 11/01/2019
Description of CAR		
<i>The number of buffer credits to be deposited in the AFOLU pooled buffer account is missing in the Non-Permanence Risk Report.</i>		
Project participant response		Date: 11/01/20019
<i>A correction has been made. This has been included in the Non-Permanence Risk Report.</i>		
Documentation provided by project participant		
DOE assessment		Date: 03/04/2019
The PP has made the requested correction regarding the buffer credits. CAR closed.		